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VOL. XXXIV. LONDON, ONTARIO. APRIL 1, 1899. WINNIPEG, MANITOBA. No. 475

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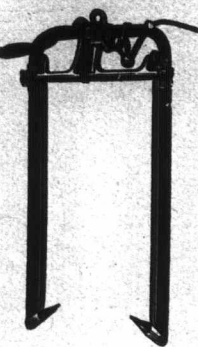
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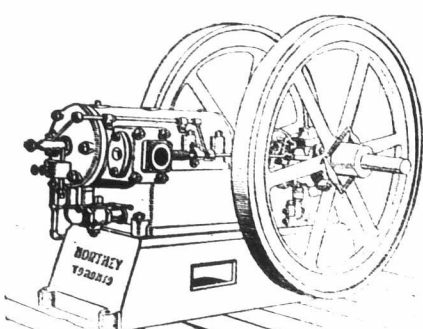
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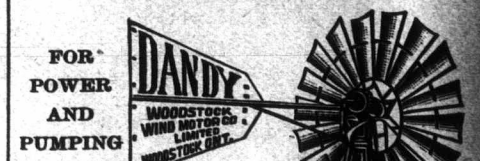
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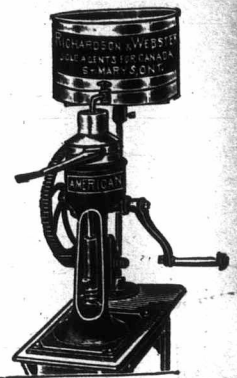
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VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., APRIL 1, 1899.

No. 475

EDITORIAL.

The Dominion Minister of Agriculture to Visit the West.

Our numerous readers in Manitoba and the Northwest will be glad to learn that during the ensuing summer Hon. Sydney Fisher, Dominion Minister of Agriculture, intends to pay a visit to this extensive portion of the Dominion. The honorable gentleman was called upon by an Ottawa correspondent of the FARMER'S ADVOCATE and asked to state what were the prospects of his undertaking a visit to the Northwest country this year. "I hope to be able to go to the principal points in both Manitoba and the Northwest immediately after the present session of Parliament closes," said Hon. Mr. Fisher. "I would have liked to have gone last year, but the length of time that I spent in Great Britain in bringing the merits of our products before the dealers and consumers of that country put it out of my power to do so. I hope, however, to see for myself the marvelous development of Manitoba and the Territories before the year closes, and if time permits to extend my tour to British Columbia, for I have many pressing invitations from the Pacific country as well as from the Prairie Provinces to visit and address public meetings on matters pertaining to their agricultural development."

This declaration will be welcome intelligence to the many thousands of ADVOCATE readers in Manitoba and the Northwest, who know that the Minister of Agriculture is himself one of their craft, and has always exhibited a warm interest in the welfare of the farming community. Before he was a Minister of the Crown, Hon. Mr. Fisher visited the Northwest and saw for himself the vast possibilities of this fertile territory, so that he is not a stranger, but this will be the first occasion on which he has been west of Port Arthur since his appointment as Minister of Agriculture. The Western country has agricultural conditions and needs peculiar to itself, requiring careful study and attention on the part of the holder of that portfolio. When the vast extent of land yet available for settlement is considered, the inrush of new settlers on these fertile plains, and the rapid growth of towns and cities, it would seem to be in many ways the present strategic point of Canada. We trust Mr. Fisher will be able to meet the representative farmers and stockmen in various districts, and confer with them regarding the problems of the West.

Sow Clover.

The splendid crops of clover harvested in all the Eastern Provinces last year must have proved of great value in the feeding of stock this winter, since there is no fodder crop grown in this country which so fully meets the needs of the animal economy, being more nearly a balanced ration than any other. Large areas of clover sod were doubtless plowed down last fall in preparation for this year's crops of grain, roots and corn, and will tell mightily for good as a fertilizing agency and in supplying the necessary vegetable matter which will improve the mechanical condition of the land, enabling it to retain moisture and to keep the land from running together and baking from the action of the sun after heavy rains, as all clay soils especially are liable to do. The clover plant stores up in its tissues large supplies of nitrogen, one of the most valuable and expensive fertilizers gathered from the air, and thus cheaply provides one of the most effectual fertilizing agencies for the development of most farm crops, while the roots penetrate deeply into the subsoil and bring from these lower strata additional stores of plant food. Clover when fed to stock goes back upon the land in the form of rich manure

to recruit its fertility, and thus leaves it in about as good condition as it found it, while the returns from the stock fed, in the form of beef, butter, cheese, bacon, mutton, and wool, will prove as satisfactory, taking one year with another, as any of the products of the farm. Experiments conducted at the Central Experimental Farm last year showed that the weight of clover leaves, stems and roots produced by the end of October from seed sown with a grain crop in April ran from six to eight tons per acre, and chemical analyses have proven that each ton of this material adds to the soil almost as much nitrogen as one and a half tons of barnyard manure. It has also been demonstrated that land on which clover has thus been grown has given from five to ten bushels per acre more than similar soil where no clover was sown, the treatment being the same.

The low price of clover seed at the present time may well be taken advantage of by farmers, and liberal seeding should be the rule. It will pay well to sow clover with all grain crops, even if it has to be plowed down next fall, since the clover seed can be sown with the grain without extra labor, and the cost of growing it is only that of the seed, which at present prices is only about seventy-five cents per acre. It will furnish some pasture for stock, and will more than pay for itself as a fertilizer when plowed down. We are aware of the discouragements met with in some districts from repeated failures to secure a catch of seeds, but the doctrine of "final perseverance" is in this matter a safe one to follow, and the only safe one, for we cannot afford to give it up, and we all know that pleasant surprises sometimes await us, when the heart of the farmer is gladdened by the bloom of the clover and its sweet fragrance. It is a harbinger of good times, an omen of health and thriftiness in the farm stock, and of a profitable increase in the quantity and improvement in the quality of the products of the farm. Therefore we feel safe in urging the admonition to sow clover and keep on sowing it.

An Experiment with Salt.

An observant farmer the other day called our attention to a trial he made last season applying salt to mangels. Shortly before thinning he sowed broadcast by hand on several rows at the rate of 250 pounds per acre of salt, at the cost of 90 cents, from which he secured an increased yield of 75 bushels of roots per acre, compared with those unsalted. That is to say, an outlay of a little over one cent gave him one bushel in return, which he thought was cheap mangels. As to any after-effect upon the land in relation to other crops, he, of course, could not speak personally. While an excess of salt is not injurious to vegetation, it is well known that very considerable quantities are deposited through the atmosphere on lands near the seashore, and the spreading of seaweed on land is common. With many of the best Old Country root-growing farmers it is usual to apply from 4 to 5 cwt. per acre upon their mangel land. It is sometimes mixed with the manure, and sometimes applied as a top dressing before the last horse-hoeing. The action of salt in promoting vegetable growth does not appear to be fully understood, but is regarded as indirect in its influence, neither sodium nor chlorine—the two constituents of salt—being considered absolutely necessary plant foods, unless in very small quantities. It has a mechanical effect upon soil something similar to that of lime, but its most important action is as a solvent, liberating necessary plant food. Being of an antiseptic character, it tends to prevent rankness of growth under certain conditions. Hence, we can readily understand that its effect may be favorable under some circumstances, and not so under others. While it increases the quantity of the crop, it has been found

in the case of beet root to lessen the total quantity of dry matter and sugar, and in potatoes the percentage of starch. With regard to its use on mangels, which shrewd Old Country farmers practice, and the successful trial referred to above—which, by the way, was not our informant's first favorable experience with salt on mangels—it would be well in this country to have further trials this season by farmers and experimenters, the results of which we shall gladly make known. In the meantime it would seem that the best results would be had when applied in conjunction with other manuring, and at a rate not exceeding 4 or 5 cwt. per acre.

The Horse Trade.

An able letter from a worthy authority upon horse matters appears in our Stock department in this issue. The opening point made by Mr. Innis is undoubtedly well taken, as not only are we not producing the high classes of horses it pays to export, but we feel safe in stating that the horse stock of the country doing the farm work has not for a long time been of as low an average quality as at the present time. This is a fact to be deplored, and one which can be overcome only by persistent and liberal effort. Because farmers have not made money by breeding horses for export, that is not sufficient reason for ceasing to endeavor to raise foals, because we must have horses to do our work, and so long as we depend on buying, so long will we be required to put up with low-grade animals, such as no true horseman can take a pride in following or tending.

Mr. Innis has referred to draft, carriage, roadster, saddle and hunter horses as the useful and profitable classes of horses to raise, and has also mentioned the British market as our only important outlet outside our home demand. While Britain has been our chief foreign horse market, we are led to believe, from a recently issued report upon markets for American horses in foreign countries, that Germany, Belgium, France and some other European countries do not raise nearly as many good horses as they need to conduct their business. The information contained in the report referred to has been secured by American Consular agents, who have made thorough investigations into the needs of the horse trade in the various European horse-consuming centers. It has been shown that the needs in the various countries, in a general way, call for the same classes of animals, while it is strongly pointed out that misfits, scrubs and badly broken horses will not do; but a young, good, sound, well-broken horse, with plenty of bone and muscle, compactly built, of almost any recognized class or type, will sell well. A general class, for which the demand in all European countries seems to be growing, is that for army purposes. It requires about 2,000 horses annually to remount the English cavalry, and of these Canada has supplied in recent years from 4 to 5 per cent. Cavalry horses are divided into two classes, ranging from 14 to 16 hands high, and in weight from about 800 to 1,150 pounds. They must be sound, not vicious, of solid dark colors, without prominent marks. A well-bred, low, short, thickset horse, with strong flanks, good high tail, buttocks full and square, ribs rounded out so as to "furnish" well, well-shaped legs, with plenty of bone, and good feet, is about the thing desired. Prices vary, \$180 to \$200 being received for suitable horses in France, while in Germany the price depends on the Government to which the horse is sold, and usually averages about \$250 per head.

Horses for business purposes are required in enormous numbers in the large European cities. For example, London is claimed to have in daily use 750,000 horses. It is estimated that these give about an average of five years' service, so that this market alone requires 150,000 new horses annually

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LONDON, CANADA.

for its business world. Of these, there are several classes. The tramways, bus companies, jobmasters, and owners of light delivery wagons, are large purchasers of Canadian and American horses. Horses for their use must be 15½ to 16 hands high, weigh from 1,200 to 1,350 pounds, be compactly built, with plenty of bone and muscle, and good action, and average from five to seven years old. They should measure from 76 to 78 inches in girth, and from 8½ to 9½ inches around the leg just below the knee. Such horses will sell from \$170 to \$185, and even as high as \$200 for animals of extra quality. Large bus horses for suburban work, five to eight years old, 16 hands high, weighing 1,600 to 1,700 pounds, with a girth of 88 inches, bring from \$185 to \$225, and even higher, while carriage horses, 90 inches at girth, and 9½ inches around the leg just below the knee, with good knee action and well-bred, will, if well matched, bring from \$750 to \$1,500 for the pair. For heavy drafts, the demand is always brisk, and Clydesdale and Shire horses are reported most in demand. Solid, stocky, 16½-hand, 1,750-pound horses, free from blemish, five to seven years old, with 10 to 10½ inches of bone below the knee, and 98 to 100 inches girth, bring from \$250 to \$375 each.

The foregoing has especial reference to London market, but it applies in a general way to the demand in all the large cities of the United Kingdom and other European countries. The trade does not require either an impossible or an ideal horse suited to all purposes, but it does demand good horses of every kind, thoroughly prepared for their special work. A good horse in Canada is a good horse in Europe, provided he fills a distinct want in the business of the country. In Europe, horses pull carts, cabs, omnibuses, coaches, trams, plows, drays, etc., and carry men on their backs. Thus they need horses of all breeds, for no one breed can possibly fill several requirements satisfactorily. With regard to the importance of ex-

porting only horses of good quality, it may be pointed out that competition is keenest in the low-grade sorts, and it costs about \$30 to \$40 per head to transport a poor animal, while a better one costs no more to ship.

The American report we have already referred to points out the character of horses desired by each of the countries mentioned below, as indicated by the classes taken by them during recent years:

Great Britain.....	90 per cent. draft.
".....	7 " coachers.
".....	3 " carriage horses.
Germany.....	95 " draft, 1,500+ pounds.
".....	5 " high-class carriage,
".....	running and trotting
".....	horses.
France.....	85 " cabbers.
".....	7½ " draft.
".....	7½ " trotters.
Belgium.....	75 " draft, 1,600+ pounds.
".....	23 " street-car horses.
".....	2 " trotters or roadsters.

From the outlook now before us it is evident that those who have suitable brood mares and do not utilize them in the breeding stud are neglecting a means of helping themselves unto a better financial footing.

STOCK.

Exportation of U. S. Live Cattle.

[Written for the FARMER'S ADVOCATE by A. C. Halliwell, editor of the *Driver's Journal*.]

The number of live cattle and fresh beef quarters exported from the United States in 1898 was as follows, with comparisons:

	Live Cattle.	Beef Quarters.
1898.....	376,891	1,236,809
1897.....	439,496	1,309,800
1896.....	468,395	1,163,689

Fully 98 per cent. of the live cattle, and almost 100 per cent. of the fresh beef, was sent to Britain. The decrease in the number of cattle sent abroad on the hoof last year was quite heavy, as the above figures show, while the amount of beef quarters sent equalled an increase of about 9,000 cattle. Though prices paid for live cattle in England lately have been high enough to yield a good profit to exporters, they have not been able to buy the cattle with any freedom, and the advance on the other side was largely due to the fact that there were but few American cattle there to enjoy it. Owing at present to the

SCARCITY OF GOOD EXPORTABLE CATTLE,

the prospects for the shipment of live cattle in 1899 are not very bright. Present indications point to no increase over last year's reduced shipments.

COST OF SHIPPING CATTLE.

The following figures may be taken as the average cost, at British ports, as terminal charges at the place of debarkation for live cattle from the United States: Dock dues, use of slaughter house, etc., \$1.20 per head; subsistence per day, 24 cents; commission of salesmen on each animal, 96 cents; driving (feeding, attending, etc.), 24 cents. The shipper who gets out with British terminal charges of \$3.75 per head upon his cattle considers himself fortunate. Add to the above charges freight, \$11, and \$1.50 for feed and attendance of each animal on the voyage, and \$1.00 for insurance, and the total expense for each animal shipped is \$17.85. This represents very nearly accurately the expense of getting a beef animal from the American port into the hands of the British buyer.

The freight from Chicago to the seaboard is about \$4 per head; feed and care on cars, about \$1; commission charge for buying, about 50c. per head. This makes a total of \$23.35 per head from Chicago stock pens to Liverpool abattoirs.

WHY THE TRADE WILL CONTINUE.

The chief reason why the exportation of live cattle will continue is that a certain proportion of butchers have customers who want to know that the cattle were slaughtered and inspected on the hoof where they are consumed. While it is generally admitted that beef ripens in transit as well as if held in stationary coolers, it does not maintain its color so well after once being exposed to the air. There is an undoubted advantage to the producer in having the trade in cattle upon the hoof continued, simply because it makes one more class of competition. There is many a plain fat steer that makes as good beef as the better appearing animal, but the live-stock export trade must take account of good appearances. An animal that, like a singed cat, may be better than it looks, does not command the attention that is given to one that is pleasing in appearance.

MONEY IN BOTH LINES.

The fact that the heaviest shippers of dressed beef are also the heaviest shippers of live cattle ought to be sufficient evidence that there is good reason for the existence of the live cattle export trade.

Boston exports of cattle and beef in 1898 included the following:

	Cattle.	Beef Quarters.
Swift & Co.....	49,582	292,467
Morris & Co.....	18,811	71,490
P. D. Armour.....	1,913	40,687

An Experience in Shipping Fat Cattle.

A live question with a good many cattle feeders at this season of the year is as to whether they shall sell their cattle in the stable to those who are in the export trade or take them to the British market themselves. A good many Western Ontario men who fatten one or two carloads each season pursue the latter plan. Space is first engaged from a Montreal live-stock commission merchant, after which the cattle owner is notified when to start to catch a certain boat. A couple of men go with the cattle, but, beyond feeding and watering on shipboard, have practically nothing to do with the handling or disposal of the animals, which are taken in charge by a commission firm, say in Liverpool, and sold. In order to afford our readers an idea of the various items of outlay that will be deducted from the gross amount for which the carcasses sell, we give below the Montreal and Liverpool statements relating to a bunch of 18 head shipped last June from a Western Ontario point:

18 CATTLE—S. S. SCOTSMAN.	
Montreal, June 4th, 1898.	
To Can. Pac. Ry., freight.....	\$ 67 38
" " Stock Yards Feed.....	2 33
" W. Raffey, loading—7c.....	1 26
" Wharfage, charges—13c.....	2 34
" John Storen, ropes, nails, etc.....	1 84
" Insurance \$75=\$13.50 @ 1%.....	13 50
" Hay, 4,050 lbs. @ \$9.....	18 23
" Straw, 200 lbs. @ \$8.....	80
" Meal, 1,300 lbs. @ \$20.....	13 00
" Check to balance account.....	670 28
By C. P. R. rebate.....	\$ 6 96
" Draft, £162.....	783 90
	\$790 86 \$790 86

LIVERPOOL STATEMENT.
June 25th, 1898.

SALE.		EXPENSES.	
Beeves. Buyer.	Lbs.	£	S. D.
1 Lachlan	767 @ 3/04	14	11
2 Capwell	1,271 @ 3/2	25	3
1½ Bowler	1,103 @ 3/2	21	16
1 Bowler	241 @ 3/6	5	5
1 Howe	849 @ 3/	15	18
2 James	1,655 @ 3/	31	
1 Berry	122 @ 2/2	1	13
2 Pollard	1,800 @ 2/11	32	16
2 James	1,566 @ 2/11	28	10
6 Ja t	1,633 @ 3/	36	17
18 Fat	914 @ 2/8	8	7 2
18 Offals	15/1	13	11 6
16 Hides	20/	16	
2 Hides	16/	1	12
		£302	19 8
		£302	19 8

It appears that an advance was made upon these cattle at Montreal, and £5 cash was drawn at Liverpool by the person taking them over, the balance being remitted by draft to Canada. The cattle were sold, dressed meat, at auction, to different parties, bringing a gross return of nearly \$81.50 each, while the total charges appear to have been about \$21.60 each, leaving a net return to the owner of about \$60 per head.

Black Teeth in Pigs.

To the Editor FARMER'S ADVOCATE:

SIR,—I have often seen it authoritatively stated, in the ADVOCATE and elsewhere, that there is no such thing as black teeth in young pigs. I may as well be told that the sun does not shine, for I have had pigs die having black teeth; others have been in a very unthrifty condition, going back every day, also with black teeth, and as soon as the teeth were removed they would immediately improve. It has been my practice for some time past to remove the teeth which are liable to become black (that is, eight teeth—four upper and four lower), and I am decidedly of opinion that if it became the general custom to remove them when about two weeks old there would not be so many unthrifty, miserable-looking pigs to be seen.

If your correspondent from York Co. will provide his pigs with sunshine, exercise, and dry bedding, he will probably see an improvement. While the first article may be hard to obtain sometimes, there need be no difficulty about the second, as if the weather is stormy they can be chased around the pen a few times daily, as I have often done with evident benefit.

W. EVENS.
Simcoe Co., Ont.

[NOTE.—The FARMER'S ADVOCATE has authoritatively stated, not that little pigs never get black teeth, but that black teeth is not itself a disease. We know perfectly well that young pigs do frequently have black teeth, but they are generally admitted by authorities to indicate faulty digestion, and they therefore go along with an unthrifty condition. It is true also that black teeth sometimes cut the tongues of the youngsters, but they are not necessarily black in order to do harm in this regard. Mr. Evens has made two or three points that are worth noting. Teeth that cut the mouth, whether they be wolf teeth in the young horse or black teeth in the little pig, should be removed as soon as it is evident that they are doing damage.—EDITOR.]

The Canadian Horse Show to be held in Toronto, April 14th, 15th and 16th, promises to be of greater interest to farmers and stock breeders than it has been in recent years. Greater prominence is being given to the breeding classes, and more liberal prizes in the classes being offered, while the saddle and harness classes are also being well provided for. The admission fee has been reduced to 25 cents, which will be a popular arrangement. There will also be reduced railway fares, and it is expected that Lord Minto will open the show.

at Cattle.

Cattle feeders whether they those who are the British Western On- loads each e is first en- commission er is notified A couple of feeding and y nothing to the animals, mission firm, o afford our f outlay that at for which Montreal and h of 18 head tario point:

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Co. will pro- ce, and dry mprovement. btain some- the second, n be chased e have often V. EVENS.

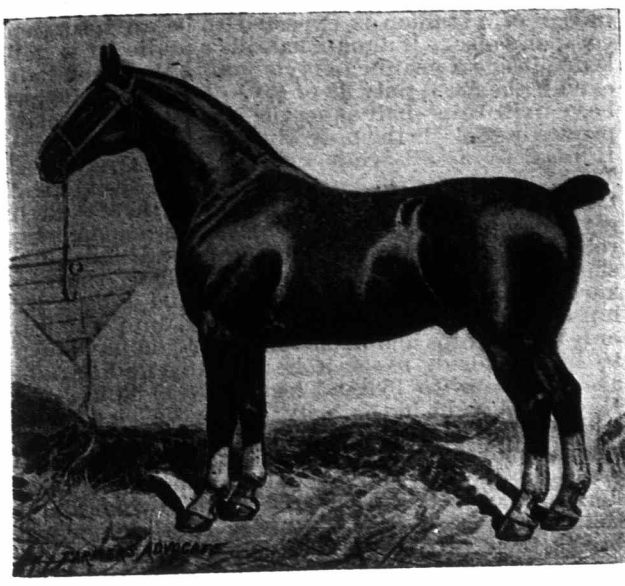
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in Toronto, e of greater than it has nce is being more liberal e the saddle provided for. to 25 cents. There will xpected that

Our Scottish Letter.

THE BULL SALES AND STALLION SHOWS.

During the past few weeks the principal interest of stock owners in this country has been concentrated on the bull sales and the spring horse shows in the South. The principal centers of the bull sales in Scotland are Perth, Aberdeen, Inverness, Oban, and Castle Douglas. The Perth, Aberdeen and Inverness sales are chiefly confined to Short-horn and Aberdeen-Angus cattle. Oban is the head center of the Highland breed, and Castle Douglas is, of course, the capital of Galloway. The Castle Douglas sale has not taken place at time of writing but all the other sales are over, and stock breeders



HACKNEY STALLION, ROSADOR 4964. THE PROPERTY OF MR. F. W. BUTTLE, RILLINGTON, YORKSHIRE. WINNER OF CHAMPION PRIZE 1899 AND 1897, AND RESERVE FOR CHAMPION 1898, LONDON HACKNEY SHOW.

in this country have more than good reason to be satisfied with the result. The first important sale was that of Aberdeen-Angus bulls at Perth, conducted by the great firm of Macdonald, Fraser & Co. (Ltd.), at which 256 bulls made an average of £31 16s. 4d., the best average made at any sale since 1884, which is equivalent to saying the best average ever made at one of the Perth bull sales. On the following day breeders were engaged at Aberdeen, where 236 bulls made an average of £25 14s. 8d. At a much smaller sale, held further north, at Turriff, 15 bulls of the same breed made £29 8s. each. Some extraordinary prices were made for bulls at the Perth sale, and the judges and the public were by no means at one in regard to the value of the animals. Sir George MacPherson Grant had the remarkable average of £88 17s. 3d. for 8 bulls, neither of which was in the first four in the prize list. He got the highest price of the sale (190 guineas) for a bull named Rosador (15906), the purchaser of which was the new laird of Ardross in Ross-shire; and the scarcely less notable price of 160 guineas for another bull called Kilgraston (15610), placed sixth by the judges, and the purchaser of which was Mr. Whitburn, all the way from Kent, in the south of Eng- land. Still another Ballindalloch bull made 100 guineas, and, as we have said, the average for 8 was the extraordinary figure of well-nigh £90. A comparatively new breeder, Mr. Willsber, of Pit- pointee, in Forfarshire, got 150 guineas for his fourth prize bull Hengist of Pitpointee; and Lord Strathmore, whose herd has acquired quite an enviable distinction within recent years, and last year topped the sale, got 100 guineas for a bull named Meridian (15473), who was unplaced by the judges. The first prize bull in the older class, Jack the Rover of Norlich, bred by Mr. Robert Cran, Norlich, Aberdeenshire, was sold to Mr. Greenfield, from Essex, for 105 guineas. The Aberdeen-Angus breed has fairly topped the bull sales this year, and there can be no doubt that breeders in this country are in much better heart than they have been for some time. At the Aberdeen sale such high prices were not realized, but the sale was wonderfully steady throughout, as is evidenced by the large number of bulls sold and the high average which they made.

One week later Shorthorn sales at Perth and Aberdeen took place, and a splendid trade was again the rule of the day; nevertheless, the aver- ages of the "Doddies" were not reached. At Perth, Messrs. Macdonald, Fraser & Co. sold 147 bulls at an average of £27 17s. 9d., and at Aberdeen Mr. Moir sold 179 bulls at an average of £24 13s. 2d. The highest price for a Shorthorn was given by Mr. Donald McLennan, Buenos Ayres, for the first prize Lovat bull at Perth. His figure was 155 guin- eas. Lord Lovat's herd took the same place amongst the Shorthorns as Sir George Macpherson Grant took amongst the Aberdeen-Angus, his lord- ship's average for 4 bulls being £73 10s. A young breeder named Mr. John Grainger, from Pitcur, Coupar Angus, had also a good average, making £65 12s. 6d. each for 2 bulls. Trade was exceedingly good for Shorthorns, but not equal to the demand for Aberdeen-Angus. At the Aberdeen sale the highest average was made by Mr. Crombie, of Woodend (a near relative, I believe, of the late Amos Cruickshank), who got £84 apiece for two

well-bred bulls. Otherwise the sale was very steady, and one good feature of the whole season in regard to those great beef breeds has been the uniform quality of the stock. There are fewer weeds offered amongst bulls than was the case on some previous occasions. The Inverness sale takes in both breeds on one day, and here also the Polled bulls had the better of the Shorthorns, the average for 79 of the blacks being £27 2s. 3d., and for 68 of Shorthorns £24 13s. 7d. Another sale at which good prices are usually realized is held at Penrith, where Mr. John Thornton sold 34 Shorthorn bulls at an average of £32 11s. These are more of the English type than the bulls sold in the North, and this average shows that there is still a good market for the Booth and Bates combination. The same fact is brought out by the results at the Birming- ham sale, where Mr. McLennan again paid the top price (this time 200 guineas) for a bull named Extinction, bred by Mr. Atkinson, of Milnthorpe, Westmoreland. Another high price was 140 guin- eas, paid for Lavender Lad, also by a foreign buyer. The lowest price at this sale was 40 guineas—a sufficient indication of high quality of the bulls sold.

At Oban sale Highlanders had their innings, and although the sale was lively and the demand steady, there was a lack of the sensational bidding which characterized the sale of 1898. Still, an average of £25 for two-year-olds and £29 for stirks was very good business. One breeder, Mr. Wm. McGillivray, Garbole, Inverness-shire, got the splendid price of £160 for two bull stirks, one mak- ing £79 and the other £81. These were respectively first and second in their class, a cheaper bull taking first prize. In view of these results, Galloway breeders are entitled to anticipate lively trade at their bull sale on the 16th inst. They always come a little behind the others, but the remarkable suc- cess which has attended the use of Galloway bulls in the West of Ireland under the auspices of Con- gested District Boards is certain this year to give a filling to them which will be altogether in favor of breeders in Scotland. There can be no doubt that a change is gradually coming over those who cater for the fat market. Once a day it was the breeds that would fatten quickest; now the object is being kept in view, and butchers insist on having lean meat, and breeds like the Galloway and the High- lander will certainly be in greater favor than they were at one time. It is remarkable how many English feeders, especially those who have large parks, favor those two breeds, and the success of Galloway bulls for crossing on the common cattle of the West of Ireland has received acknowledg- ment in parliamentary papers. Altogether, the cattle-breeding industry is in a much more whole- some condition than it has been for some years.

THE SHIRE AND HACKNEY SHOWS.

In my last letter I gave some particulars regard- ing a Glasgow stallion show of Clydesdales. During the past two weeks, London Shire horse and Hack- ney horse shows have been held, and bear renewed testimony to activity prevailing amongst horse breeders generally. The Shire Horse Show was an unqualified success, and it is impossible to withhold a mead of admiration from the Shire Horse Society of the undoubted results which have followed its efforts. When it began operations in 1880 it had an unsound breed, clearly attested by the results of veterinary examination at the spring show. It faced the situation manfully, insisted on rigid veter- inary inspection, and the result is to-day seen in the great improvement which has taken place in the breed in this respect. At the same time, there is still great headway to be made before it can be pronounced by a long way as sound in feet and limbs as the Clydesdale. The champion horse of this year is again Buscot Harold, which last year secured the same honors; and the champion mare is the well-known Dunsmore Gloaming, also a daughter of renowned Harold, the senior stud horse at Colwich, in Derbyshire.

This week the Hackney show is engaging the attention of a large number of Scottish breeders, and the final results have proved highly satisfac- tory to those who have been pushing the breeding of Hackneys in this country. One of the most spirited supporters of the breed is Mr. Alex. Mor- ton, of Gowbank, Darvel. He showed four animals in London, and took first prize with his brood mare Cicely (5739), which in 1893 was the champion of the show; second prize in the aged stallion class with a very handsome horse of his own breeding, named Glengolan (5637); fourth in the selling class with another horse of his own breeding, named Duke of Denmark; and fourth in class for three-year-old fillies with a beautiful mare named Harmony, also bred by himself, and, like Glengolan, got by his stud horse Donald Grant (1473). Another Scotch-bred Hackney named Gold Flash, now owned by Sir Gilbert Greenall, Bart., and bred by Mr. Wm. Scott, at Carluke, in Lanark- shire, gained first prize in the four-year-old class. She is a beauty, and last year, when owned by Mr. Morton, stood second to another Scotch filly, named Vivandiere, bred and owned by the Presi- dent of the Hackney Horse Society for this year, Mr. Charles E. Galbraith, Terregleston, Dumfries. On this occasion the tables have been turned, and Gold Flash was placed first and Vivandiere second. Another Scotch breeder who has done very well this year is Mr. J. E. Stoddart, of Aid Calder, who on his first appearance as an exhibitor at the London show gained fourth prize in the two-year- old class with a lovely filly of his own breeding,

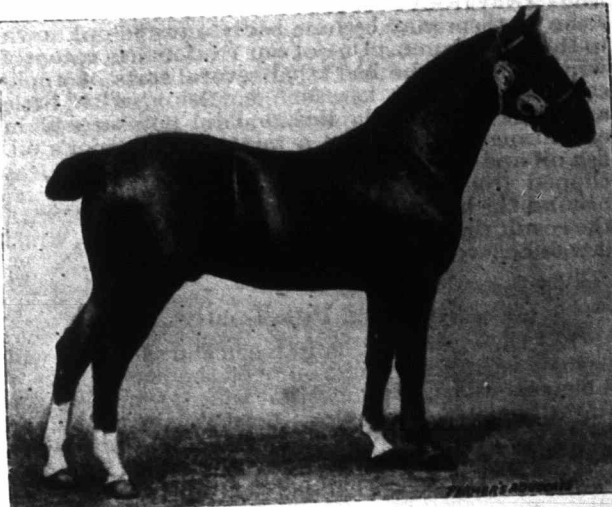
named Lady Patricia. Mr. David Mitchell, of Millfield, Polmont, has also taken a number of tickets with animals bred by himself, and Mr. Gal- braith, besides winning second with Vivandiere, took fourth in the largest class of brood mares with Queen of the South, and first in the class for barren mares with Danish Lady. Mr. Alex. Gemmill, Ayr, who is very fond of a real good Hackney, was also amongst those whose stock was named at this show. The male championship was a stand-up fight between Mr. Battle's Rosador, which in 1897 was champion of the show and in 1898 reserve champion, and Sir Walter Gilbey's Royal Danegelt, which in 1897 was reserve champion and in 1898 champion. This year three judges reverted to the 1897 form, and placed Rosador first and Royal Danegelt second. The female championship went to Mr. Waterhouse for a magnificent mare of the harness type, named Queen of the South, own sister to Mr. Galbraith's Queen of the West, and the reserve champion was a mare which up to a few months ago was owned by Mr. Waterhouse—Oily Surprise. She is now owned by Mr. Harry Livesey, Rotherfield, Sussex, who also on the afternoon of the day which decided the championship purchased Queen of the South from Mr. Waterhouse. The interesting feature of this show was what is called the produce class, in which groups of three animals got by the same sire, in two divisions, of male and female, compete for champion honors. The win- ning sire for stallions was Mr. Usher's horse Gentleman John (3624), Garton Duke of Connaught (3000) standing second, and Ganymede (2706) third. For three mares got by one sire, Garton Duke of Connaught won hands down. He was sire of the champion Queen of the South, the junior champion, Miss Terry, and the first prize mare in another class, named Garton Birthday. Second to him stood Rosador, with three young daughters; and third Goldfinder 6th (1791), the sire of Gold Flash and other good animals. Gold Finder 6th was picked up by Mr. Morton at an auction sale in Lon- don some years ago for something like 100 guineas. He used him for two or three seasons in Scotland, in which he got the best Hackney stock we have ever had here, and then sold him to Sir Gilbert Greenall for 3,000 guineas. He is undoubtedly one of the best breeding Hackney sires in England, but this year the champion sire is without question Garton Duke of Connaught. "SCOTLAND YET."

Hot Feed Not Good for Pigs.

I am very much interested in your paper. I think it is just what the farmers need to help them exchange ideas and learn from one another's experi- ence. I noticed in a late issue H. Hill's inquiry on pigs going lame being fed on boiled roots. I have had some experience in boiled feed for pigs, and think there is nothing gained by boiling feed, as I find pigs won't stand feed the least bit too warm. I have seen feed fed to pigs so warm that they could not eat it. I have known them to get the piles and die from hot feed. I have also seen them run back from the trough after eating a few mouthfuls and fall down and stiffen out and die at once. If warm feed is fed great care should be taken not to feed it above 60 degrees. I pulp my roots and mix the chop with them, and like the plan well.

Huron Co., Ont.

FRANK O'BRIEN.



HACKNEY STALLION, ROYAL DANEGELT 5785. THE PROPERTY OF SIR WALTER GILBEY, BART., ELSRNHAM HALL, ESSEX. CHAMPION IN 1898, AND RESERVE FOR CHAMPION IN 1899, LONDON HACKNEY SHOW.

The winter is prolonging its stay, considerable quantities of snow having recently fallen in nearly all the Provinces of the Dominion, so that in most sections farmers are enjoying the use of good sleighing in the last days of March and are well pleased to have their crops of wheat and clover protected by a blanket of the beautiful, which is so much more favorable than to have them exposed to the cold winds and alternate freezings and thaw- ings which usually prevail at this season.

The Bull Business.

The trade of breeding bulls in Ontario for shipment to the Western ranges has steadily increased, and is a market that may be counted on, for cattlemen will have to invest more freely from that source in the future if the quality of range beef is to be kept up.

It is much easier to run a bunch of cattle down hill than grade up. To keep up the standard of quality requires persistent attention, especially under the existing conditions on the range, where indiscriminate breeding is difficult to avoid, and where the profits of the business are measured by the absence of cost in production.

The Department of Agriculture at Regina, in conjunction with the Manitoba Cattle Breeders' Association, deserve commendation in making arrangements for individual shipments at a nominal figure of \$5 per head from Ontario to any point west.

This importation of fresh blood is a necessity, notwithstanding the argument of a few that the range-bred bull costs less, leaves more calves, and therefore more money; but loss of quality has to be admitted, which is a dollar consideration too with the salesmen.

With a good selection, and given time to acclimatize and adapt himself to range conditions, the average eastern-bred bull will do as good work as the range-bred animal and leave better results.

Ontario is suited for the trade of raising bulls. Breeders have the advantage of a wide selection in crossing of the best strains, and calves never suffer a setback in growth, which gives size and substance.

To breeders in the East looking to the Western market for disposal, the fact cannot be too strongly impressed that a bull with constitution and one that carries beef is the animal required. The beef and constitution he should have, the show points he may do without.

The severe climatic conditions cattle are exposed to in winter on the range at times demands a type that can most readily withstand it, if the business is to be profitable.

It is constitution and the lack of it that makes the difference of cost in pulling through the winter, nor does it need western experience to tell that the steer that can "rustle" for himself will be the ripest and first ready for the market.

Another advantage in the beefy type from a range point of view is that cows, while well able to give their calves satisfaction, are less liable to get deranged in their udder from an overflow of milk when calving down on the flush of the grass. Since it often proves inconvenient or difficult to handle them, it destroys their utility to a great extent.

There may be an objection on the part of some that the purely beef type is in opposition to the interests of the dairyman, and this may be partly so, but the export trade in beef as a principal source of income in the Western cattle interests demands it for the present, with so much grazing land still lying idle.

Alberta, N.-W. T.

Rid the Cattle of Lice.

Cattle that are not treated occasionally during the winter months for lice are almost certain to become infested more or less, especially when enclosed in warm stables. While stock so plagued with vermin at any time will not make the best use of food given them, it is highly important that they be thoroughly cleansed before going out to the fields away from close personal oversight, otherwise some of them may become badly infested unknown to their herdsman. One of our readers has recently written us that he had tried several sorts of applications, including kerosene emulsion, with little apparent check to the lice, and did not succeed in exterminating them till a mixture of tanner's oil, fish oil and coal oil was resorted to. The hair was clipped from the top of their backs, necks and around the horns, and the oil was freely used, with the result that a live louse could not be found, while it was believed that every nit was destroyed.

Raising Pet Lambs.

The time is near at hand when the shepherd will be busy caring for the young of the flock. This is a busy as well as an important time, as much of the future success of the flock depends upon whether he performs his duty well or ill. In pure-bred flocks there are ewes of superior quality, mothers of twins, where it would be desirable to have one lamb raised well in preference to two scantily fed; or a mother may die, also mother of twins. In either case there are lambs that if not wisely fed means an unnecessary loss. As pet lambs are usually raised, they are simply a nuisance, in the way of everyone, always in objectionable corners. There is no necessity for this, and all that is required is ordinary intelligence, coupled with patient perseverance. The first requisite is a feeding pot that will hold perhaps a quart. Have the spout made with a blunt and large enough to hold an ordinary sized goose-quill firmly. Next insert the quill and wind with a clean, white rag, so that the milk will not run too fast and choke the lamb. If a lamb is brought in weak and cold, put in a bushel basket with plenty of straw near enough the kitchen stove to keep comfortable; cover over the basket with a piece of cotton. The lamb will be quieter and more contented. Feed a few spoonfuls of milk, say every two hours, particularly the last

thing at bedtime and first in the morning. Continue this for a couple of days, and if the lamb seems strong feed the next day every three hours, increasing the quantity a little. Be sure that the milk is from a new milch cow, the newer the better. A lamb will never thrive, and seldom live, on milk from cows that have been milking six or eight months. If early in the spring before the weather gets warm, we have had lambs do well in an outside kitchen in a large box with plenty of straw, changing the straw quite often. Cover over the box with a thin horse blanket. Two or three lambs always do better together than one alone. Continue feeding every three hours for a week or two, beating up a fresh egg with the milk occasionally. A teaspoonful of raw linseed oil every day is also beneficial, as it is both nourishing and laxative. As time goes on, and the lambs are growing well, increase the quantity and feed five times a day. Never give a lamb more at once than a full teacup of milk. More disappointment comes from over than under feeding.

As soon as the weather is warm enough put in a pen convenient to the house. Build a rack, and give every day some fine clover hay. They will pick off the leaves greedily. Next nail up a box high enough that they cannot stand in it, and give some meal. Mixed peas and oats and bran are very good. When they get to eating the clover and meal well, feeding four times in the day with milk will be sufficient. When the grass comes put them out in some convenient spot—an orchard is best, as they can lie in the shade—but bring in at night for a while until they get accustomed to the change of food and the ground gets warm. Always feed the clover hay and meal before putting them out in the morning. Milk three times a day now will be sufficient. To insure success, first, never let the milk get warmer than you want to feed, about as warm as it comes from the cow; next, exact regularity; also, keep the pot scrupulously clean. With a little trouble lambs can be taught to drink like a calf, which will save time, but the pot is much the cleaner way.

If attention is given to all the details pet lambs may not be quite as good when weaned as those raised by the mothers, but if given the same care through the winter they will compare favorably in the spring, and by next fall an expert could not tell the difference. Like everything else, raising pet lambs means a good deal of work as well as a good deal of milk; still, no work on the farm will be better rewarded, and there is no other way that milk will return a larger dividend.

MRS. H. H. SPENCER.

Dorset Farm, Ont. Co., Ont.

The Condition and Needs of the Horse Trade.

To the Editor FARMER'S ADVOCATE:

SIR,—There never was a time in the history of this country when we needed to use greater caution and judgment in this important industry than at present. I am pleased to think that you are aware of the fact that this great industry is being neglected and left out in the cold. Certainly the horse breeders of this country have to contribute their share toward our agricultural schools of instruction. We find the Government, through the Farmers' Institutes, are sending able, practical men throughout the length and breadth of the land, year after year, with paintings and charts of the model hog, with full instructions how and what to breed; also of the beef steer and the dairy cow. The butter and cheese industry is aided and encouraged. Everything to help all the other departments of agriculture except that of the noble and indispensable animal, the horse. I have failed to see any effort to give this matter at least its reasonable share of attention with the other important industries of our country. We have received very valuable instruction at our Model Farms by importing and crossing the breeds of cattle, hogs, and sheep, but have they ever imported any of the different breeds of horses to give the public the benefit of experiments in this line?

There are three kinds of horses that are indispensable, namely, the draft horse, the Thoroughbred, and the useful and fashionable Hackney. By proper mating and judgment can be produced the draft, carriage, roadster, saddle, and hunter—five useful and profitable classes. It will take too much of your valuable space to note full particulars of the mating process to produce the different classes, but any reasonably intelligent horseman knows it can be done successfully. I consider the present the most critical period of horse breeding in the history of our country. When the breeding and importing of the different breeds began, say thirty years ago, we had a continual, steady, rising market. Then any kind of haphazard breeding was profitable. We also had the Northwest for a dumping ground for almost any kind of horse in the country of promise to pay, but in too many cases never did. But now, outside our own local demand, we have only one main market, namely the British market. With our fine climate and cheap feed, the right kind of horses for export could beyond a doubt be raised as one of the best-paying products of our farm, as the scarcity is stimulating the business. The farmers of this country, instead of making the best of their opportunities, are in a fair way of killing the business. This is the way the average farmer reasons: "I believe horses are going to pay. I must breed the old lame mare. Of course, I cannot afford to pay your price—\$10 or

\$15. I can get the use of So-and-So's horse for \$5. As horses are cheap I cannot afford to pay more." He thus gets a barnyard full of rubbish, and goes round squealing that he cannot sell, while the better class is bringing good paying prices. There are not many men in our country who can afford to import first-class sires for their own use without the patronage of the country or to stand them at a fee which will lose them money. Let the breeders keep down the fees as the very best, sure means of keeping down the quality of the sires, for first-class stallions will not be imported while service fees rule so low. Two or three dollars for each mare makes a great difference to the owner of a sire. If you want to breed profitably, breed only your best mares to the best sires available. Fifteen dollars is a reasonable fee for a good sire. I notice that the owner of a stallion is expected to be an insurance company also. If a man has his colt die or it gets killed inside a year he expects you to throw off half, even if the fee is only \$8 or \$10. The rule that they have in Britain—half at service, half when the mare proves in foal—is the only fair way for both parties. It may be asked what kind of horses pay best. There is one rule that applies to all classes: First, fair size, good feet and legs, large heart girth, giving ample room for heart and lungs; deep, long, rounded ribs, to stand shipping and hardship; short back and strong loins. In these times of keen competition avoid as you would poison the horse that when you stand behind him you can only see his hips and neck—one that you have to go to his broadside to see if he has any middle; and also a horse with 16-hand legs and a 15-hand body. Have the height in the body, not in the legs. Good feet and legs; wide, heavy bodies, with the weight as near the ground as possible, are the kind that are sure money-makers. Long, narrow, leggy horses of any class are a curse to the owner and to the country, and will eventually ruin anyone who breeds them. If we use caution and good judgment we ought to compete successfully with any country. I am pleased to say the first-prize cart horse shown in a cart at the Jubilee Show at Aberdeen was a Canadian-bred gelding, valued at £100 sterling, purchased and owned in Glasgow. He was a short-legged, heavy-bodied fellow, weighing 1,800 pounds. The owner told me they would pay £70 each for a shipload of such horses. Now, Mr. Editor, as I have started the ball rolling, I hope you may solicit the aid of such men as the Sorbys, Davies, Davidsons, Millers, on drafts, to give you their able assistance; and there are such men as Messrs. Beith, Crossley and Cochrane on the Hackney; and my friend Professor Smith, who is looked up to as authority on Thoroughbreds wherever the horse is known; Mr. Fuller, also a practical man in Thoroughbreds. These are all men of the highest reputation and honor in the business, and would be able to do justice to this very important but neglected question.

A. INNES.

Huron Co., Ont.

Shall the Scrub Sire be Taxed?

To the Editor FARMER'S ADVOCATE:

SIR,—For one, I was decidedly pleased to read the wholesome editorial in your March 1st issue pointing out the injury that scrub sires are doing to the country, and the advantages that would result, particularly to the cattle industry, from the more general use of rightly-chosen pure-bred bulls. The only fault I have to find is that you did not make your article strong enough. You also estimated the difference in value between the well-bred and the ill-favored scrub steer too low at \$20 per head. In my judgment \$25 each would be well within the mark. Anyone who buys stockers to fatten knows to his sorrow the poor returns the scrub gives for the care and food given if he is unfortunate enough to include any of that sort in the bunch. Scrub bulls are a curse to the country, doing our reputation as a cattle-rearing land untold injury. Not only so, but they are a nuisance and a damage to every neighborhood that they infest. Their owners usually allow them to roam about the lanes and fields, tagging after cows and breaking into neighbors' fields, and in not a few instances injuring the stock of men who are trying to improve their herds by the use of good sires. The progeny of thoroughbred cows is thus often rendered of little value. There would, in such cases, be good grounds for legal action, and smart damages might be recovered, but most men prefer to suffer rather than stir up trouble with a neighbor. Now, the ADVOCATE is doing a grand educational work on this subject, and I would suggest that the Governments of the different Provinces supplement its efforts by imposing a special tax of from \$3 to \$5 per head on all scrub sires. This would discourage the shortsighted folly of keeping them and encourage the better class. We find some municipalities imposing a special tax on bicycles, and what is a better precedent for what I propose, upon all dogs. Why not tax the scrub? I trust you will continue to fight the scrub till he is driven from the land.

Yours truly, FEDER.

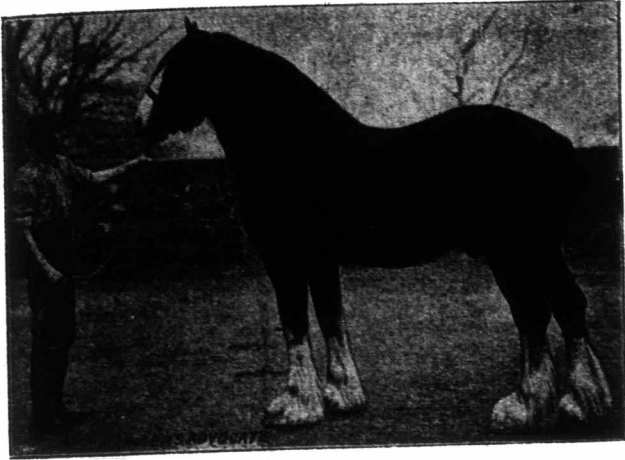
Our Toronto market report, in this issue, records the sale of a three-year-old Shorthorn bull, weighing 2,300 pounds, at 5c. per pound, or \$115. In the same report is chronicled the sale of a three-year-old grade steer, weighing 1,900 pounds, which sold for 6c. per pound, or \$114, and a veal calf, 14 weeks old, weighing 605 pounds, and selling for \$37. These should be considered fairly good prices for commercial cattle.

FARM.

Maritime Seeding Notes.

To the Editor FARMER'S ADVOCATE:

SIR,—We prefer to sow a mixture of timothy and clovers—generally about six pounds timothy seed, four pounds red clover, and one pound each of white and alsike clover. There is nothing quite so good as wheat to seed with, though the mixed grains (peas, oats, and wheat, or peas, oats and barley) generally do well; but I prefer wheat, as the stubble can be cut higher, making a mulch and holding the snow later in the spring, thus protect-



CLYDESDALE STALLION, "HIAWATHA."

PROPERTY OF MR. JOHN POLLOCK, PAPER MILL FARM, CATHCART, N. B. WINNER OF CHAMPIONSHIP, GLASGOW, 1892.

ing the clover roots from the freezing and thawing which is the greatest trouble in getting a stand of clover and grass in this section.

We sow the clover and grass seed after the grain has been covered, and then cover the grass seed with a light drag-tooth harrow, and roll as soon as the land is dry. We do not mind rolling grain even after it is two or three inches above ground, but do not like to harrow after it has been in the ground three days.

No variety of wheat did well here last season. Wheat rusted quite badly, especially bearded sorts. A few fields gave more than twenty bushels per acre, and a large per cent. of the grain is only fit for feeding. White Russian, White Fyfe and Green Mountain are the sorts in best repute. Canadian Banner and Black Tartarian oats do rather better than others. Pearce's Prolific or Longfellow corn; Early Ohio, Early Rose, Sunrise, Silver Dollar potatoes; Diamond swede and Elephant swede turnips; Long Orange and White Belgian carrots; and Mammoth Long Red mangels are our favorites. C. H. BLACK.

Cumberland Co., N. S.

A Good Seed-bed Essential to a Good Yield--Best Varieties of Grain, Roots, Etc., in Shefford Co., Quebec.

To the Editor FARMER'S ADVOCATE:

SIR,—I consider that the subject of soil preparation is of greater importance than many suppose it to be, and that the after surface cultivation of all hoed plants has much to do with insuring a good crop, especially in dry seasons; but in order to have cultivating a success, the soil must be put in proper tilth before the seed is sown. On our hillside farms subsoiling is not practiced, but we all in this section plow as deep as a good plow will turn. We prefer fall plowing, so that the frost of winter will help to pulverize the soil. We use the spring-tooth harrow, and harrow in spring till the surface is thoroughly cut up.

The use of the horse weeder in grain crops is now exciting the minds of many, and we shall expect to hear much about this new method this coming season. It clearly demonstrates, if successful, the principle of surface cultivation, but whether it will be profitable or not remains to be proved.

The supply of humus in the soil is maintained principally by stable manure. We always seed down to grass with clover and timothy, and as hay is the largest crop here we aim to put all land in good heart when seeding down, and seldom crop more than twice before seeding down, and on smooth ground only one crop of grain is taken. The aftermath is not cut or fed down by stock, but allowed to remain where it grew, to return to the soil its whole strength, not only insuring the following crop of hay by what it gives back, but it protects the roots from the severe frosts of winter. We consider this a cheaper way to top-dress meadows than any other. Commercial fertilizers are used to some extent to increase hoed crops, in addition to stable manure, so that the latter may cover a greater area, for no one ever has as much as he would wish.

White Fyfe wheat we find of the best quality for flour, but does not yield as much to the acre as some other varieties. The Red Chaff did well the past two seasons. Banner oats give general satisfaction, but there are other new varieties. The "Silver Mine" did well last season, but only a small piece was sown. The Mummy peas proved good, and Mensury barley is among the best.

Huron Dent corn for feeding cows did exceedingly well, and Perry's Hybrid Sweet we prefer for feeding, but it is not so sure a cropper as the dent or flint sorts.

The varieties of potatoes are numerous. Carman No. 1, Rural New Yorker (or No. 2), and Carman No. 3 have all proved good as croppers. The first is of best quality, the last for yield, and the second named between the two. The Somerset comes in for quality and yield combined. Empire State is a good standby. The newer kinds are pushing ahead, such as Maul's Thoroughbred, Money-maker, Great Divide, Pelham Rose, Wonder of the World, and Lily of California. These were about alike for yield, but only grown in small quantity, the last named being the poorest. For early crop we like the White Beauty, Early Puritan, or Burpee's Extra Early. The Rose of Erin, a late potato, proved to be a big cropper, but of poor quality. The Giant Swede turnip for stock-feeding, and Landradth's Purple-top for table use. The Ox-heart carrot yields big crops, but the "carrot rust-fly" injured us for the first time last season. Long Red mangels we count best here. I intend to try the Golden Giant oats and the Preston wheat, and probably some others. P. P. FOWLER.

Shefford Co., Que.

Prince Edward Island Seeding Notes.

To the Editor FARMER'S ADVOCATE:

SIR,—I prepare the land in the spring for grain crops by harrowing, as I make it a point to have all plowing done in the fall. By putting the disk harrow over the land about twice, setting it pretty deep, and then following with spring-tooth or spike harrow to fine it up and level it, I find it is in good condition for the drill or seeder. For potatoes we use the same cultivation, then spread the manure on top, if it has not been plowed in in the fall. Land for roots I plow once or twice in the spring, so as to get it loose and fine in tilth.

I depend largely on barnyard manure to keep up supply of humus in the soil, but I supplement it when I can with seaweed, and occasionally plow under buckwheat on a poor piece I have nothing else for. I have never plowed in any clover for this purpose, as I have always had use for it as feed in the stables; besides, clover has not done well here lately till last season.

The varieties of spring wheat that give the best satisfaction here now are the Fyfe and White Russian. Campbell's White Chaff has given splendid satisfaction since it was introduced, eight years ago, till this last year, when it was so badly rusted as to be about useless. It will not likely be in much favor in future. In oats, I think the Norway or Tartarian (black) are about the best suited for a general crop on good land, as they have a stiff straw and stand, and yield well. The Joannette has done well in some localities on very rich land. In white varieties, the Siberian and Banner are, perhaps, ahead, though I have been very successful with the Poland and Flying Scotchman. In peas, the crop is confined pretty much to Mummy and Golden Vine, with the preference for the former. Pearce's Prolific and Longfellow are the kinds mostly grown here for silage, though I believe Thoroughbred White Flint does well in warm situations. Our staple potato is the McIntyre (known as Chenango) in the Boston market. It is hardy and very prolific. We grow a great variety of turnips, and it would be difficult to say which gives best satisfaction. "Hazard's Improved Swede" is more largely grown than any other single variety, and is considered the best all-round turnip we have. The Intermediate kinds of white carrots suit best for field crops, and the Long Red Mammoth mangel is the best yielder we have. WALTER SIMPSON.

Queen's Co., P. E. I.

Valuable Advice re Seeding to Grass and Clovers.

We seed our land to clover with every white straw crop. The soil is a heavy clay, deficient in vegetable matter, and by continued seeding down to clover we hope to maintain and increase the amount of humus in the soil, and also the producing power of the land per acre per annum. The common red clover is our favorite, and we aim to have it a success if we can possibly do so. We usually sow from three to five pounds of timothy, six to eight of red clover, and one of alsike per acre. If soil and season are favorable this will give a very heavy stand of young plants for the succeeding crop. Fall wheat is our favorite crop for seeding down with, but we have to make use of oats and other grains as well for spring seeding. When seeding with fall wheat, the timothy is sown with the wheat in front of the drill, and one stroke of the harrow is given after sowing. If the soil is not very rich we apply a light top dressing of stable manure previous to drilling in the wheat, and work it in with the harrow. When this is done we have never failed to have a catch, and it did not seem to hurt the wheat in the least. The wheat is generally sown after peas, and the land worked about three inches deep with disk or cultivator. The clovers are sown in the spring when the land is in the honeycomb state, our experience being that it is safer to sow on the early side than leave it too late. On hills and hillsides that are exposed during winter we like to top dress before the snow goes in the spring, and here we usually have the very best stand of clovers. Last

year the hay crop was good, but on the top-dressed land of the previous winter it was almost double the yield in the same field. When seeding down with oats or other grains in the spring, sow the fields to be seeded down first. Let the hose run light—one to one and one-half inches deep, in front of hose, and then follow with one stroke of harrow. We have had excellent results from this method.

With regard to harrowing land that has been seeded down, we think it is perfectly safe to do so. Two years ago we harrowed a field that was very badly crusted by a heavy rain, and had a splendid catch, and we roll our land every year and have never noticed injurious results.

In spring wheat, there is almost none grown here; Oats—Siberian, American Banner, New Zealand; Peas—Prussian Blue, Multiplier, common white pea; Barley—Mensury; Corn—Compton's Early, Longfellow, Stowel's Evergreen; Potatoes—Elephant, Late Rose, Empire State; Turnips—Jumbo, East Lothian, Purple-top; Carrots—Improved Short White; Mangolds—Mammoth, and Golden-fleshed Tankard. JAS. B. MUIR.

Bruce County.

Increasing the Humus in the Soil of P. E. Island.

I sow oats in inverted sod plowed the previous fall; prepared in the spring by using disk and spring-tooth harrows until the land is mellow; then drill in grain with Noxon Hoosier drill. I sow wheat in land that grew a root crop the preceding year. Plow in the spring; spring-tooth and spike harrow to prepare the seed-bed, and drill it in along with clover and timothy seed. I manure last season's corn land for barley, plowed under with shallow furrow; harrow with spring-tooth and spike harrows, and drill in the seed. Roll all grain soon after sowing. I drill in peas in similar land treated in the same way as oats. I sow wheat as early as it is possible for horses to go over the land. Peas come next, followed by oats, barley being the last to be attended to.

Clover is so frequently killed by the alternate freezings and thawings of March and April that I do not rely on it for a fertilizer, except that I am very glad to get an occasional crop to increase the bulk and value of the hay crop. But I make every possible exertion to increase the manure heap by carting swamp muck into the cattle yards and pens, pig houses, and every hole or spot where the liquid from the manure heaps or stables may leach. I use a great deal of the muck for composting with the stable manure and letting the mixture heat, and if stable manure is scarce I compost muck with lime. As I find it difficult to get straw enough for bedding all my stock, I occasionally send several miles for loads of sawdust, which makes the nicest litter for a horse stable I know of, and helps to further enlarge the manure heap. By these practices I find my farm increasing rapidly in productiveness, and from the appearance of the soil I judge the humus is getting more abundant.

I sow Wild Goose wheat. My neighbors sow red and white Fyfe, White Russian, Colorado Bearded, and Campbell's White Chaff. The latter was a failure last year, which was a serious loss, as it was largely sown. I sow common six-rowed barley, but two-rowed English barley is more frequently sown. Either are paying sorts in this Province and should be our principal grain crop. For the oat crop I sow Egyptian White. Many rely on our old Island black oat, a valuable kind. Some have good success with the Early Gothland, while a few of our best farmers swear by the Norway, a black oat much



THE WAY THEY DO IT IN SCOTLAND.

CLYDESDALE STALLION, OWNED BY ALEXANDER GALBRAITH, JANESVILLE, WISCONSIN.

advertised twenty-five years ago. Mummy peas are the favorite here, although I have had good crops of the Prince Albert. I am looking for the English Gray pea, as English writers on sheep say it is a useful food for that animal. Longfellow corn is in the ascendant with us; Callico or Chenango potatoes. For turnips, we go the whole hog on Hartley's Improved Bronze-top, locally known as "Hazard's Improved." It has given larger crops and better roots than any other variety for many years. There is something about it that suits us. FRED. G. BOVYER.

King's Co., P. E. I.

horse for \$5. to pay more." ish, and goes all, while the prices. There o can afford to n use without and them at a t the breeders ure means of for first-class e service fees or each mare r of a sire. If only your best een dollars is notice that the an insurance die or it gets throw off half, rule that they when the mare r both parties. eses pay best. asses: First, e heart girth, s; deep, long, nd hardship; ese times of ld poison the him you can ou have to go y middle; and 15-hand body. e legs. Good th the weight the kind that arrow, leggy owner and to n anyone who ood judgment ith any coun- rize cart horse t Aberdeen t \$100 ster- w. He was a veighing 1,800 would pay \$70 s. Now, Mr. ng, I hope you s the Sorbys, s, to give you e such men as on the Hack- who is looked wherever the ctical man in of the highest and would be rtant but neg- A. INNES.

Taxed?

leased to read arch 1st issue ires are doing es that would stry, from the ure-bred bulls. t you did not You also esti- n the well-bred low at \$20 per ould be well ys stockers to r returns the given if he is of that sort in o the country, ng land untold nuisance and a t they infest. oam about the and breaking w instances in- g to improve The progeny rendered of cases, be good amages might o suffer rather or. Now, the ional work on t the Govern- upplement its from \$3 to \$5 ould discourage n and encour- municipalities and, what is a upon all dogs. will continue n the land. FEEDER.

s issue, records n bull, weigh- r \$115. In the f a three-year- ds, which sold calf, 14 weeks for \$37. These es for commer-

Increasing the Manure Heap.

Those who study the reports of Frank T. Shutt, M. A., Chemist for the Dominion Experimental Farms, will have noticed in former years' reports that many samples of swamp and river mud from Prince Edward Island have been analyzed by that gentleman, the swamp mud being reported very valuable for manure when properly prepared, its chief value being humus and its contained nitrogen, the latter element being in a non-soluble form, which is not in that state available for plant food. As these samples of mud are from thickly-populated, thriving districts, long distances apart, we have thought it advisable to gather a little information from those in that Province who have had practical experience in preparing those muds for use and have seen the increased crops from the use of this natural fertilizer.

There are many of our subscribers, whose soil requirements and their facilities for making use of swamp deposits for increasing their manure heap, who may find some helpful hints in the following statements.

From a very early period in the farming operations of that Province, the practice has been to haul large quantities of swamp mud into the cattle yards, pig and sheep sheds, and all stables where cattle or other stock are left loose, besides an extra thickness of the mud under the manure heap at the stable windows. The liquid drainage from the stable manure has the effect, in a few months, of converting the mud into a quickly-acting, rich fertilizer. On many farms hundreds of loads of manure are added to the season's supply in this way at a very small cost, the labor alone being an item of expense, for the liquid portion of the stable manure would have otherwise been mainly lost.

In later years other practices have been adopted by some. One way is to get out a number of loads of swamp-mud in the winter into a convenient field. On top of the mud stable manure is placed, in the proportion of one load of manure to two loads of mud. Before the regular spring work of planting and sowing begins, the entire pile is turned over and mixed, care being taken that a fair share of stable manure is covered by the mud. In a very few days active fermentation sets in, and by the time it is wanted the entire pile is one homogeneous mass of easily-handled manure, quite equal in its effect in producing crops with an equal quantity of the best from the stables.

Other farmers use freshly-burned lime for composting with the mud-pile. In this case half a bushel of lime is found sufficient for each one-horse load of mud in the pile, the summer or fall being the most suitable time for lime-composting. But the result from this class of compost is very good; some badly-cropped farms, so poor that renovating by keeping live stock was impossible, have by its use been restored to a high state of productivity.

We are told that for more than forty years farmers in that Province have obtained almost magical results from applications of lime, either as freshly-burned rock limestone or as mild lime, as found in unburnt oyster- or mussel-shell mud. Some of the gentlemen from the Dominion Experimental Farms sharply criticize the practice. One of them, when addressing a public meeting, when speaking of the shell muds, remarked, "Well called 'mussel mud'—more muscle than brains in using it." But the Chemist, Frank T. Shutt, M. A., did not talk or write that way, reserving his opinion till he had an opportunity to examine the Island soil. The analysis proved that it was lacking to an extreme degree in lime, and his advice to the farmers in that Province tallies exactly with their constant practice.

A Six Years Rotation in Nova Scotia.

In this county, grain-growing is not carried on to any extent, and land is seldom plowed until it needs reseeding to grass. Dependence is placed almost entirely upon the pasture for the growing and fattening of cattle. My own rotation is one of six years—three years hay, followed by peas and oats, then roots manured with kelp (seaweed) when possible, and followed by wheat, with which the stable manure is applied and the land reseeded to grass. When help is not to be got, then the stable manure is applied with the roots. I certainly advise the growing of all the grain necessary, as prices in our markets almost prohibit the farmer from buying.

I think that mixed farming, with the exception of selling hay or grain, is by far the best and safest system to follow, but a specialty should be made of some particular branch. The different lines can all be carried on together, and any one of them presents splendid prospects of success if only the right class of stock be kept.

American Banner oats and Mummy peas, at the rate of two bushels each per acre upon fall-plowed sod thoroughly harrowed and rolled, is a favorite crop. We sow wheat upon bare fallow, land manured, gang plowed and harrowed in the spring; seed drilled two bushels per acre—and rolled.

The following are favored varieties of various crops: White Russian spring wheat, American Banner oats, Mummy peas, Early Rose and White Prolific potatoes; D. M. Ferry's Improved Purple-top and strap-leaved ruta-baga turnips. I will try this year small lots of Climax wheat and Sensation oats.

Antigonish Co., N. S.

Bay View Farm.

Timothy Leads Down by the Sea.

We have such a great variety of soil in Nova Scotia that the preference any crop or any variety of crops of grains or vegetables may receive is more or less of a local nature. Nothing I have ever tried in grass takes the place of timothy. I have never failed to get a good catch with any kind of a grain crop that was sown with a "seed drill." I sow 8 lbs. late red clover, 2 lbs. alsike clover, and 6 lbs. timothy seed per acre. With wheat, barley and oats I sow the seed with the drill seeder when sowing the grain. The seed is scattered broadcast in front of the drill hoes, and is covered by them. I always roll fields which have been seeded down. I usually do it when the grain is a few inches high. White Fyfe and White Russian wheat; American Banner and Siberian oats; Duck-bill barley and Golden Vine peas give best results. For ensilage corn, Pearce's Prolific is the leading variety. We grow a great number of varieties of potatoes, turnips, mangels, carrots, etc., and we always try any new variety which comes well recommended. The bulk of our crops have always consisted of Purple-top swede turnips; Long Red and Yellow Intermediate mangels; Giant White and White Vosges carrots; Dakota Red, Rural New Yorker and Burpee's Extra Early potatoes. I think the newer named varieties of turnips, mangels, carrots, etc., give the best results. This I attribute to the fact that some seed-man has given special attention to selecting and growing seed for a few years, and has then given it a new name, while it is simply one of our standard varieties grown under favorable conditions.

Colchester Co., N. S.

F. L. FULLER.

Agriculture in Nova Scotia.—No. II.

Although this Province boasts of the possession of the oldest "town site" in Canada, its development along agricultural lines has not been so full as that of our younger Province. The resources of the country are many. Lumbering, shipbuilding, and fishing give profitable employment to thousands. The mining of coal, gold, iron and manganese is being constantly carried on, and is bound to increase, since British and American capitalists are investing largely in mining properties throughout the Province. Lunenburg County claims one-tenth of the ship tonnage of the whole Dominion.

In view of these facts we can scarcely expect to find here an interest in agricultural matters equal to that existing in Ontario. Further, the country is very irregular, being largely a succession of hills, valleys, and mountain ranges. Travelling by rail, one is surprised to see that the cultivated lands are chiefly on the hills. This is due to the peculiar fact that the bed-rock often crops out in valleys, while the hills are usually clay. There is a large area of both hill and dale which, though not much broken, is barren land.

"Visit London and see the world." "Visit Annapolis Valley and see Nova Scotia," about expresses the sentiment of the good people who are fortunate enough to live there. While their estimate may be slightly biased, there is some excuse for it. Globe-trotters who visit it in summer declare that, like that famous show, "it beats the earth." I can well believe it must be a garden of delight in summer; even now, it is a thing of beauty. To the traveller coming in from the eastern or northern part of the Province it appears as a pleasing surprise. In round numbers, the valley is a hundred miles long by four to seven in width. The cold north and north-east winds do not affect it materially, for the North Mountain, high and continuous, cuts them off. Running parallel on the south side a similar chain gives protection from Atlantic gales. With favorable conditions of soil and an almost ideal fruit climate, the farmers could not wisely do other than engage in general horticulture. Apples and plums and the small fruits grow to perfection. Although grapes do well, I have not seen a single vineyard, but peaches do well in certain sections. I know of one man who has a peach orchard of 700 trees. The apple crop is the main one of the valley; last year it was 300,000 barrels, netting the farmer about \$3. Several farmers realized from two to three thousand dollars from their orchards. Last season, plums and small fruits were a drug. It is surprising that there is not a canning factory in the whole valley to profitably handle a surplus of these. Ontario and New Brunswick canned goods come in by the carload. As might be expected, very little attention has been paid to animal husbandry in the valley. Near Wolfville there are quite respectable herds of Durhams, Jerseys, and Polled Angus, owned by Messrs. Chase, Starr, and Stairs, respectively. During my two weeks' visit I have not seen a single sheep, though the hillsides would seem splendid sheep runs. Not enough hogs are grown for local demand; western hams and bacon hold the markets.

To maintain fertility and feed the growing orchards large quantities of artificial fertilizers are purchased by the farmers, and since they do not raise enough coarse grains to feed their stock they are forced to buy large quantities of Ontario mill-feeds, even though they pay dearly for them. Could our best feeders at home do business at a profit with feeding-stuffs at prices quoted here this week, viz., oats 50 cents, middlings \$1.25, bran \$1.10, and chop \$1.25 per cwt.? Almost everything in manufactures, from a ham to a self-binder, comes "from Canada," which means from Ontario. As a level-headed farmer stated the other day, "we buy everything and sell nothing." It is hardly so bad as that, but money is needlessly going out of the country. Last

year Halifax imported from our Province \$225,000 worth of butter. This could have been made right here, where the natural facilities for dairying are better than in most sections of Ontario, but farmers say that while they can grow three-dollar apples they will not milk cows. Cheese factories and creameries have been but indifferently successful, owing largely to this. So far I have heard of but one creamery which might be called really successful. This is the one at Wolfville.

This concern is operated as a joint stock enterprise, on rather novel lines. The Arcadia Dairy Co. has a retail business in Halifax and keeps a team constantly employed supplying its private customers with its products. Butter only is manufactured in the winter, and both cheese and butter in summer. The butter is put up in 4-pound bricks, or is packed in earthenware jars of 3-5 lbs. capacity, which, when empty, are returned to be re-filled. They are easily cleaned, durable and cheap, costing from 7 to 9 cents each. The price obtained is 23 to 25 cents; cost of delivery, 2½ cents per pound, leaving a good price net. About 500 customers are catered to.

Last summer a company was organized at Middleton, in the center of the valley, for the purpose of erecting and operating a pork-packing factory. It was capitalized at \$50,000, of which there is already \$37,000 subscribed. Operations have been begun on the plant, which is to commence handling hogs about Oct. 1st. The promoters are very sanguine of success, while the farmers are interested to the extent that they agree to provide the hogs, of which one hundred per day will be handled this first season. The hogs at present in the Province are not well suited for the bacon trade, so that again Ontario has been drawn on. A director of the company is expected here this week with a car of well-bred boars purchased up there. These are to be sold at auction to the farmers for the purpose of grading up and improving on present stock.

J. J. FERGUSON.

Middleton, N. S., March 6, '99.

Clover Favored in British Columbia.

To the Editor FARMER'S ADVOCATE:

SIR,—For our land, with the climatic conditions prevailing here, the common red is, I think, the best possible clover for us. One year in clover gives us feed and a fine stubble and aftermath to turn under. Owing to our favorable climate, clover ordinarily makes a good catch with any grain crop, but I would prefer land properly prepared and sow the seed early in spring without any other crop. If land is in good heart and well prepared, ten pounds of seed per acre will give a good stand, and in ordinary seasons a good yield in first crop, and also a fine growth to cover the soil during winter. Clover sown either with or without a crop is sown broadcast; if with a crop, after the grain has been sown and finished except rolling. If sown this way rolling will cover sufficiently, or brushing in answers very well. It depends somewhat on local conditions whether it is safe to roll after clover or grass seed has germinated, but I think it a doubtful experiment to harrow under such conditions.

Spring wheat is only grown in the coast regions of B. C. for chicken feed, and consequently bushels is of first importance, and the soft wheats, as a rule, give the largest yields. Oats—Banner, Gothland, White Wonder, and Bonanza—are all good; but in nothing is the great diversity of climate, soil and local conditions more clearly shown than in the success of grains and potatoes distributed to the farmers of the Province. Some varieties of a comparatively low order of merit in one locality will succeed well in another under very different conditions. In roots, for feeding, the best mangels are the Tankard or Medium Long. In carrots, the short-rooted varieties are most profitable, for along with the fact that they are, as a rule, heavy croppers, they are easily harvested, which is a very important consideration. In corn, for ensilage, those early varieties that will develop and nearly ripen the grain are more desirable than later varieties. Early Butler, Selected Leaning, North Dakota White, King of the Earliest, Pearce's Prolific, and Canadian White Flint are among those that for several years have proved satisfactory, giving a fairly heavy yield and a well-developed cob of corn.

THOS. A. SHARP, Superintendent.

British Columbia Experimental Farm.

Green Oats, Peas and Clover as Manure in Nova Scotia.

Mr. R. Robertson, Superintendent of the Maritime Provinces Experimental Farm, at Nappan, N. S., writes us in regard to their seeding operations that they prefer to have all land for spring grain seeding fall plowed, and thoroughly cultivated in spring, making a fine and mellow seed-bed. For roots and corn it is not considered so important to have the ground plowed in the autumn, but thorough spring cultivation is of just as great importance as for grain crops. Their rotation is grain, roots, grain, clover hay, which, together with the barnyard manure, provides a good supply of humus. Of late years the practice on the Nappan Farm has been to sow clover along with every crop of grain, and to use it for plowing down, if not needed for hay. This coming season it is Mr. Robertson's intention to plow down a green crop of peas and oats, sown in the proportion of two of the former to one of the latter, as well as a crop of clover on the same land.

Nova Scotia Farmers' Association Fourth Annual Meeting.

The fourth annual meeting of the Nova Scotia Farmers' Association was held in the old historic town of Annapolis, on the 22nd, 23rd and 24th of February. It was by far the largest and most representative meeting that has yet been held.

The president, J. Rufus Starr, opened the proceedings with an excellent address, in which he referred with satisfaction to the increasing interest manifested by the farmers of the Province in improved stock, dairying, and fruit-growing, but said there was yet much room for improvement in all these lines; that large areas of land was not producing nearly what it might if properly cultivated and fertilized by means easily within the reach of the owners, and which could be profitably utilized. The need of greater attention to education on practical lines, and especially of agricultural education, was urged, and the advantages of co-operation pointed out if we are to successfully compete with other countries in the markets of the world.

The report of the Secretary, Mr. Paul C. Black, was mainly a review of the work done by the Association during the past year.

Prof. Shutt, of the Experimental Farm, Ottawa, gave an interesting address upon fertilizers. Barnyard manure and its preservation was referred to as a subject lying at the foundation of profitable farming. Of all the elements which crops take from the soil, it is only necessary to supply three—nitrogen, phosphoric acid, and potash—and these constituents of fertility are all found in barnyard manure. The liquid part of the manure of the horse or cow is three times as valuable, ton for ton, as the solids, and is in a more available form, hence the great importance of saving it. It is often asked whether it is better to rot manure or to apply it fresh? Experiments conducted at the Central Experimental Farm show that it is best to apply the manure to the land as soon after it is made as possible.

When plaster was mixed with manure at the rate of 50 pounds to the ton it was found that there was just as much loss as when none was used. The proper place and time to use plaster is in the stable before fermentation begins.

The conclusions arrived at from these experiments are: There can be no fermentation without loss. Protecting manure preserves from loss of plant food. The loss of nitrogen is twice as great in exposed as in protected manure. There is no loss of potash or phosphoric acid from fermentation, but there is a large loss in exposed manure from leaching. There is no benefit in fermenting manure more than three months.

Questioned as to the best means of saving liquid manure, Prof. Shutt recommended the liberal use of absorbents, of which he thought dried peat or black muck was the best, but straw, dry earth or sawdust were all good.

At the evening session, which was held in the Academy of Music, Mayor De Blois tendered the welcome of the citizens of Annapolis to the members of the Association, and to Hon. Sydney Fisher, Minister of Agriculture for the Dominion. He thought the town was honored in being chosen as the place of meeting, and the Association had the best wishes of the citizens for success in its work.

Col. Blair replied on behalf of the Association. He thanked the Mayor and citizens for their good wishes, and thought that from the hearty welcome the Association had received, and the large audience which was present, no mistake had been made in choosing Annapolis as the place of meeting. The present large assembly was in striking contrast with farmers' meetings fifteen years ago. Much more interest was now being taken in agriculture, and all available means were being used to impart information. Agricultural education was much needed. The establishment of the Agricultural School and Farm at Truro was but the entering wedge. The time had now come to make the school more efficient. In order to help the spread of agricultural knowledge, the Dairymen's Association had merged themselves in this Association when it was started. Much excellent work had been done, but he wanted to see more done. County associations should be organized, and many more special meetings held.

Hon. Mr. Fisher thanked the Mayor for the kindly welcome he had received. He had anticipated much pleasure in visiting the Valley and the old historic town of Annapolis Royal, and it was increased when he knew he was to meet the farmers. He was pleased to meet personally those for whom he was performing the work of his office. The word "minister" meant servant, and he was the servant of the farmers. In order to serve them he must know their wants, and being a practical farmer and having visited the various Provinces and mingled with the farmers and talked with them, he hoped to serve them acceptably. Economy in farming is founded upon a scientific knowledge of the business. In order to secure this knowledge for our young men, a good agricultural and horticultural school should be established in Nova Scotia. It should be thoroughly equipped and the very best men should be secured for teachers. Scientific farming is generally thought to be impracticable, but it simply means farming with knowledge. There are in Canada large institutions for the investigation of agricultural subjects. These investigations are carried on by experts, and their results are at the use of every farmer for the asking. Without reading, a farmer can only know

what he learns upon his own farm, and a man cannot afford to work with his hands from daylight till dark. He must take time to read, think and plan. He thought it strange that Halifax butchers went to Ontario to buy beef, when just as good beef could be raised in Nova Scotia. The market in Halifax must be a good one when it allowed of the Halifax butchers outbidding those of Ontario. That they wanted good beef was shown by the fact that the prize animals of the Brantford Fat Stock Show were bought for the Halifax market. With all the advantages for stock-raising which this Province possessed, he could not see why the farmers did not keep this trade in their own hands. There was an abundance of fine pasture, and it was a superb sheep country, but he had never heard of any sheep being exported. Large quantities of pork were also imported, which could just as well be raised at home. He thought we had been neglecting our opportunities, and was glad to hear that a pork-packing establishment was to be erected at Middleton. A share of Canada's increasing bacon trade could only be secured through the factory. It would not do for every farmer to do his own killing and curing. It was more expensive, and a uniform quality could not be secured. The pig required to-day is a very different animal from that which was wanted a few years ago. Then the object was to raise as large and fat a pig as possible, which, while it satisfied the lumberman, was altogether unsuitable for the English market. The pig now wanted was just its opposite. It should weigh but little over 200 pounds at the outside. It should be narrow on the back, long and deep, with light shoulders. There should not be more than one and one-half inches of fat upon the back, and the same thickness should be carried the whole length of the side. The aim in raising the pigs should be to make them grow while young, and not allow them to fatten too quickly. In order to do this they should be given lots of exercise, which would develop the muscles and keep them strong and vigorous. They should not be forced too quickly, as lean meat was wanted, and the pig should not weigh 200 pounds till seven months old. The cheapest feed was clover pasture, or oats, peas and tares sown together. A good average crop of clover should feed from 20 to 30 pigs per acre for two or three months. Care to produce the correct animal was particularly necessary, as the difference in price of first and second quality of bacon in the English markets was the difference between profit and loss. Four years ago Canada sent \$1,000,000 worth of bacon to England; last year she sent \$8,000,000 worth, and he thought that amount would be doubled in the next two years. Pig-raising and dairy farming go hand in hand, as in no way can the by-products of dairying be so profitably used as by feeding them to young pigs. The raising of poultry and eggs was another industry which can be greatly developed. We already export large quantities of eggs, and the trade is increasing. English importers speak highly of Canadian eggs, and the market is practically unlimited. Inquiries have recently been received from a man who wanted to know where he could buy 1,000,000 eggs per week for the English market. Although not much had been done in exporting poultry meat, there were splendid prospects for a large trade if care were taken to consider the demands of the market. The demand for poultry in England was great, but buyers were very particular as to the condition of the birds and the way in which they were dressed and packed. Experiments had been made in fattening and shipping fowls to the English market. They had been very successful and realized a handsome profit, as, apart from the labor, the returns from the fowls had doubled the cost.

Mr. R. Robertson, Supt. of the Experimental Farm at Nappan, could not see why the Maritime Provinces could not receive a share of the \$20,000,000 now taken by the farmers of Ontario and Quebec from the English markets for dairy produce. He thought more good could be done to the country through the medium of the dairy cow and her adjunct, the hog, than through any other source. In order to obtain the greatest degree of success farmers must stop selling the crops in their crude state, and must manufacture them into a finished product. And to do this no machine could be used to such good advantage as the dairy cow. The simple owning of cows does not make a man a dairyman. The first essential to success is the man himself; he must be intelligent and progressive, willing to apply the best methods, and to put in practice the experience of others. After the man comes the cow; she must be as nearly fitted for the business as possible. Cows of the beef breeds or the general purpose cow were not profitable dairy animals. Any of the four dairy breeds found in Canada was good. The best breed was the one the man liked best, and he was more likely to do well with it. The raising of the calf for dairy purposes is very important. A cow is a creature of habit, and these habits can be cultivated. The calf should be fed to promote growth without fat, and for this purpose nothing was so good as skim milk; whole milk should not be used. The feeding of concentrated foods to a greater extent than is required for growth will tend to produce fat, and this should be avoided. After the calf becomes a cow the extra food she will then obtain will be devoted to producing milk. To obtain the greatest success in dairy farming it was essential that the factory system be adopted, as by its means large quantities of a uniform quality could be produced; the demands of the markets could also be more closely studied

and more easily satisfied. It was essential that dairying be carried on through the whole year. The ideal way is to have the cows come in in the fall, milk all winter and spring and until late in the summer, going dry when the pastures are poor and other work is pressing. Cows calving in the fall gave a greater profit than those calving in the spring, and the calves coming at that season can be most successfully and profitably raised. The crops grown should be the most suitable for the object in view, and every effort should be made to cheapen the cost of production. Roots, ensilage and corn was the secret of milk. By raising roots the cost of food can be reduced two cents per day, with ensilage another cent can be saved; all these can be successfully grown in Nova Scotia. While exercise was all very well in theory, it does not always do in practice, as the quieter the cow is kept the more she will produce, and in order to disturb her as little as possible would only feed twice a day. Kind, gentle treatment paid in dollars and cents. Watering was very essential; the best way was to have water always before them.

At the morning session, on February 23rd, Mr. W. W. Hubbard, Sussex, N. B., gave an address on dairying, in which he pointed out the advantages of co-operation in the production of cheese and butter by means of the factory system, and the importance of balanced rations, of regularity in feeding, of care in regard to the comfort of the cows, the quality of food and water given, and of proper lighting, ventilation of stables in order to secure pure air, healthy conditions, and a high-class product.

Mr. J. J. Ferguson, Smith's Falls, Ont., gave an excellent address on the raising of pigs for bacon purposes, in which he described the ideal type, and how to produce and feed the pig which best suits the export trade.

Mr. Peter Innis in his address pointed out the great need of better agricultural education in Nova Scotia, and the unsatisfactory work which had been done by the Provincial School of Agriculture at Truro, and he moved a resolution recommending the establishment of a thoroughly equipped agricultural college, and its location in King's County. A very warm discussion ensued, the delegates from the western part of the Province favoring the resolution, while those from the east contended that the clauses referring to the location of the college should be omitted and the decision left in the hands of the Government.

The resolution was finally amended so as to call the attention of the Government to the necessity of amalgamating the existing schools of agriculture and horticulture at one point, and establishing a better-equipped institution, but leaving to the Government the selection of its location; and an influential committee was appointed to wait upon the Government and to submit the views of the Association on the matter.

Mr. F. M. Logan, manager of the Acadia Dairy Company at Wolfville, gave an interesting account of the methods of this company, which sells direct to the consumer, delivering the butter at the house either in prints or in three or five pound jars. The cost of making is from 4 to 5 cents per pound, and the cost of delivery 2½ cents per pound. The last payment to the patrons had been 16 cents per pound for butter-fat in their milk. There was a good local market to supply, and when that was satisfied there was always the British market to fall back upon.

Mr. J. E. Hopkins, manager of the Dairy Station at Nappan, said the secret of success in dairying is co-operation. The reason why some of our factories had failed, was because they had been badly located, and because the farmers were either too rich or too poor. It was so easy to make a living from the orchards and large dyke lands that the farmers were too rich and had no need to labor. Although the price of cheese had fallen 25%, dairying was still profitable, because the cows had been improved and the cost of production has been lessened. Dairying had made great progress in Nova Scotia during the last five years. At that time there was not a separator in Nova Scotia, except at the condensing factories at Truro and Kingston; now there are not only creameries, but private dairies using separators, and our butter is taking a high place. No system of farming takes so little fertility off the farm, as one ton of butter, worth \$400, does not take as much fertility off the farm as the selling of one ton of hay worth \$6.00.

Officers elected for the ensuing year: President, Col. Blair; 1st Vice-President, Wm. Corning; 2nd Vice-President, Wm. Young. Directors—C. R. B. Bryan, G. C. Lawrence, J. R. Starr, S. J. Moore, F. H. McPhie. Auditors—S. C. Parker, W. H. Blanchard. Exhibition Commissioners—Jos. R. Wyman, John McDonald. The new Executive announced that they had appointed C. R. B. Bryan to succeed P. C. Black as Secretary of the Association.

Salt the Cows Regularly to Prevent Long Churnings.

SIR,—My attention has been drawn to the trouble many of your subscribers have had with long churning in cold weather. I formerly experienced the same difficulty, but have found that if the cows are given salt once a day in their feed it makes no difference whether they are fresh in milk or strippers, the butter will come in reasonable time. I use the old dash churn, with cream at 60 degrees, and invariably get butter in thirty minutes, which I consider is quickly enough.
Huron Co., Ont. Mrs. J. H.

A Strong Plea for Better Farming.

The great problem to be solved among farmers to-day is how can we derive a fair yearly return from our farms and at the same time sustain the fertility of the soil? By observation we might learn that to follow the plan of raising coarse grains and sell them off the farm is one of the last things to do if we want to make a living off our farms and at the same time leave them in a shape that those who follow may still have plenty of plant food left. We are apt to lay too much stress on how can we raise a certain amount of money for this year without asking ourselves what effect will this have in the future? If we take from our brooks double the quantity of trout that we should take in order to keep a fair supply for future years, we will find we have done it at the expense of future years' fishing. So with the farm. If we break up a lot of our sod fields and make an extra effort to raise more money than usual, providing we sell all off the farm in the way of grain, we do it at the expense of future years, because the straw will not return to the farm the elements of plant food we have sold in the way of grain. A man hears of somebody making well out of growing clovers, and he decides to do the same, without making preparations for doing so; consequently he has more weeds than clover, and it costs just as much to thresh it as good clover, so he comes to the conclusion that clover-growing does not pay. The old farms of this country which have had a rotation of wheat and oats (nitrogen-consumers) for the last fifty years are no doubt lacking in nitrogen. Let us feed our coarse grains on the farm, with all the corn and roots we can grow, and we will soon find we will have manure enough for double the quantity of land we had before and of better quality, and let us keep our root and corn crops clean. Then we have our fields in proper shape to seed down to clover. We will then not only have a clean crop of clover, but a profitable one, and the clover plant which you have been successful in growing has succeeded in drawing from the atmosphere that long-looked-for element, nitrogen, and has deposited it in the soil to help you grow crops in years to come. After you have followed this plan for five years, and look back over the past, you will find that you have been feeding at a profit more than at a loss, and have succeeded not only in getting from your farms a fair yearly return, but you have succeeded in increasing the fertility of your soil.

Grey Co., Ont. FRED C. CURRIE.

Pea Bugs and Pea Growing.

To the Editor FARMER'S ADVOCATE:

SIR.—In view of the prevalence of the pea bug and other hindrances to secure a paying crop of peas, many farmers have given up trying to grow this valuable crop. In sections of the country where the pea bug prevails, the seed should be treated with carbon bisulphide, so as to destroy the bugs. This should have been done early in the fall while the insects were in the embryo state, and before they had materially injured the pea. The method of treatment is to use an air-tight box that will hold say ten or twenty bushels. Fill it with peas and set a dish on top containing one pound of carbon bisulphide, which is sufficient to treat eighteen or twenty bushels. Close the lid, making it as near air-tight as possible, and leave for three days. By this time the carbon will have penetrated all the peas in the box and destroyed every germ of insect life without injury to the pea. If all the farmers in a neighborhood would unite and treat their seed peas, it would not be necessary to repeat this treatment every year.

Peas require dry land, either naturally or artificially so by underdraining. A rich sod is preferable, plowed in the fall and thoroughly cultivated in the spring before sowing. Sow beginning of May with grain drill. The quantity of seed per acre depends on the variety. Ordinary size varieties, 2½ bush. per acre; marrowfats, 3½ bush. If the seed has been much eaten by bugs, more should be sown per acre, as the seed germs will have been to some extent destroyed.

Wm. RENNIE, Supt.
O. A. College Farm.

The More Solid the Land the Better Catch of Seeds.

In regard to growing grasses, I will say that we have only had one miss catch of seeds in fifteen years, and that was seeded with wheat after turnips and plowed deeply. Since then we never plow after turnips, but simply cultivate, and have found that the more solid land is the better catch of seeds.

We use no other grasses and clovers except red clover, timothy, and a little alsike, and get best catches after spring wheat or Banner oats—stiff strawed. We sow seeds after the drill, and harrow after with light harrows. I do not like to harrow or roll after seeds have sprouted, but have done it without injury.

We have been sowing Colorado spring wheat for about ten years—the heaviest spring wheat I know of. I always sell it for seed. We grow the Banner oats, with a little flax and wheat mixed when sown. The wheat grows higher than the oats, and makes a richer feed. We have been sowing Mummy peas, but I have bought Canadian Beauty seed—they seem to be the most popular. Turnips—the Bangholm and Champion, mixed—do well.

Ontario Co., Ont. DAVID BURNS.

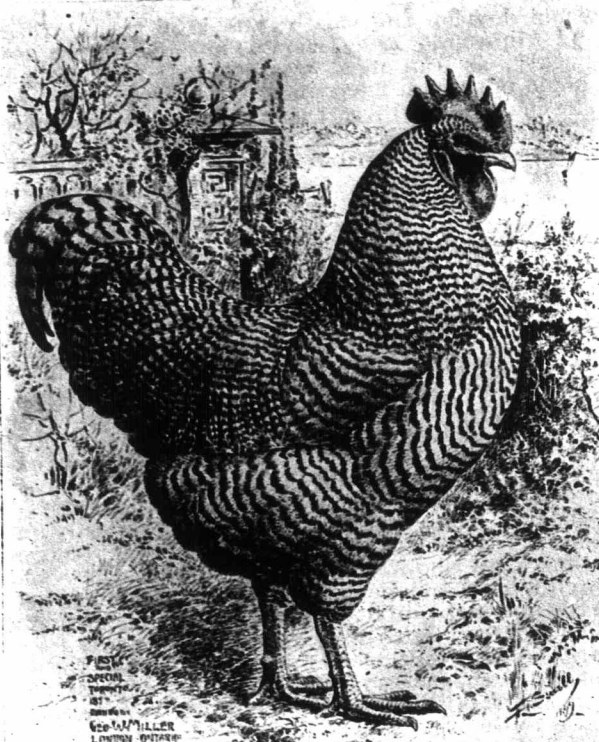
DAIRY.

Milk Fever Treatment.

In the FARMER'S ADVOCATE of February 15th, page 94, was published a description of a new cure for milk fever, which consists in the main of injecting a gland stimulant into the udder. There have recently come beneath our notice two cases of this malady, which were treated according to the new system, along with other medicines, and made rapid recovery under the treatment of Dr. Tennant, V. S., London, Ont.

Case 1, had calved 24 hours, and was found down and unable to rise. Her head was around at her side, her eyes were glaring, and other well-defined milk-fever symptoms were present. The veterinary first drew with difficulty six quarts of blood from her. He gave her one ounce of aloes, half a pound of common salt, and two ounces of spirits of ether nitrate. He also milked out the udder and injected one dram of iodide of potassium in a quart of water at 98 degrees. She did not lose the power of swallowing, and every five hours she was given the spirits of ether nitrate and a quantity of whisky, the latter as a heart stimulant. Twelve hours later the cow was still down, but her bowels had commenced to move. She was again milked out and injected into the udder as before, and in six hours she was up. She was given another injection at the end of ten hours from the second one, while the spirits of ether and heart stimulant were continued. On the third day the cow had made complete recovery.

Case 2, was in high condition. Twenty-four hours after calving she was down, perspiration stood on her body, respiration was difficult, pulse fast and weak, temperature up to 103, and she had



PLYMOUTH ROCK COCKEREL.

OWNED BY GEO. W. MILLER, LONDON, ONT. WINNER OF 1ST AND SPECIAL PREMIUMS, TORONTO, 1899.

been constipated ever since calving; in fact, she appeared a likely case to die. She was treated much the same as case 1, except that she was not bled. Her udder was injected after milking, every ten hours. She was able to rise on the 2nd day, but was still quite sick. At the end of 48 hours she showed a decided turn for the better, and before the end of the third day she had almost recovered. This case required more heart stimulating with whisky and nux vomica than case 1. These are the only cases of milk fever the doctor has had since he commenced the new treatment, and he is fully convinced of its effectiveness. It would be interesting and more convincing to see a bad case treated with the new system without the aid of other medicines.

A Child Can Turn the Separator.

SIR.—Thanking you for your kindness in giving space in your valuable paper for our last letter, regarding experience with cream separator, we ask a further favor from you now, as one of the statements then made has been called in question, on page 149 of your last issue, under the heading, "A Grateful Letter." If D. H. McA. will take the trouble to come to our place, we will be delighted to allow him to try our machine and convince himself, as we have not the slightest doubt but one trial will be sufficient. A farmer, as sceptical as D. F. McA., convinced himself while running our machine that a child could run it, and purchased a National. He told us his little boy, nine years old, separates the milk of seven cows and is not fatigued. Our next neighbor's little boy runs ours sometimes. We have no experience with the Melotte, and therefore had no reference to the power required to run it. We thank you again for past favors.

Wellington Co., Ont. A. & B. MACDONALD.

Keeping Record of Milk Yield.

Among some recent interesting paragraphs from the Experiment Station of the Kansas State Agricultural College is one regarding "The Scales an Incentive to Increased Milk Yield." It reads as follows:

"T. A. Borman, of Navarre, Kansas, says his cows actually give more milk when there is a pair of scales hanging in the barn. At first thought this may appear ridiculous; but upon a little reflection it is not hard to understand. When a cow gives less milk than usual the record shows it, and an attempt is made to discover the cause and remove it. On the other hand, when the yield is above normal the causes are searched out and if possible the same conditions are supplied to the rest of the herd.

"But I have not the time to bother with recording each cow's yield," says someone. Here experience comes to our aid, and tells us that it takes about twelve seconds to weigh and record a cow's yield, or the milk from five cows can be weighed and recorded in one minute; and the extra pains that a milker will take when keeping a record will more than pay for the time."

POULTRY.

Women and Poultry.

Those who wish to make a profit out of their poultry this season will by this time have begun to make preparations. The early hatches are the ones that pay, and all up-to-date poultry-keepers will try to have a large proportion of their chicks hatched in April, so as to secure next winter's laying stock, and also to have nice plump roasters for the early fall markets.

I would advise farmers' daughters right here and now to take up this branch of farm work and see what they can make out of it. Tuck up your skirts and go to work, and you will find poultry-raising a healthful and interesting pursuit, as well as being profitable. Women are better adapted for this work than men, as they will more faithfully attend to the many little details that go to make the sum total of success; but remember that *success* means *work*, and failure follows neglect. In managing poultry, one must be quick to observe, prompt to act, and generally energetic and persevering, and if you have not these qualities to begin with, you will acquire them as you go on, if you are in earnest and mean to succeed. Both keeper and poultry need grit. If you are near a good market your profits are much more certain and returns quicker. Study the markets, both foreign and local, and make up your mind what is most needed and what you can raise to the best advantage. Do not think you will try everything at once. When there is only one member of the family to take charge, I would advise making a specialty of one branch. If your local market calls for choice new-laid eggs, and plump, tender chickens at all seasons of the year, begin with these and supply a first-class article, and you will soon be known and your produce sought after. This brings me back to the hatching question. Look over your flock now and see that every fowl is strong, healthy and vigorous. If there is a sick one, remove it at once, and I would also weed out a few of those small, poor-looking ones that lay such tiny eggs; also every surplus male that is not required, then your flock will look more uniform, and the useful birds will have a better chance. Nine farmers out of every ten keep more hens than they have accommodation for. Crowding is one of the greatest drawbacks to success, and I notice that it takes a long time for people to realize this. I have been told by people lately that they keep 150 or 200 hens; that they have been getting two or three dozen eggs a day this winter, and think they are doing pretty well. At the same time I was getting over three dozen a day from 60 hen. For the sake of economy, it is absolutely necessary to have a breeding pen from which to raise the young stock, and the pure-bred male should *always* be used. Instead of paying \$1 each for three or four inferior birds to run in the flock, pay \$3 or \$4 for one really good one, and buy from a breeder who keeps his cockerels separate from the hens until wanted for the breeding pens. From 12 or 15 of your best hens you can get enough eggs to raise your chickens from, and do not allow another male bird in the flock. I consider it scarcely honest to sell fertile eggs for export. Were all farmers to adopt the plan of the breeding pens and keep no males in the laying flock, our egg industry would soon experience a wonderful change. With the aid of cold storage in transportation our eggs would reach the foreign markets in first-class condition, as regards freshness and flavor, and there would be little waste; we could get top prices for them, and the demand would be increased tenfold. It is to our honor and profit individually and as a country to supply a first-class article in all lines, and it is the only way we can hold our own in any market.

Why should we not make a name for ourselves as supplying the best poultry and eggs that go into the British market. This is something that Canada's industrious women can do, by taking up the work and carrying it out in a systematic and businesslike way. This industry alone, small in its way,

field.

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could be made a great source of wealth to our country and to ourselves individually, and I hope to see an increased interest taken in this line of work by our country girls, who would soon prefer it to the monotonous routine of work met with as teachers, shop clerks, etc.

As much intelligence is required for the successful management of poultry as for any of these occupations, and the body can keep pace with the brain, as the outdoor life is most healthful and invigorating for young girls; they are brought more into contact with nature, and their minds are filled with a wholesome interest in practical things, and they are living where they are most needed—on the farm.

Huron Co., Ont. P. J. C.

Plan of Poultry House for Laying and Breeding Stock.

To the Editor FARMER'S ADVOCATE:

SIR,—Could you or some of your subscribers give me a good plan for inside of henhouse. It is 10 feet 10 inches wide by 32 feet 10 inches long, inside measurement. I want to keep about sixty hens. Would like to have two breeding pens for six or seven hens and cock in each; remainder of house for laying stock. Good large runs in maple grove. I first subscribed for the FARMER'S ADVOCATE in 1873, and have been a regular subscriber since, with the exception of one year. It improves with age. I am always anxious for the next copy. Wishing you every success, I am, E. A. FLIGG.

The accompanying illustrations represent the plan of such a poultry house as is asked for. It

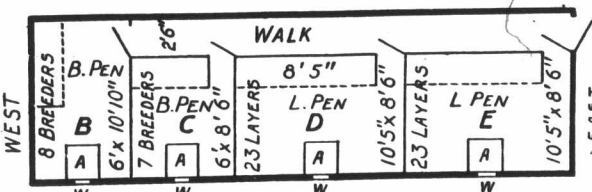


FIG. I.—GROUND PLAN OF POULTRY HOUSE.

was laid out by Mr. W. R. Graham, B. S. A., a successful and enthusiastic poultryman living at Bayside, Ont. In Fig. I, pens B and C are for breeding stock. In these eight square feet should be allowed for each hen, not including the male. Pens D and E are for layers, in which five square feet should be allowed for each hen. These two will accommodate 23 hens each, and the breeding pens 15 each.

Fig. II, showing cross section, shows nest boxes 1 foot square, leaving 1 foot of walk in front of nests below dropping board. The diagram shows door opening into walk, so as to allow eggs to be gathered from the walk in all pens except B. The square marked A represents dust baths in front of windows. The building runs east and west, so that the fowls will get the sun.

Mr. Graham strongly recommends a double board floor for both pen and walk, as it avoids drafts and is much easier kept clean than an earthen floor. Yards can be extended south for each pen, and if planted with plum or other trees the hens should have a paradise at all seasons if they are properly cared for.

GARDEN AND ORCHARD.

Nova Scotia Fruit-Growers.

The 35th annual meeting of the Nova Scotia Fruit-growers' Association, held at Wolfville on February 20th, 21st and 22nd, was, like all the meetings of this Association, well attended and full of interest. Two facts served to give unusual interest to the meetings of this year: 1st. The presence of the Hon. Sydney Fisher (Minister of Agriculture), Prof. Shutt and Mr. W. T. Macoun, of Ottawa, insured that those who attended would be given the latest and best information in regard to fruit-growing; and (2nd) the season just past has been one of unusual profit to the orchardist, the crop of apples being fairly large and prices having ruled high throughout. So that any information was eagerly sought.

Prof. Shutt spoke on the "Economic Application of Fertilizers," a subject of especial interest just now, and one about which less is known than about almost any other connected with horticulture. He emphasized (1st) the need of a constant supply of moisture in the soil, since plants cannot use any solid food. Consequently, no matter how fertile a soil may be, unless there is sufficient moisture to dissolve this fertility it can be of no service to the plant. This necessary supply of moisture may be maintained by keeping the soil cultivated, and thus preventing the escape of soil moisture into the air. There are four elements which it is usually necessary to apply to cultivated soils—not because these elements are more important for plant growth than others, but because they are soonest exhausted. The four elements are nitrogen, potash, phosphoric acid, and lime. The especial office of nitrogen is to promote wood and leaf growth, and for this reason it is particularly impor-

tant for young orchards or for any plants grown for fodder. Potash and phosphoric acid, on the other hand, are important for bearing orchards and for plants grown for grain, potash often forming as much as fifty per cent. of the ash of fruits. Lime is more important for some fruits than for pomaceous fruits, but is very valuable for all orchard soils, since when it is abundant trees will have a more vigorous, stocky growth, and will come into bearing sooner. It gives best results on clayey soils, bringing them into better tilth and liberating plant food, especially potash. Prof. Shutt urged that land should be planted to orchards only when it was thoroughly well prepared, and he would postpone setting the orchard for a year rather than to plant on soil not so prepared. Soil should be well supplied with plant food, and should be in the best possible mechanical condition to allow of good root growth, to let in air, and to allow water to pass through. To secure these conditions, land designed for orchards should be manured well and treated with hoed crops. If there is not enough barnyard manure, this should be supplemented with commercial fertilizers. By some means we must secure an excess of plant food in the soil, since the roots do not penetrate to all parts of it, and cannot, therefore, take up all that the soil may contain. In order to determine what is likely to prove most beneficial to any soil, its past history as to what has been applied and what crops grown must be studied.

For orchards, plant food need not be immediately available, since the trees are to stand for years; and it is not best, therefore, to apply such fertilizers as nitrate of soda or sulphate of ammonia save in exceptional cases, because both of these substances are very likely to leach out of the soil. Bone meal contains twenty per cent. of phosphoric acid and three-fifths per cent. of nitrogen, and this form of nitrogen is very good for orchards, though barnyard manure and cover crops may furnish all the nitrogen necessary. The phosphoric acid of bone meal is only slowly soluble, and consequently a mixture of bone meal and some superphosphate is excellent, the latter for the immediate use of the plants and the former for future supplies. A good formula for an average orchard soil will be: One hundred pounds bone meal, one hundred pounds superphosphate, seventy-five to one hundred pounds muriate of potash. There is no better form of potash than wood ashes, provided you know it is not leached, since it contains from five to six per cent. of potash, all of which is available. From forty to sixty bushels of hardwood ashes every three or four years makes an excellent system; and in any fertilizing it is better to apply a little and often than to use large amounts at long intervals.

Mr. W. T. Macoun, in his address on "The Orchard and How to Obtain the Best Results from It," urged the necessity of securing the best possible growth from young orchards. The larger a tree is, within certain limits, when it comes into bearing, the better, since it then stops growing to a great extent, and will not materially increase the bearing surface. He would stop cultivating orchards by the middle of July and sow clover, using ten pounds of seed per acre, to be plowed in the following spring, but would never recommend plowing orchards in the fall, on account of the danger that the roots may be so exposed as to be injured by freezing. He spoke of the success which had been attained at Ottawa in the use of tobacco as an insecticide. The tobacco may be grown right in the orchard and cured when mature, and it is then ready for use whenever wanted. He uses ten pounds of the tobacco, steeped in hot water, for every forty gallons of water. This makes an insecticide which will destroy any soft-bodied insect with which it comes in contact. Mr. Macoun had been especially successful in using it in combating the plum aphid. Three applications, one after another, at intervals of a day or less, had proved very effective—much more so than when a single application was made and the effect observed before spraying again. This method is necessary because the aphid increases so rapidly that the few which escape from one spraying will thoroughly infest the orchard in a very short time if the treatment is not followed up. While this tobacco water, used in the proportions suggested, has never given any unfavorable results at Ottawa, Mr. Macoun urged that growers should begin its use with extreme caution until they ascertained just what strength could be used without injuring their own trees, since trees differ greatly in this respect.

The subject of "Freight Rates" was discussed at length, one entire session being given up to it. It was shown by members of the Association that while a barrel of apples could be sent from any station in the Annapolis Valley by way of the Dominion Atlantic R. R. to Halifax and thence to London for 90c., yet the freight charges were only 86c. from that same station to Halifax, there re-shipped to Boston and then across the ocean to London. It was further shown that, notwithstanding the fact that the matter had been repeatedly urged upon the steamship company, apples continued to be so closely packed in the holds of vessels, and the ventilation given was so poor, that the fruit, even though it started in prime condition, was found on arrival in London to be damaged. It was urged that the cold storage appliances be retained on the subsidized vessels for another year at least, in order to test further the value of this method of shipping. In reply, the Hon. Mr. Fisher promised to investigate the matters brought to his notice, but stated that it was always the case

that freight rates were higher from smaller ports where few tramp vessels came than from the very large ports, like New York and Boston, where the vessels from all over the world came in the hope of securing cargoes. He promised that cold storage should be retained, but thought it was not needed for apples late in the season, providing they were properly ventilated.

In discussing the necessity for "A Uniform Barrel," it was stated that this was of just as much importance as to have good articles to ship, since the consignee wants to know in all cases just how much he is getting. A uniform barrel does not necessarily mean a larger one than that used by most growers, but it does mean that we shall drive out the exceptionally small ones used in some localities.

Mr. J. S. Bishop, of Auburn (which is the center of the Nova Scotia cranberry-growing district), read an interesting paper on "Cranberry Pests and How to Combat Them." Mr. Bishop is one of the largest cranberry-growers in Nova Scotia, and the past season devoted much time to the study of these pests, with the result that he has been very successful in holding them in check. The three most serious insect pests now found in Nova Scotia cranberry bogs are the vine worm, the fruit worm, and the span worm. There are two broods of the vine worm in each season. Eggs deposited one summer hatch the last of the following May, producing a little green worm with a black head, which when full-grown is less than one half-inch in length. These worms disappear about the last of June, and about July 15th the moths appear. The first brood is small, but when the second brood is mature the moths rise in clouds as one walks across the bog. Flooding early in June for sixty hours is entirely effective in combating this insect. Spraying has also proved an efficient method when begun early. One-half pound of Paris green was used in spraying, but arsenite of lead was much more satisfactory, since it remains in suspension longer, does not injure the leaves, and is effective on the leaves for a much longer time. The fruit worm is like the codling moth in color and habits. It hatches about July 15th to 25th, and feeds on the outside of the fruit for a time, and during this period may be destroyed by spraying. When the fruit is gathered early the wormy berries cannot be distinguished from the sound ones, and mixed together the injured ones soon decay and spoil all. If gathering be deferred as late as possible the defective berries may then be detected, and need not be gathered with the others. The span worm is a recent acquisition which may be controlled by spraying. Winter-flooding of bogs does not appear to injure the eggs of any of these insects, but rather serves as a protection. The eggs will pass the winter in the most exposed positions without injury.

Prune, Spray, and Manure the Orchard.

To the Editor FARMER'S ADVOCATE:

GENTS,—We have been very much pleased with the ADVOCATE, especially with the noted Christmas number, which is truly art and science combined. Such a paper should be in every farmer's home in the country.

Perhaps a word to the fruit-grower would now be in order. As most of the agricultural and working associations have all their officers and working staff elected for the year, the general topic should be how we can produce the very best products at the least possible cost, and, as we are on the verge of spring, to have everything in apple-pie order for the rush of spring work. Owing to the rains last fall, many farmers did not get their land in proper shape for early seeding, and will have extra work to do on that account, but as most farmers have orchards, more or less, the work of pruning, manuring and getting the orchard in shape should be proceeded with at once, although I prefer pruning after the growth starts, as the wound heals quicker then; yet rather than have the job left over for another season on account of other work I would prune in March or April. Plums and cherries should have a liberal amount of ashes spread round the trees over the surface of the ground, and any appearance of black knot cut out and burned at once.

Towards the 1st of April every fruit tree in the orchard should be sprayed with Bordeaux mixture, omitting the Paris green; and again when the buds are just opening. We find it pays to spray thoroughly. We had a very small percentage of spotted apples last year, and there were no wormy apples or tent caterpillars in our orchard, notwithstanding the myriads of them in other places last year. When apples are selling as they did recently (at \$1.75 for scabby and poor, while choice Spies, Baldwins and other good sorts bring \$3 to \$3.50 per barrel), it pays well to prune, spray, and also to thin varieties likely to overbear. We had about a dozen trees planted in spring of '96 that fruited last year, some of which were very fine, both apple and pear, which I expect will be reported on later. Our plums were heavily loaded last season, and owing to so much wet, sultry weather at the time of ripening, quite a number rotted when left a little too long on the trees.

In conclusion, I would strongly recommend feeding your plums well with good yard manure and wood ashes, and be very diligent in spraying with Bordeaux mixture and Paris green if you want good samples, and nothing less will pay.

Ontario Co. (South), Ont. R. L. HUGGARD, Fruit Experimenter, East Central Station

Spraying Calendar Recommended by the Central Experimental Farm, Ottawa.

PLANT.	1ST APPLICATION.	2ND APPLICATION.	3RD APPLICATION.	4TH APPLICATION.	5TH APPLICATION.
Apple	Copper sulphate and Paris green, before buds start. Alkaline wash for borers. Kerosene emulsion, before buds start, for bark lice and aphids.	Bordeaux and Paris green, just before blossoms open. Kerosene emulsion, before buds start, for bark lice and aphids.	Bordeaux and Paris green, soon after blossoms fall.	Bordeaux and Paris green, 10-15 days later. Kerosene emulsion, in June, for bark lice when hatched.	Bordeaux and Paris green, 10-15 days later if spot disease is severe. Alkaline wash, for borers at end of June. Kerosene emulsion, in June for bark lice when hatched. If a late brood of the "slug" appears, spray with Paris green or dust with fresh slacked lime.
Black spot fungus, cod-bug moth, bud moth, borers, oyster-shell bark-louse, apple aphid.					
Cherry	Bordeaux, before flower buds open; kerosene emulsion; for aphids.	Bordeaux and Paris green, when fruit has set.	Bordeaux and Paris green, 10-15 days later.	Ammoniacal copper carbonate, 10-15 days later.	
Rot, leaf diseases, and injurious insects. Cut out and burn Black Knot.					
Currant	Paris green, when worms appear.	Hellebore, when fruit is fully formed.	Bordeaux, after fruit is picked.	Bordeaux, 10-15 days later.	
Fungous diseases, "currant worm."					
Gooseberry	Bordeaux and Paris green, as soon as leaves expand. Copper sulphate, before buds start.	Bordeaux, hellebore, or potassium sulphide (applied separately), 10-15 days later. Bordeaux, when first leaves are half grown.	Ammoniacal copper carbonate or potassium sulphide, 10-15 days later.	Bordeaux, 10-15 days later.	
Mildew, "currant worm."					
Grape	Copper sulphate and Paris green, before buds start.	Bordeaux (3 lbs. copper sulphate, 3 lbs. lime, 50 gals. water); Paris green (3 oz.), just before blossoms.	Bordeaux and Paris green (3 oz.), soon after fruit has set.	Bordeaux and Paris green (3 oz.) 8-12 days later.	Bordeaux, 10-15 days later if disease persists.
Mildew, rot, anthracnose, "thrip" (or leaf-hopper).					
Peach, Apricot, Nectarine.	Copper sulphate and Paris green, before buds start.	Bordeaux (3 lbs. copper sulphate, 3 lbs. lime, 50 gals. water); Paris green (3 oz.), just before blossoms.	Bordeaux and Paris green (3 oz.), soon after fruit has set.	Bordeaux and Paris green (3 oz.) 8-12 days later.	Bordeaux, 8-12 days later if rot is prevalent.
Rot, leaf-curl, curculio, bud moth.					
Pear	Copper sulphate, before buds start.	Bordeaux, just before blossoms open.	Bordeaux and Paris green, soon after blossoms fall.	Bordeaux and Paris green, 10-12 days later.	Bordeaux, 10-15 days later.
Spot, cracking, leaf blight, codling moth, "slug."					
Plum	Copper sulphate and Paris green, before buds open.	Bordeaux and Paris green, soon after blossoms have fallen.	Bordeaux and Paris green, 10-12 days later. Kerosene emulsion, whale-oil soap solution, or tobacco wash, for aphids.	Bordeaux and Paris green, 10-15 days later. Kerosene emulsion, whale-oil soap solution, or tobacco wash, for aphids.	Ammoniacal copper carbonate, 10-15 days later if rot is prevalent.
Rot, shot-hole fungus, bud moth, curculio. Cut out and burn Black Knot.					
Quince	Bordeaux, just before blossoms open.	Bordeaux and Paris green, when fruit has set.	Bordeaux and Paris green, 10-15 days later.	Bordeaux and Paris green, 10-15 days later.	
Red rust of fruit and leaf.					
6TH APPLICATION.—Bordeaux and Paris green, for winter apples.					
Rose	Mildew in greenhouse.—Paint heating pipes with paste made of equal parts of sulphur, lime, and water.	Black spot.—Ammoniacal copper carbonate.	"Rose Thrip."—Kerosene emulsion, when "thrip" appears.	"Rose Slug."—Paris green (1 oz. in 12 gals. water), or Hellebore (1 oz. in 2 gals.). This may also be applied as a dry powder.	
Black spot, mildew, "rose thrip," "rose slug."					
Raspberry, Blackberry, Decberry.	Copper sulphate, before buds burst.	Bordeaux, 10-15 days later.	Bordeaux, soon after old canes are cut out.		
Anthracnose, rust.					
Strawberry	Bordeaux, after first blossoms have fallen.	Bordeaux, soon after picking season, or burn foliage.	Bordeaux, 10-15 days later.		
Rust.					
Bean	Copper sulphate, ½ oz. to 1 gal. water; soak one hour.	Bordeaux, when rough leaves appear.	Bordeaux, 8-12 days later.		
Anthracnose.					
Cabbage	Paris green and flour, for flea beetle while plants are in hot-beds.	Pyrethrum and flour (1 to 4), dry, for cabbage worms.			
Caterpillars.					
Potato	Formalin or corrosive sublimate, for scab.	Paris green, for Colorado potato beetle. Bordeaux for flea beetle.	Bordeaux, for rot; from 15th July till end of season, 2 weeks apart.		
Scab, rot, insects.					
Tomato	Bordeaux, first appearance of rot.	Bordeaux, when necessary.	Bordeaux, when necessary.		
Rot, blight.					

INSECTICIDES.

KEROSENE EMULSION.
 Kerosene (coal oil) 2 gals.
 Rain water 1 gal.
 Soap ½ lb.
 Dissolve the soap in water by boiling; take from fire, and, while hot, turn in kerosene and churn briskly for five minutes. To be diluted before use with 9 parts of water.
 For bark lice and other sucking insects.

PARIS GREEN.
 Paris green 1 lb.
 Lime (fresh) 1 lb.
 Water 200 gals.
 For dry application.—One lb. Paris green with 50 lbs. flour, and plaster, slacked lime or any other perfectly dry powder.
 For insects which eat foliage.

HELLEBORE.
 White hellebore 1 oz.
 Water 2 gals.
 Or to be dusted undiluted over attacked plants.

PYRETHRUM (OR INSECT POWDER).
 Pyrethrum powder 1 oz.
 Water 3 gals.
 For dry application.—Mix thoroughly 1 part by weight of insect powder with 4 of cheap flour, and keep in a close vessel for 24 hours before dusting over plants attacked.

Spring Work for April.

"Flowers are smiles of God's goodness."—*Wilberforce*.
 We can now sow seeds of petunias, verbenas, asters, mignonette, phlox drummondii, etc. Have ready some flat boxes or old pans filled nearly full with a rich, rather sandy soil, free from lumps. Putting through a coarse sieve will free the soil from lumps and put it in better condition for fine seeds.
 Cover the fine seeds with about three to four times their own size depth of gritty soil. In sowing coarse seeds observe the same rule. It is Nature's secret.
 The seed-pans must be kept moist, never allowed dust dry or they will become baked, and then good-bye to the germinating seeds. To keep them moist, put a pane of glass over each pan and it will keep them about right. They must be protected from the direct rays of the sun, as it will likely cut them off, or else by heating the moist soil so hot it kills the young, tender things, causing them to turn brown in the little stem and topple over. After life has once begun do not cover with the glass—they will need the free air. When the plants begin to have two to four leaves it is time to move them, giving them more room. Have a box of soil ready (a box two inches deep is best). Fill to half an inch of its depth with a nice fibrous loamy soil, with a sprinkling of sand in it. The sand helps to make drainage. Great care must be taken when moving the tiny seedlings to keep from breaking the roots or crushing the stem. The roots are the chief source of nourishment the wee seedling has, hence when partially broken the plant can never regain the vigor lost.
 In moving from the seedling box, pot or pan, take a case knife and run it directly under the seedlings, and thus loosen thoroughly the seed-bed soil. Then take each seedling by the leaf in the forefinger and thumb of the left hand, and, putting knife under it, take it out steadily; and to plant it

WHOLE-OIL SOAP.
 For scale insects (young) 1 lb. in 5 gals. water.
 For aphids 1 lb. in 8 gals. water.
 For San Jose scale (in winter) 2 lbs. in 1 gal. water.

TOBACCO AND SOAP WASH.
 FOR PLANT LICE OR APHIDS.
 Soak for a few hours 10 lbs. tobacco leaves (home grown) in warm water; strain off and add 2 lbs. whole-oil soap. Stir till all is dissolved, and dilute to 40 gallons. Apply early and two or three times at short intervals.

ALKALINE WASH.
 FOR BORERS.
 Soft soap reduced to the consistency of thick paint by the addition of a strong solution of washing soda in water. If applied with a brush during the morning of a warm day, this will dry in a few hours and form a tenacious coating, not easily dissolved by rain.

FUNGICIDES.

DILUTED BORDEAUX MIXTURE.
 FOR FUNGI ON FRUIT TREES.
 Copper sulphate 4 lbs.
 Quicklime 4 lbs.
 Paris green (for leaf-eating insects) 4 oz.
 Water (1 barrel) 40-50 gals.

Dissolve the copper sulphate (bluestone) by suspending it in a wooden or earthen vessel containing 4 or 5 or more gallons of water. Slack the lime in another vessel. If the lime, when slacked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in this in the first place, half fill the barrel with water, add the slacked lime, fill the barrel with water and stir thoroughly. It is then ready for use.
 Stock solutions of dissolved copper sulphate and of lime may be prepared and kept in separate covered barrels throughout the spraying season. The quantities of bluestone, lime and water should be carefully noted.

FOR POTATO ROT use 6 lbs. copper sulphate instead of 4.
COPPER SULPHATE SOLUTION.
 Copper sulphate (bluestone) 1 lb.
 Water 25 gals.
 As soon as dissolved it is ready for use. For use before the buds open only.

AMMONIACAL COPPER CARBONATE.
 Copper carbonate 5 ozs.
 Ammonia 2 qts.
 Water (1 barrel) 40-50 gals.
 Dissolve the copper carbonate in the ammonia. The ammonia and concentrated solution should be kept in glass or stone jars, tightly corked. It is ready for use as soon as diluted with the 50 gals. of water. To be used when Bordeaux cannot be applied on account of staining the fruit.

FORMALIN, CORROSIVE SUBLIMATE.
 For potato scab soak the tubers either:
 1. For two hours in a solution of commercial formalin (formaldehyde), 8 ozs. in 15 gals. of water; or,
 2. For 1½ hours in a solution of corrosive sublimate, 2 ozs. in 16 gals. of water. When dry cut up for planting.
 Formaline has the advantage of being neither poisonous nor corrosive, while corrosive sublimate is a fatal poison if taken internally. It also corrodes metals. The solution should therefore be made in wooden vessels. All treated seed should be planted, and any solution left over should be poured into a hole in the ground. Formalin and formaldehyde are merely two names for the same preparation.

Water Wheel to Run Cream Separator.

To the Editor FARMER'S ADVOCATE:
 Regarding the enquiry of Thos. Cairns, of B. C., in your issue of February 15th, for dimensions of water wheel to run a cream separator, as he does not give the height of head under which the wheel would work, I can only give a partial reply to his enquiry. One horse-power would be ample for his requirements if there is not too great a length of shafting (not more than 20 feet) to run in order to convey power to separator.
Rule.—Multiply the weight of water in pipe, or flume, by the perpendicular descent in feet (or head); multiply the result by 60, divide by 33,000; ⅓ of the quotient will be the available power. Example: What power will a volume of water 4 inches in diameter and 20 feet high develop applied to a good turbine wheel?

$$\frac{5.454}{1000} \times \frac{20 \times 20 \times 60}{33000} \times \frac{1}{3} = 2.35 \text{ horse power.}$$

Note.—A column of water 4 inches in diameter weighs 5.454 lbs. for each foot in height.—School Practical Science, Toronto.
 The diameter of wheel will vary according to the height of head.
 The A. R. Williams, Company, Limited, Front street, Toronto, can supply him with either a Lefell Improved Double Turbine, manufactured in Springfield, Ohio, or with a Canadian Little Giant. The Lefell will furnish more power under the same conditions.
 FRED. D. FEENY.
 Westbourne, Man.

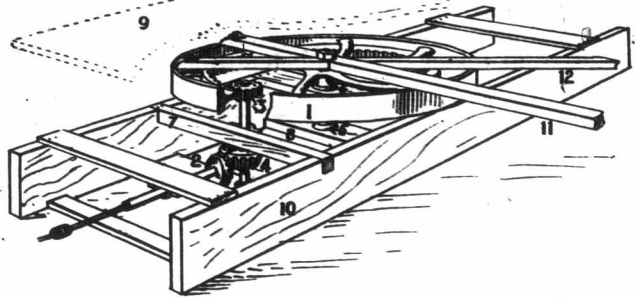
Rio Grande Wheat Wanted.

SUBSCRIBER, Dufferin Co., Ont., asks where Rio Grande spring wheat seed can be purchased. Readers having Rio Grande spring wheat seed to dispose of may find a paying market by advertising it in next issue of the FARMER'S ADVOCATE.
 DORIS.

HELPING HAND.

Horse Power from Old Reaper.

E. RICHARDSON, Ontario Co., Ont.:—"As several have asked for plan converting an old reaper into a horse power, I send you a sketch of one I have frequently seen used for cutting oat sheaves, corn, etc., and pulping roots by one horse. The following are the parts of the power: No. 1 is the drive wheel of an old reaper. The cogs inside the wheel near the rim run 3, which is on the same shaft as 4, and bevel cog wheel 4 meshes with bevel cog wheel 2,

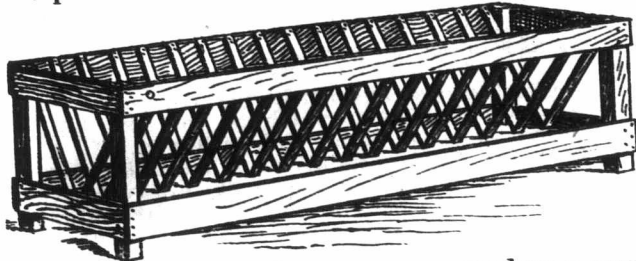


which is on the end of the tumbling or driving rod of the horse power. No. 7 is a brace, and on it is fastened a roller which rides on pinion 4 holding it down in place. No. 8 is a brace, which holds the bottom boxing of drive wheel axle. No. 10 is the frame, 10 inches high. The arm, 11, is ten feet long, and to it the horse is hitched. No. 12 is also ten feet long, and to it the horse is tied. No. 9 represents the cover for the power.

That Sheep Rack.

To the Editor FARMER'S ADVOCATE:

SIR,—Permit me to correct a mistake in your note to my description of sheep rack which appears in your issue of March 1st. You say: "We cannot see any advantage in having the top cross slats as shown in cut, which would make it difficult to get the hay in for the sheep." My rack has no top slats. I enclose another view, which will per-



haps give you, as also your many readers, a more correct idea of how the rack is constructed. It will be noticed that around the bottom there is a trough three inches deep for roots, grain, etc., and to catch bits of the hay that break off.

Middlesex Co., Ont. JOHN MILLIKEN.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Legal.

EXECUTORS AND TRUST MONEYS.

READER, Simcoe Co., Ont.:—"Please inform me whether executors can lawfully use trust moneys which come to their hands for investment by investing them upon a mortgage made by themselves on their own property, providing of course that the security is a perfectly safe and good one?"

[No, executors and trustees are not justified in lending trust moneys to themselves at all, no matter how good they consider their own securities. It is not only improper in law, but it would be most injurious for executors or trustees to do so.]

SALE OF LANDS—MORTGAGE.

SUBSCRIBER, Lambton Co., Ont.:—"1. A widow and children now residing in Ontario are the heirs (of the husband and father who died intestate) of a farm in New Brunswick. What steps are necessary to effect a sale of the farm? 2. There is an undischarged mortgage on the farm, which was paid off many years ago, and the mortgagee admits his claim is paid off, and he says that statement by him is sufficient. Should the mortgage be discharged, and can the mortgagee be compelled to sign the discharge?"

[1. If the children are all of the age of twenty-one years, they and the widow can of course sell the farm by all joining in the deed and convey all their interest; but if there are any infants, then as to their interest a deed by them would not be effective unless confirmed by a proper court in that Province; and to protect the infants' shares of the purchase money, the court would probably require the infants' shares to be retained in court until the infants respectively attain their majority. 2. Yes, the mortgage should be discharged, and you can compel the mortgagee to sign the discharge. You should have a proper discharge of the mortgage drawn and tendered to the mortgagee for his signature, and then no doubt he will sign it, as he states he has no claim now under it.]

MASTER AND SERVANT.

R. C., Middlesex Co., Ont.:—"1. A hires to work for B for eight months. At the end of the second month B tells A he is looking for another man to fill his place. If A then quits can he collect his two months' wages? 2. Can B discharge A without giving him notice?"

[(1) No, not unless B discharges him. (2) B of course can discharge A at any time, but unless he has just cause for doing so, as for refusal to obey reasonable orders or wilful disobedience or such like, he will be liable to A for damages for breach of his contract.]

DESCENT OF REAL AND PERSONAL PROPERTY IN ONTARIO.

READER, Ont.:—"A person dies without having made a will, leaving a widow and three children. The real estate is worth, say \$10,000, and personal estate worth, say \$2,000. In what proportion do the heirs take the real estate and the personal estate?"

[The widow is entitled to one third of the personal estate absolutely, and she is also entitled to dower in the real estate, which, as you no doubt know, is a one-third share thereof for life, but she has the right of election by deed at any time within six months after her husband's death to take in lieu of dower a one-third share of the real estate absolutely. Subject to the widow's rights, the whole of the balance of the estate, both real and personal, goes to his children in equal shares.]

PROMISSORY NOTES—SEWING MACHINE.

M. S. A., Kent Co., Ont.:—"I bought a sewing machine, thinking it was a new one, and gave notes in full for purchase money. I afterwards discovered the machine was not a new one. Will I be compelled to pay the full amount of the notes?"

[If the notes are now held by another person you certainly must pay them. As between the seller and yourself, we think too you would be compelled to pay them in full; but, of course, if the machine was warranted to be a new one, and you took it on the representation without examination of it, and you have really not got such an article as you bargained for (but this you will find difficult to prove) you could compel the seller to make good his warranty in a claim for damages.]

LANDLORD AND TENANT.

"The landlord agrees on leasing property to the tenant to furnish the necessary pumps, and he told the tenant to get the pumps, which the tenant did, and now landlord refuses to pay for one of them. Can tenant collect the amount from landlord? The pumps are not yet paid for."

[Yes, if the tenant pays for the pump he can then compel landlord to pay him, but the easier way is to retain the price out of the rent.]

LANDLORD AND TENANT.

SUBSCRIBER, Perth Co., Ont.:—"Two brothers rent a farm for five years and one quits the place at the end of three years. Can the landlord compel the other brother to quit also before the end of the five years?"

[No, providing the brother remaining is not in arrears with his rent or in default under other covenants and agreements in the lease; and unless the lease expressly provides that if one quits both are to quit, the landlord has no right to interfere till the five years have expired.]

Veterinary.

WARBLES IN CATTLE—LUMPS IN HORSE'S SHOULDER.

A. B. C., Wentworth Co., Ont.:—"Last fall we bought some young cattle. Two of them now prove to be very bad with grubs. 1. What insect deposits the egg that produces this grub? Is there any way to get rid of them other than allowing them to come to maturity? 2. We have a horse which has several lumps, or kernels, on his shoulder, where the collar comes, and which develop into sore shoulder when in hard work. May these be successfully removed by a veterinary, and so save the horse from sore shoulders?"

[1. The insect that deposits the egg in the backs of the cattle, which cause the grubs, is the gadfly. The grubs, when in the backs of the animals, breathe through their tails, which come to the surface of the skin. If the backs of the cattle are smeared with grease or oil it serves to clog the breathing pores, and thus smother and destroy the insects. In the FARMER'S ADVOCATE of Feb. 15, page 88, is described Mr. Siddell's method of destroying the grubs in the backs of his cattle. Early in the fall he uses an application of equal parts black oil and fish oil, to a gallon of which is added one ounce of carbolic acid. This destroys lice as well as warbles. Where warbles have developed it is well to squeeze out the ripe ones, and the younger ones may be killed by puncturing with a large needle.

2. The lumps can be successfully removed by a qualified veterinarian and the parts healed without leaving a thickened scar. In the first place, the horse probably has a thin skin, and in the second place, he must wear a good-fitting collar, that does not shift and rub him. We would think a light sweat-pad would be the best and easiest for him, and condition his shoulders very gradually by working him lightly on the start in the spring and applying a salt and water at noon and night. If there is a tannery near get a few quarts of the liquid out of their vats and rub in a little of that every night after work. Such horses require a great deal of patience.]

SOW FAILING TO BREED—GIDDY SHEEP.

SUBSCRIBER:—"We have a young sow twenty months old, Improved Berkshire, which we cannot get in pig. She had her first litter last April, seven in all, two dead. The third last one had to be taken from her. Used an iron hook, which has been used for the same purpose before with good results. Would that be the cause? Have tried three different sires, five times in all—two Yorkshires and a Berkshire. Has been fed on raw turnips and oats, running in and out as she liked.

"2. A sheep, two years old, seems giddy in head; coughs some. Supposed to be in lamb. Have tried turpentine in the nose, thinking it to be a grub in the head, but with little effect. Had one die just lately which acted the same way. We are feeding her on pulped turnips, oats and some gruel. Please tell what can be the matter with her, if possible? This is my second year with the ADVOCATE. I like it splendidly."

[1. There may have been injury from the use of the hook, which has caused the difficulty, but there is no means of determining that. There are pig forceps on sale for this purpose which are said to be efficient and safe. If the sow comes in season regularly we would not despair of her breeding again. Lincoln's motto, "Keep pegging away," is the only advice we can give. We would have her served once each day while the heat continues, and keep her away from other hogs until it is over.

2. Sick sheep are very unsatisfactory to doctor, so much so, indeed, that many shepherds do little more than administer a physic and follow up with linseed gruel. Giddiness is a symptom of diseases of the brain, impaction of the stomach, and other troubles. In this case it would seem that the stomach is wrong, although the feed the sheep have received should not put them wrong. We would suggest administering half a pint of raw linseed oil, and follow up with gentian and ginger, one dram of the former to half an ounce of the latter, once a day for a week, given in gruel twice a day to build up the strength.]

TOO MUCH RICH MILK.

THOS. W. HAINES, Parry Sound District, Ont.:—"Would you kindly answer the following in the next issue of your valuable paper: 1. My lambs seem to be dying off. They live from one to four days, are strong, then droop suddenly and die within twelve hours. They seem to be in no pain, but scour badly. Sheep were fed all winter on good clover hay, and had plenty of milk. I examined one after death. The stomach was empty, and liver was black with blood, otherwise it looked all right?"

"2. What will remove warts from a colt's nose, as they are spreading rapidly?"

[1. The mother's milk is both too abundant and too rich, due, no doubt, to the liberal clover hay feeding. Give less nutritious food to the ewes for this season, with more exercise, and milk out the heaviest milkers at least once a day. The congested condition of the liver was simply due to overstimulating food, and the scouring due to an exalted effort on the part of the bowels to rid the system of surplus material stored up from that rich milk. A dose of castor oil to aid the bowels eliminate that material might pull a few through; also, a few two-grain doses of scale pepsin, mixed in three-grain doses of bismuth, might be beneficial, but removal of the cause will be most satisfactory.

2. Apply castor oil to the warts once a day.]

GRUBS IN SHEEP'S HEADS.

SUBSCRIBER, Ontario Co., Ont.:—"I have lost four sheep. They stood with their heads down and in about two weeks they died. I opened the heads of two of them and found two white grubs, about half an inch long, in each. I have another one afflicted in the same way. Can anything be done for her?"

[The white grubs found in the sinuses of the sheep's heads were the cause of death. They are caused by a fly depositing eggs in the nostrils of the sheep in the latter part of the summer, which hatch, and the young insect finds its way to the front sinuses of the head for development. They are very hard to dislodge before their proper time—in the early part of the summer. A sharp blow on the head, near the region in which they are located, will frequently remove them from their location, or, what we would suggest, would be to shut the sheep in a close pen and burn sulphur, causing them to inhale the fumes. But care must be exercised so as not to suffocate the sheep. The fumes may cause the grubs to seek other quarters, and the coughing of the sheep throw them off. If the sheep's noses were kept smeared with pine tar in the summer it would lessen this difficulty very materially. A skilled veterinarian may, as a last resort, cut through the skull and inject a fluid that would destroy the grubs, as the sinuses referred to are not in contact with the brain cavity.]

FAILURE TO BREED.

C. R., Simcoe Co., Ont.:—"I have a young pure-bred cow that got into a mud hole a month before calving last fall. She lost her calf a week after. I cannot get her with calf again, although she comes round regularly. Can you tell me what is the matter and what to do with her in your next issue?"

[Have the neck of the womb examined by a competent veterinarian. In all probability there was considerable inflammation following her calving, which has left a deposit at the entrance to the womb (os uteris), which obstructs the passage and which, if found in that condition, should be carefully dilated and treated with healing lotion: Creolin, 1 part; boiled soft water, 200 parts; and inject it daily for two weeks. Do not allow service for a month following treatment.]

BLOODY MILK.

E. H., Grenville Co., Ont.:—"I have a valuable cow that made a very large bag last spring and nearly lost the hind teats, but I kept rubbing them. During the time, she gave bloody milk for more than a month. She is now starting to make a bag, looks well, and I am now milking the two hind teats. Kindly let me know whether I am doing right?"

[We do not recommend hand milking before calving, as we are of opinion it is one of the main causes of milk fever. We think that your cow suffered from a severe attack of garget, and that the udder became congested or inflamed as the result of cold by exposure. The bloody milk was an effort of nature to get rid of the material thrown out by the inflamed tissue. We would recommend that you feed your cow very sparingly, and should the udder become distended, support by means of a blanket over the loins, cutting out four holes for the teats. Give plenty of water at parturition, and immediately afterwards a dose of Epsom salts, allowing the calf free access to her for the first four days. When this practice is followed we have never been called in to treat a case of milk fever.]

DR. W. MOLE.]

FOUL IN THE FOOT OF COWS.

B. L. O., N. S.:—"Will you please let me know what will help my cow? She is lame in the front feet. Some three years ago there were a number in this neighborhood the same, and one person told me that he had to kill them, as they got no better."

[From the peculiar form of the foot of cattle they are especially liable to the lodgment of dirt within the cleft of the foot, which causes lameness. On examination, we find a foetid discharge proceeding from the part, which spreads to the back part of the heel, causing little vesicles to appear in the form of little scabs on the coronet. The treatment consists of cleansing the part by hot fomentations and a poultice of turnips, bran or linseed meal. The parts being cleansed, take a strip of strong flannel, double and pass between the claws, drawing each end forward and tying between the loop. Apply the following liniment until well: Powdered sulphate of copper, 1 ounce; molasses, 4 ounces. Boil until it assumes a reddish appearance; apply daily.]

SCOURS IN CALF.

R. J., Perth Co., Ont.:—"Would you advise me what is the trouble with my calf? It is about two months old, and has scoured ever since it was born. It has sucked the cow ever since it came. The excrement it passes is very thin and of a yellowish-white color, slimy looking. It seems in pain, grinding its teeth, and looking round to its side. It is fed clover hay, pulped mangels, and chopped oats. Can you tell me the cause and give me a remedy?"

[A gentle purge may be given first of all. Take castor oil, 8 ozs.; tincture of opium, ½ oz.; peppermint water, 1 oz. Give two tablespoonfuls twice a day until the bowels act more naturally. If any improvement takes place a small quantity of pepsin may be added to the milk until the animal is strong enough to eat solid food, which should be of a nutritious character. Chopped oats, boiled flaxseed gruel, and whole milk, mixed, should be the diet of poor, weakly calves.]

DR. W. MOLE.]

MARE ABORTED.

READER, Ont.:—"I have a mare fourteen years years old that slipped her foal nine weeks before she was due to foal. She got hay morning and night, and good clean wheat straw the rest of the day. I fed half-gallon oats in the morning, turnips at noon, and a little boiled oats at night. She was in good health, and was doing light work two or three times a week. She did not receive rough usage and never slipped or fell. What is the cause of abortion? If bred again would she be more liable to slip in future, and would it be objectionable to use the same sire?"

[It is quite impossible to decide what was the cause of the abortion. Sometimes the smell of blood or a fright or some little derangement of the system will be followed by abortion by mares. Her feed and care were apparently all right, provided the roots were never fed frozen nor the fodder ergotty. Mares that once abort are usually liable to do so again. The sire had nothing whatever to do with the abortion, any more than that he got her in foal.]

ITCHING STALLION.

SUBSCRIBER, Carleton Co., Ont.:—"I have a stallion four years old that has a very heavy dandruff in his skin. He is very itchy, scratching his tail and mane. Kindly advise what will cure him?"

[We have found it no easy matter to stop stallions rubbing their manes and tail when being well fed. It is possible that the one in question is being pestered with small lice, and for fear that he is we would advise rubbing pulverized sulphur well into his neck and other parts that he rubs. Then after three days give him a thorough washing with one of the commercial sheep or cattle dips. (Any of those advertised in our columns are good.) Apply the liquid warm and vigorously until his skin is clean. Every few days following rub more of the dip into the itchy parts. This treatment will remedy the external cause, but he should have sulphur and saltpetre, half and half, one tablespoonful in mash once daily, to cool his blood. Keep the horse in comfortable, dry quarters, as the sulphur will tend to make him liable to catch cold. It would be well to lower his diet to some extent.]

COLT WITH RINGBONES.

Stormont, Ont.:—"I have an 1898 colt that seems to be getting ringbone or such formation on all his legs. I do not know whether it is hereditary or from tying him up too much. Last fall when I took him from his mother I put a halter on him, and I suppose he stood a month or so without getting any exercise. The weather was so cold, and hardly any snow, that I hated to let him out. I am at a loss to know if this is the cause. Both sire and dam are sound, but I am told that many colts from the dam's sire are blemished with ringbone. The horse himself is sound, and a fine Hambletonian. The humps on two of the joints are quite a size, the other two not so bad. I have rubbed on Kendall's Spavin Cure and other such medicine, but I cannot see any good from it. What course would you advise?"

[Without seeing the case it would be unsafe to pronounce the trouble "ringbone." The chances are, however, that such is the case, especially if he possessed a natural weakness in the pastern joints and his feet were allowed to grow long, throwing him back on his joints. We think it would be well to allow a qualified veterinarian to deal with the case. At any rate, he should have a roomy box stall and be fed well, and if the trouble is really ringbone, his joints should be blistered with an application of mercury or cantharides, about 1 to 16 parts of lard; also have his feet levelled up.]

Miscellaneous.

EWES REJECTING LAMBS—STRAW FOR MANURE—SACCALINE A FAILURE.

C. S., Grey Co., Ont.:—"I. Could you or any of your innumerable readers give me any information through your pages on making ewes become attached to their lambs? I have four ewes with eight lambs, three of which ewes will only sustain one lamb each. One of the ewes in particular took care of her lambs till they were about two days old, when she rejected one. I have heard of putting some sort of drugs on the lambs, but have forgotten what it is. Is there any such satisfactory material?"

"2. Is dry straw as valuable to put on the land for manure as when the same amount is fed to stock and then drawn out?"

"3. I saw an inquiry, I think it was in your columns, some weeks ago on saccaline, the new forage plant, to which I have been watching for a reply, but have seen none. I tried it for two years with absolutely no success. The second year I tried the seed in the same manner as tomato seeds, but after the plants grew about an inch or an inch and a half high they dwindled away. Would like to hear of the experience of somebody else?"

[1. The plan that we have adopted with ewes that rejected their lambs is to put the ewe in stocks for a few days in a small pen where the lambs may be kept close to her. Drive down two round, smooth stakes firmly, about five inches apart. Put the ewe's head through, and tie a rope across near the floor and another at the top of the stakes, holding them close enough that she cannot extricate her head. This need not interfere with her comfort, but it will give the lambs a show. It is claimed a good plan to cut off the lambs' tails, and allow the blood of the favorite lamb to fall on the back of the other one. It is also recommended to tie a dog in the pen with the ewe and lambs, which will cause her to protect her family and thus gain an affection for both of them. We know of no drug to apply. In this issue we publish a useful article on raising pet lambs.]

2. Straw loses a small proportion of its fertilizing value by passing through the digestive system of animals, but it is rendered much more concentrated and suitable for plant food. An application of dry straw to heavy clay land would improve its mechanical condition by preventing it from baking together, but in a dry season it would be liable to dry out severely.]

3. In 1896 the FARMER'S ADVOCATE tested saccaline, and found it as much of a failure as our correspondent has done. We published our experience with it in our volume of that year.]

GROWING RAPE AND MAMMOTH CLOVER.

NOVICE, Grey Co., Ont.:—"1. Can rape be grown early enough for July or August seeding? Would it be good for finishing grass cattle? How much seed per acre broadcast and in drills?"

"2. Is it possible or advisable to grow two crops of Mammoth clover seed following each other? Will Mammoth clover give good pasture after cutting one year for hay? I am very much pleased with your paper. Every farmer should take the ADVOCATE."

[1. Rape sown like turnip seed, in drills, if rich, well-prepared land, not later than the 15th of May, should produce a fairly heavy top suitable for pasture early in August, provided the field were surface cultivated frequently in the intervening time. From two to three pounds of seed per acre, in drills 28 inches apart, would be a liberal seeding. If sown broadcast, 4 pounds of seed per acre would be necessary, and the crop would grow more slowly, since the land could not be cultivated while the rape was growing. It would furnish an excellent pasture for growing or fattening cattle or sheep, but we would consider it profitable to give a small grain ration along with the rape to cattle that are finishing.]

2. We think it is not advisable to attempt to grow two succeeding crops of Mammoth clover seed, as it is not liable to do better than the red clover in producing a full crop the third year after

seeding. Mammoth clover cannot be depended upon to produce a sufficient stand for pasture the season after it has been cut for hay, although after a very favorable winter and spring a fair crop might be secured.]

FLAX SEED FOR CALVES—WALNUTS AND CHESTNUTS.

YOUNG SUBSCRIBER, Bruce Co., Ont.:—"1. Which is best for young calves, flax seed boiled or flax seed ground? 2. Do you think that walnuts and chestnuts would thrive here?"

[1. We would not think of feeding flax seed to young calves, even if ground, without boiling it, but for those two months old and over they would do about as well on the ground flax, mixed in small quantities with mixed bran and chop.]

2. Walnuts and chestnuts seem to do about equally well under the same conditions of soil and climate. They may do well on a considerable variety of soils, if these are of a deep, light, porous and dry nature; but they will not succeed on a heavy or cold-bottomed land. The walnut especially requires a free exposure to light and warmth, and a situation not much exposed to bleak winds. It is apt to suffer damage from late frosts in May just at the time when it breaks into foliage, and it is not liable to do well in a climate that reaches a temperature as low as 30° below zero.]

ARTICHOKES.

J. S. H., Huron Co., Ont.:—"1. Please compare artichokes with other roots for feeding stock. 2. What is the best variety? 3. When and how should they be planted? 4. What kind of soil is best adapted to their production? 5. If pigs are allowed to harvest them, what months of the year should they be allowed to run to them?"

[1. Artichokes do not differ very materially in composition from potatoes nor from sugar beets, but feeding value of roots does not seem to depend so much on composition as on the relish stock have for them. We have never known artichokes to be fed to stock other than hogs, and when fed raw the hogs did better on the artichokes.]

2. Jerusalem.

3. The tubers are well supplied with eyes, and therefore can be cut up in small pieces. The land should be prepared as for potatoes, and the sets planted fifteen to eighteen inches apart, in rows three feet apart. They should be planted early in May, or as soon as the ground is fit to plant potatoes.]

4. Artichokes are frequently planted on rather poor, sandy soil, such as sidehills and the like. They prefer a mellow, loamy soil, rather rich.]

5. Since artichokes produce their fruit like potatoes, below the surface, it seems like a lazy man's method to allow hogs to do their own harvesting. The tubers do not ripen till late fall, when they are ready to feed, or they may remain in the ground all winter, as the frost does them no injury.]

INSPECTORS OF HACKNEYS.

A. Mc., Wellington Co., Ont.:—"In your issue of 15th Feb. I see by Mr. H. Wade's answer to questions by a Lanark subscriber regarding rules of registration, that the plan adopted in regard to Hackney horses is to start with an inspected mare, then two crosses from such a mare would be what he calls 'full registered.' Now, the question I wish to ask is, By whom should such a mare be inspected? By answering this question in your issue of April 1st you will greatly oblige."

[The Hackney Association has a number of inspectors appointed. The nearest to this gentleman would be Mr. O. Sorby, of Guelph, or Mr. Adam Beck, of London. Besides these gentlemen, we have Mr. Robt. Beith, M. P., Bowmanville; Robert Graham, Claremont, Ont.; H. N. Crossley, Rosseau, Ont.; A. Wilson, Paris; Jas. A. Cochrane, Hillhurst, Que. H. WADE, Secretary.]

LUCRETIA DEWBERRY NOT BEARING.

F. C. E., Huron Co., Ont.:—"What is the matter with our Lucretia dewberry? It is covered with blossoms every spring, but as soon as the fruit is nicely set and the prospects of a good crop the fruit canes blight and die, while the new wood grows up fresh and green."

[It is very difficult to give any very satisfactory answer to a question—especially in the case of diseased fruit—unless one has a specimen of the affected portion. It is possible that the disease which troubles the dewberry of your correspondent is one known as anthracnose, but I could not say positively without getting a sample of the wood. This disease can be prevented to a certain extent by spraying the canes with Bordeaux mixture before the buds burst, 10-15 days later and again two weeks later.]

W. T. MACCOUN, Horticulturist.]

PROTECTION FOR WATER TANK WANTED.

OLD SUBSCRIBER, Waterloo Co., Ont.:—"Because of the severe frost some time ago a great many have had their water system frozen up. Would you or some of your numerous readers let me know through the columns of the ADVOCATE a way to protect a wooden tank so as to keep the water in it from freezing, the tank being in a stone building where no stock is kept?"

[A method that suggests itself to us, although we have had no occasion to adopt it, would be to surround the tank with a wall of lumber, leaving eight inches to a foot of space between it and the tank in which to pack sawdust, shavings, or chaff well packed in. We hope readers will suggest a satisfactory plan to keep out the frost.]

BARN PLAN WANTED.

ENQUIRER, Buffalo, N. Y.—“Can you or any of your readers give me a good plan for a basement of a barn 36x54, to accommodate cattle and horses? Also, will you please give me the proper size, width and length, for cattle stalls from manger to drop, and necessary room behind; also width and length of horse stalls and room behind. I want to get as much room as possible consistent with comfort and convenience for the animals, at the same time not waste any room. I would like to get reply in next issue if possible. No plans I have seen give these measurements.”

[Among the plans that have appeared in our columns there are none of the particular size 36x54, but from them a good arrangement of the basement should be selected. We hope, however, to hear from some of our readers on this point. Double cattle stalls should range in width from 6 feet for young stock to 7 or 7½ feet for large cows. Single stalls should range from 3 feet 6 inches to 4 feet wide. Five feet 6 inches from manger to gutter is a good medium length, but 4 inches longer is necessary for large cows. The best width of passage behind the cattle depends upon the method to be adopted in taking out the manure. If it is to be wheeled out (which seems an unnecessarily laborious method), 5 feet will do, but 6½ feet would allow a horse and boat, or even a team, to be driven through. Horse stalls should be not less than 5 feet wide and 8 feet long, and 7 feet behind the horses is as narrow as we would care to recommend. Unless one has a very effective ventilation system, an extra high ceiling (10 to 11 feet) should be provided where animals fill most of the floor space, in order to avoid foul air in the stable.]

STRANGLES—CHRONIC COUGH.

OLD SUBSCRIBER, Renfrew Co., Ont.—“My mare, now six years old, had strangles about three years ago, and a cough ever since. There is a discharge from the nose of a white color. My horse, nine years old, got sprained in the hock joint four weeks ago. I put a blister on the inside and outside, but the inner side has remained large, and he is stiff on the leg yet.”

[Strangles is a disease peculiar to young horses, and the attack generally takes place during the third and fourth year. Should it be allowed to run its course without attention will often terminate, as in this case, in chronic cough or bronchitis. This often results in an inflamed and thickened condition of the lining membrane of the throat and trachea, or giving rise to a chronic cough. These cases are often difficult to cure, and require so much consideration of all conditions that we do not like to suggest any treatment. You might try the following powders, but do not expect any improvement for some considerable time: Chloride of ammonium, 2 ozs.; nitrate of potash, 2 ozs.; powdered belladonna, ½ oz.; powdered liquoric, 4 ozs. Give a teaspoonful in every feed. To your second question, we would advise that you take him to a veterinary surgeon and have him properly fired and blistered. This will no doubt relieve the swelling and lameness. DR. MOLE.]

FEED FOR YOUNG LAMBS.

J. C. W., Beaver Lake, Alta.—“Please inform me in your valuable magazine what would be the best feed to raise lambs on where there is a scarcity of milk? That is, where we have the misfortune to lose the mothers.”

[Young lambs that have lost their mothers, and cannot be put to suckle other ewes, must be fed with cow's milk until they are three or four months old. The milk should be newly drawn from the cow, or warmed to the same degree of heat as new milk. It may be fed to them through rubber teats similar to those used for infants. These can be got at any drug store. When about three to four weeks old the lambs will begin to nibble nice green hay, crushed oats, bran or finely-ground linseed cake, which they should receive. When grass is ready there will be no difficulty, but the above foods may advantageously be continued for some time thereafter.

Elsewhere in this issue appears an article giving concise instruction on raising pet lambs.—ED.]

ASHES AS FERTILIZER—SEED POTATOES WANTED.

T. BENTLEY, Ontario Co., Ont.—“I wish to go into vegetable growing this season, and having a good quantity of fresh hardwood ashes, would like to know if there is any fertility in them. If so, how should they be applied to the hills or rows, and when, and in what quantities? 2. Could you direct me to some person who has Extra Early Prolific potatoes for sale?”

[Fresh, unleached hardwood ashes are estimated to be worth about 25 cents per bushel as a fertilizer. They should be sown broadcast, about 40 to 50 bushels per acre, and worked into the soil before planting the seed.

2. The seed merchants advertising in our columns have early seed potatoes for sale. Any of them will be pleased to send catalogues if applied for, from which varieties can be selected.]

PUMPING DEVICE.

MIXED FARMING, Elva, Man.—“I would be much pleased if you would furnish me through the columns of your valuable journal with information relating to the construction of a device whereby it would be practical for stock to lift their own drinking water from a well some twelve feet deep.”

MANGELS AND TURNIPS COMPARED.

W. F., Brant Co., Ont.—“Please turn to page 16, Jan. 2, 1890, of the FARMER'S ADVOCATE and tell us why those two analyses from the Ontario Agricultural College do not agree with those by the same College which are given in their little book for schools and students?” According to the analyses in the College books,

40,000 lbs. of mangels will yield	4,480 lbs. of digestible matter.
40,000 “ “ turnips	3,140

Difference in favor of mangels.....1,340 lbs.
According to the analyses from the College in ADVOCATE,

40,000 lbs. of mangels will yield only	3,640 lbs. of digestible matter
40,000 “ “ turnips	4,560

Difference in favor of turnips..... 920 lbs.

“From my experience, the feeding power of the mangels is much greater than that of the turnips. A good many years ago you prepared a table of analyses and printed it in the ADVOCATE, and I find that those analyses are exactly the same as those which came out in the College book a good many years after.”

[In reply to your letter of 4th inst., re question from Mr. Wm. Farmer, I beg to say that the dry matter and the nutritive value of the roots do not mean one and the same thing. We have found by analysis (a report of which is given in the O. A. C. annual report, 1893) that a number of varieties of mangels average 10.24% dry substance, while a number of varieties of turnips average 13.10% dry substance. Consequently twenty tons of mangels would yield 4,096 lbs. dry substance, and twenty tons turnips would yield 5,240 lbs. dry substance. But while this is the case, it is quite possible that a given weight of the dry substance of mangels would have a higher feeding value than the same weight of the dry substance of turnips.

There is a great variation in the composition of roots grown under different conditions of manuring, thinning, etc., which accounts for differences in the dry matter obtained by different experimenters.

A. E. SHUTTLEWORTH, Chemist.
Ont. Ag. College.]

STONE SILOS.

W. G. THOMPSON, Wentworth Co., Ont.—“Would a silo thirty feet high and fifteen feet across, built with stone, with a wall one foot thick, be strong enough to stand the pressure of ensilage when it is full. It could be ten feet under ground to be level with my stable floor; or I could have one built with stone, to be level with the top of the ground, which would be ten feet, and then built twenty feet higher with scantling or plank, the form of a round stave silo. Please publish them in your paper, as I intend building one this summer.”

[In the FARMER'S ADVOCATE of June 15th, 1898, was published a description of a stone silo 12x18 feet and 27 feet high. The wall at the bottom was 18 inches thick, tapering to 10 inches at the top. This is as light a wall as we would consider safe were the silo entirely above ground. It is possible, however, that a lighter wall would answer where the bottom ten feet would have the support of the earth just where the greatest pressure occurs. We are not inclined to favor a combination of stone and wood in the way that is mentioned, although a stave top on a round stonework bottom might answer well enough, provided the joint remained perfectly true and solid and the wall is plastered inside with cement smoothly. Our preference would be decidedly for a concrete cement silo throughout, or at least cement above ground, as it is less liable to burst or to crumble than stonework, and we are confident the ensilage will keep better in a cement silo. We will be pleased to publish the opinions of those of our readers who wish to help Mr. Thompson and others to decide what sort of silo to build this coming season.]

TYPE OF SHROPSHIRE SHEEP.

A SUBSCRIBER, Pilot Mound, Man., would be glad to have you furnish information as to the proper type of the Shropshire sheep, as this is about the time to select for showing at the summer fairs, and it seems to me that if there are any criticisms to be made by the agricultural papers they should be made now and not after the exhibitions. There seems to be a good many different opinions as to what constitutes the proper type. Those interested will remember that at the last Winnipeg Industrial, in the aged ram class, there were three fine-looking entries. One weighing probably 75 pounds more than the others had to take second place. Also in the shearing class a large, well-developed sheep, well covered with wool, shown in good fit, and weighing probably 75 pounds more than the other entries, had to take third place.

[Extra size and weight are not the most desirable features in any breed of sheep. Compactness, quality and symmetry are more desirable. In a Shropshire of approved type the latter are considered essential. Abnormal weight may be a result of extra heavy feeding or of the cramming process, and may impair or destroy the usefulness of the animal for breeding purposes; and extreme size is apt to be associated with coarseness, and a lack of compactness is not conducive to uniformity in a flock, and is not always an indication of constitutional vigor. The approved type of Shropshire is an animal of medium size, standing on strong, straight legs, well set apart; is broad in the chest, thick through the heart, has a prominent brisket, a long through, well-arched neck; forehead broad and short, strong, well covered with white wool on the crown and well covered with white wool on the crown and down the sides of the face; ears short and fine;

shoulders flat; back short and strong; ribs well sprung; hips wide, with long, level hind quarters and full twist. The skin should be a bright pink color; the fleece fine, dense, and of even and uniform quality all over the body, free from coarseness on the thighs, and free from black or brown wool. It has been the aim of the best breeders to secure uniformity in their flocks on the lines above indicated, and for this purpose it is said that for many years the exhibitors of Shropshires at leading shows in Britain agreed to have the same judges adjudicate on the class. Expert judges at leading shows in Canada have in several cases left out of the prize list large and good sheep for the reason that they were not of the approved type, and that they as judges are expected to set the standard and thus serve as educators of the public in the judging and breeding of the class of stock they consent to pass upon. It is difficult to understand our correspondent's idea that any criticisms of the agricultural press should be made now and not after the exhibitions, since criticism can surely be best made after comparison, and cannot intelligently be made without examination, but if information and light on the subject is the object of the enquiry we freely submit what we believe to be safe and sound doctrine, and trust it may meet the approval of our correspondent and of breeders of Shropshires generally.]

ADMISSION OF SHEEP INTO CANADA FROM FRANCE.

E. P., Middlesex Co., Ont.—“Are sheep admitted into Canada from France, and, if so, under what quarantine regulations?”

[Sheep from France are admitted into Canada as per the following regulations, as given in the Regulations Relating to Animal Quarantine and Health of Animals: The importation into Canada of live animals coming from Europe shall be prohibited, except at the ports of Charlottetown, Halifax, St. John, N. B., and Quebec, and such other ports as may hereafter be indicated by the Minister of Agriculture.

All animals arriving in Canada from Europe, through any port on the Canadian seaboard, shall be subject to inspection at such port by officers who may, from time to time, be appointed for that purpose.

A quarantine of 15 days shall be enforced upon all ruminants imported from countries in which foot and mouth disease has existed during six months preceding such importation.]

BOOKS FOR THE FRUIT-GROWER AND GARDENER.

S. SPROUL, Assa.—“Please let me know what books you have in your library that you would recommend as useful to one who endeavors to cultivate fruit trees, large and small, and garden stuff, in British Columbia? Also state the price, that I may be in a position to order.”

[The latest really helpful books upon fruit-growing and gardening that we have received belong to what are known as the “Rural Science” and “Garden Craft” series. Of these, we would recommend the following: “The Principles of Fruit-growing,” by Bailey, price \$1.00; “The Horticulturists' Rule Book,” by Lodeman, price 75 cents; “The Nursery Book,” by Bailey, price \$1.00; “Plant Breeding,” by Bailey, price \$1.00. We can furnish the above books direct from our office, post-paid, at the above prices, or will give any one of them as a premium for obtaining two new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each.]

APPLES IN MANITOBA.

R. S. T., Eden, Man.—“Can you tell me if any varieties of apples have proved a fair success in Manitoba? If so, what varieties? 2. Are any varieties proving a success on the Brandon Experimental Farm? Would like to know if apples had a fair chance of success here on the south-eastern slope of Riding Mountains, protected by woods on the north and west?”

[There has been 194 varieties of apples tested on this farm during the past ten years. Many of these are the so-called Russian Ironclads. Every one, so far, has badly winter-killed, and the cultivation of the common apples here is, so far, a failure. The only plant of the apple family perfectly hardy is the wild crab of Siberia (*Pyrus Baccata*). The fruit of this plant is about the size of a large cherry, and is only fit for jelly. We are grafting and crossing this tree with the ordinary apple, and may get a valuable and hardy fruit. It would be worth while to try a few Transcendent crab apples in your locality, for if the altitude is not too great they may succeed; but it is unlikely that any other variety will succeed. S. A. BEDFORD, Supt. Brandon Experimental Farm.]

TROUBLE WITH WATER PIPE.

L. A. B., Ontario Co., Ont.—“I have a spring about three hundred yards from the barn, with about five feet of fall, and am trying to force the water about three feet into a trough, using three-quarter inch pipe. It ran all right for a time, but was afterwards stopped, apparently by a mossy substance formed in the pipe. Will it matter if the surface on which the pipe rests is a trifle undulating?”

[I would certainly recommend that the pipe be changed for a larger one, since the fall is so slight that any small obstruction would be sufficient to stop the flow. Any undulations in the surface over which the pipe is laid will not affect the flow so long as the pipe is not at any point as high as the source. J. B. REYNOLDS, Dept. of Physics, Ont. Agl. College.]

MARKETS.

FARM GOSSIP.

Ontario Agricultural and Experimental Union Co-operative Experiments in Agriculture.

To the Editor FARMER'S ADVOCATE:

Sir.—Co-operative experiments in agriculture have been conducted throughout Ontario in each of the past thirteen years. In 1886 the work was carried on by 12 farmers, and 60 plots were used for this purpose. The number has been steadily increasing since that date, until in 1898 the co-operative experiments were conducted by 3,028 farmers, and upwards of 12,000 plots were used for the work. Pure seed of the very best varieties are used.

LIST OF EXPERIMENTS FOR 1898.

- 1. Testing nitrate of soda, superphosphate, muriate of potash, mixture, and no manure with corn.
2. Testing nitrate of soda, superphosphate, muriate of potash, mixture, and no manure with mangels.
3. Growing grass peas, and two varieties of vetches for green fodder.
4. Growing three mixtures of grain for green fodder.
5. Testing six varieties of corn for grain, fodder, or silage.
6. Testing four varieties of millet.
7. Testing four varieties of grasses.
8. Testing four varieties of clovers.
9. Testing three varieties of buckwheat.
10. Testing three varieties of spring wheat and one of spring rye.
11. Testing four varieties of barley.
12. Testing four varieties of oats.
13. Testing four varieties of field peas.
14. Testing three varieties of field beans.
15. Testing three varieties of Japanese beans.
16. Testing four varieties of mangels and one of sugar beets.
17. Testing two varieties of Swedish and two of fall turnips.
18. Testing two varieties of Swedish and two of fall turnips.
19. Sowing peas at different dates to determine the amount of injury done by the pea weevil.
20. Planting potatoes the same day and five days after being cut.
21. Planting corn in rows and in squares.

Interested persons in Ontario who wish to join in the work may select any one of the experiments for 1898 and inform the Director at once of the choice made. All material will be furnished entirely free of charge to each applicant, but he will be expected to conduct the test according to the instructions sent with the seeds, and to report the results of his test as soon as possible after harvest.

Material for either No. 1 or No. 2 experiment will be sent by express, and for each of the others by mail. The supply of material being limited, those who apply first will be surest of obtaining the desired outfit. It might be well for each applicant to make a second choice, for fear the first could not be granted. The kinds to be distributed are those which have done exceptionally well on the trial plots in the Experimental Department at the College. C. A. ZAVITZ, Director.

Ontario Agricultural College, Guelph, March 13th, 1898.

Oxford County.

We have had a short run of very good sleighing at this late season, and the greater part of our farmers have made the most of it in finishing up their teaming. At some of our meetings of Farmers' Institutes the most profitable and economical method of the distribution of barnyard manure was discussed, and it was the opinion of our best farmers that horse, cow and pig manure ought to be mixed in one compact heap in the yard and hauled out to the fields every few weeks, and either spread from the wagon or sleigh or put out in small heaps as circumstances warranted. A great part of the barnyard manure has thus been put out. There has been quite a brisk demand for fat cattle, and several farmers have sold their stall-fed steers and cows at from 4 to 5 cents, according to quality, for delivery about the first of April. At auction sales good milk cows are bringing from \$30 to \$45, according to style, breeding and condition. Some farmers are picking up steers coming 2 yrs. old at from \$20 to \$30 each. Several pure-bred cattle have been sold to go to Manitoba at good figures. There are reports of quite a number of mares slipping their foals this winter, but the cause is not given, unless it was the very severe cold weather. There are quite a number of farmers getting ready to build barns or houses or make improvements and additions to existing buildings. Brood sows have done very well so far in our neighborhood, raising good healthy litters, from seven to twelve. I heard of several sows with litters being sold at \$20 and over. We had some storms of thunder and lightning at this early date, in one of which one farmer was instantly killed while walking from one barn to another. Good horses are bringing good prices, and altogether the horse industry is looking up. Many of our farmers had intended marketing their wheat in March, and are very much disappointed at the tumble prices have taken, and do not know now whether to hold or to sell. During the very severe weather several got their potatoes frozen, and prices have gone up to about \$1 per bag, and it is likely that the greater part of the potatoes that are in pits and doors will be found to be useless. Oats are selling at 32 cents. Several farmers tapped their maples before the last storm, but the pails have been hanging useless on the trees for some time. D. L.

Prince Edward Island.

At the time of writing, March 15th, we still have hard winter weather and plenty of snow and ice for good hauling. Many farmers are busy getting their usual supply of "mussed mud." Thousands of loads of this valuable fertilizer are daily drawn unto P. E. Island farms. Profs. Robertson and Macoun, of the Experimental Farm staff, have come and gone. Prof. Robertson's principal message to our farmers was to get better seed by selection; put more humus in the soil by growing and plowing down clover; cure our cheese at a lower temperature, not exceeding 62 Fahr., to develop the best flavor; fatten our chickens for the English market. His strong point was, get more vegetable matter in the soil, so as it would withstand froth and yield double as much crop to the acre. Four "Illustration Stations" will likely be established here this coming summer—two for farming and two for fattening chickens. Prof. Macoun gave us some valuable hints as to how to plant and care for an orchard. We are likely to have an inspector and instructor to look after our dairy business next season. A "Cheese Board" is also being organized at Charlottetown. Winter dairying is carried on extensively this winter. Separators or butter plants are operated in most of all the cheese factories. Milk at the dairy stations averages from 70c. to 80c. per 100 lbs. Butter sells from 18c. to 20c. per lb. Quite a lot of beef cattle are being fed, but many of them are small. The few good ones that are being fed for the English market will bring good prices in the spring. Dressed beef at present is worth from 5c. to 7c. according to quality. Very little of our heavy crop of hay will be stored, but fed instead to stock. Some little is selling from \$7 to \$8. Live hogs are worth \$1 per 100 lbs. at the factory. Heavy carcass pork brings as high as 5c. per lb. Potatoes are very scarce, and sell at 40c. per 60 lbs. Seed wheat from Ontario and Manitoba can be bought for about \$3 per bag of two bushels. We are not likely to have any exhibitions here next fall, as our Local Government will not give any grant for that purpose. Our Agricultural Commissioner to England has returned, and is telling producers here that the quality of many of our products that he saw in English markets is not up to par. W. S.

East York, Ont.

The recent fall of snow has given us good sleighing again, and farmers are busy teaming and applying manure, spreading it from the sleigh as drawn. This method is gaining favor, although some prefer leaving it in small heaps, claiming that there is a loss from washing. Several carloads have been shipped to this section from the Toronto packing houses. This manure has given splendid results. Prices for cattle are firm. There is a good demand for yearling lambs, at 7c. to 8c. dressed weight. Spring lambs are selling for from \$5 to \$7 apiece. There has been some of the Dorset breed on the market dressing 40 lbs. to 50 lbs. Dressed hogs higher, at \$5.15 to \$5.40. Farm wages are higher this year. There being a scarcity of good farm hands, farmers are paying from \$16 to \$18 per month for eight months, or \$160 to \$175 per year, including board. Since the toll-gates have been taken off our country roads the municipalities are trying to keep the roads up by graveling the instead of broken stone. A good coat of gravel on the old macadam bottom makes a smooth road, though not so durable. Several miles have been gravelled this winter. The council say about 50c. per yard for the drawing about four miles from the pit. S. Y. C. March 24th.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following were the prices lately current, with comparisons two weeks and one and two years ago:

Table with columns: Beef cattle, Hogs, Sheep, and various weight categories. Rows include prices for 1500 lbs up, 1350 to 1500 lbs, 1200 to 1350 lbs, 1050 to 1200 lbs, 900 to 1050 lbs, Fed Westerns, Mixed, Heavy, Light, Pigs, Natives, Western, and Lambs.

The most notable thing in the cattle trade lately has been the marketing of the premium Texas cattle from the Fort Worth Fat Stock Show. It's a new thing to have high-grade, well-ripened cattle coming to market from the Lone Star State. They sold here at \$5 and \$6, and the top price was the highest since 1884, when \$6.25 was paid for Texas, and in 1882 \$6.80 was paid. However, at that time best "native" cattle were selling \$2 to \$3 per 100 lbs. above the best Texans that were coming in those days. A car of three-year-old steers, weighing alive 1,543 lbs., weighed dressed 941 lbs., thus yielding 63.82 per cent., while 19 two-year-old steers, weighing on the hoof 1,041 lbs., dressed 618 lbs., or 59.10 per cent. Sixteen head sold at \$5.50, average 1,471 lbs., live weight, dressed 890 lbs. each, or 60.55 per cent.; 33 head sold at \$5.30, average 1,449 lbs., live weight, dressed 884 lbs. each, or 61 per cent.; 48 head sold at \$5.35, average 1,448 lbs., live weight, dressed 880 lbs. each, or 60.76 per cent. The State of Texas already has more pure-bred cattle than any other State in the Union, but the State is so large that it will take a long time to grade up even a small part of the cattle in that great State. Most of the cattle above noted had been fed upon cotton-seed meal, with corn and "shorts" mixed to some extent. An exporter recently got a cargo of cattle in Texas at about \$4.60 per 100 lbs. to send via New Orleans.

The packing business is on the increase. The Schwarzschild & Sulzberger Packing Company will build a packing house on the lands of the Union Stock Yards Company. Their capacity will be 1,000 cattle, 3,000 hogs, and 1,500 sheep daily. Armour & Co. are building a power and lighting plant which will cost about \$750,000, in addition to building several immense warehouses, the total expenditure involving about \$1,000,000. Swift & Co. are also building large warehouses, costing hundreds of thousands, while the Anglo-American Packing Co. is also building a large central power and lighting plant. A report from Milwaukee says the meat packers are preparing for one of the best seasons they have ever had. They say there is a general and most satisfactory improvement in the packing business. They do not anticipate any sharp advance in prices, but they do look for a firm market.

Sheep feeders who lost at the rate of one dollar per head the first two months of 1898 have a ray of hope in present prices, which on the Chicago market are more than a dollar per 100 pounds above the disheartening prices of February. Fed Mexican lambs sold here recently at \$5.90, against \$4.90 on the 1st of March. The improvement in the demand for good mutton has been marked, due partly to the fact that good beef is scarce and hard to get. Some of the shepherms declare that the widespread discussion of army beef has redounded largely to the advantage of sheep and lambs. The sheep situation is generally in much more satisfactory shape, and feeders who have held on are getting their reward.

The hog situation is showing very little change. The general supply is fairly large, and the demand is good. The low prices tend to a large consumption.

Montreal Markets.

Cattle.—In our last report we quoted the pick of the cattle on this market at 5c., but prices since then have firmed fully a quarter cent on those figures, and 5c. per lb. has been paid in many cases, but from this high figure values have again receded, and on the last market 5c. was the highest paid. Of course, in mentioning these quotations, they are for the very best beefes on the market, with poorer grades a shade lower than quality and weight would appear to justify. But the demand is strong for the tops, while only indifferent for medium grades, which range in price from 4c. to 5c. for good to choice; fair to medium, 3c. to 4c.; with common as low as 2c. per lb.

Sheep and Lambs.—The receipts of small meats have been under the demand right along, and all offerings are promptly picked up by butchers, but prices for sheep do not seem to get beyond the 3c. to 3c. per lb. mark, while for good spring lambs all the way from \$3 to \$8 each has been paid, according to the size and quality.

Culves.—Receipts of calves are continually growing heavier, but as yet the demand has absorbed all offerings at pretty fair prices, ranging from \$1.50 to \$8 each, according to size and quality.

Hides and Skins.—In our last we drew attention to the effort on the part of hide dealers to force prices of green hides down, notwithstanding the fact that at all other centers of distribution the hide market maintained its firmness. This they have succeeded in doing, first a drop of 1c., followed last week by a further decline of 1c., bringing prices down to the basis of 8c. per 100 lbs. for No. 1, 7c. for No. 2, 6c. for No. 3 green-salted steer hides. However, as prices have eased off in other localities this week, the decline will not be resented so much. Calfskins are held steady, under a good keen demand, at 10c. for No. 1, 8c. for No. 2. Lambskins, 7c. to 7c.; clipped lambs, 10c. each.

Toronto Markets.

Several carloads of export cattle were consigned direct to dealers and were not on public sale. We would recommend the system to farmers, as there are now several well-known and responsible men willing to deal on strictly commission business lines. Trade was good and did not drag; stock all cleared off by noon. Prices firmer, about 10c. advance on recent quotations for export cattle. About 64 carloads of stock on sale.

Export Cattle.—Trade was generally brisk for best class of cattle, but too many unfinished stock are offered. Choice loads sold at \$4.35 to \$5, but these were few in numbers, and there were no loads at this price. Mr. Wm. Crealock bought 17 cattle, 1,160 lbs. average, at \$4.65. Mr. W. H. Dean bought one load of exporters at \$5, two loads at \$4.70 per cwt. Mr. John Vance sold one load of exporters, 1,180 lbs. average, at \$4.85 per cwt. Mr. Alex. McTaggart, of Sonva, sold a Durham bull three years old, weighing 2,300 lbs., for \$5 per cwt. to Messrs. Beal & Stone. Mr. Geo. Focher, Blackwater, sold a three-year-old steer weighing 1,900 lbs. for \$6 per cwt., the highest price this season. One three-year-old heifer, 1,400 lbs., the property of Mr. James Leask, of Greenbank, sold for \$5.50 per cwt.

Butchers' Cattle.—Choice picked lots of butchers' cattle, equal to exporters in quality but not so heavy, sold readily at \$4.35 to \$4.50. As exporters they would fetch 50c. per cwt. more. Loads of good butchers' cattle sold at \$4.20 to \$4.30 per cwt. Common stuff sold down to \$3.25 per cwt. Very inferior rough cows and bulls sold at \$2.85 to \$3.10 per cwt.

Bulls.—A few light stock bulls sold at \$3 to \$3.25 per cwt. One bull, 1,760 lbs., at \$4.25 per cwt. One pair fat oxen, weighing 2,085 lbs. each, sold at \$4.25 per cwt.

Stock Heifers.—A few heifers, weighing about 600 lbs., sold at \$2.75 to \$3 per cwt.

Stockers.—About eight loads of stockers on sale. They were in good demand for Buffalo, and sold at from \$2.75 to \$3.75 per cwt., with picked lots at \$4 per cwt.

Feeders.—Heavy choice feeders scarce and wanted, selling at \$4 to \$4.25 per cwt.

Heifers.—A few of this class of stockers, about 600 lbs. each, sold at \$2.75 to \$3 per cwt.

Sheep.—About 300 sheep. Ewes sold at \$3 to \$3.50 per cwt. Bucks, \$2.50 to \$2.55 per cwt.

Lambs.—Yearling lambs scarce and wanted; prices firmer, at \$4.50 to \$4.90 per cwt. A few choice picked ewes and wethers brought from \$5 to \$5.15 per cwt.

Culves.—Choice heavyweight veals are wanted, and \$5 would be paid; bulk sold at from \$2 to \$10 per head. Those on offer were rather a poor lot, with the exception of one 14-week-old calf, raised by Mr. Robt. Edwards, of Manilla, Ont., that weighed 605 pounds and sold for \$37 to Messrs. Rowntree & Halligan.

Milk Cows.—The demand good; supply only average. Choice springers would sell well; one fetched \$50 to-day. About 20 on offer, from \$25 to \$35 per head; springers from \$30 to \$50 per head.

Hogs.—The supply more than equals the demand; 1,150 on offer; all taken. Choice selections, weighing from 160 lbs. to 180 lbs., unfed and watered, \$4.50 per cwt. Light fats, \$4.12; thick fats, \$3.75 per cwt. Prices may be a shade less next week—at least we look for a decline on the thick and light fats of 1 per cwt., or, as it is termed, a York shilling; the best selections remain at the top price.

Dressed Hogs.—The market for dressed hogs holds steady; values well maintained. On the street farmers' loads sold at \$5 to \$5.30 per cwt. Carloads quoted on track at \$4.90 to \$5 mixed weights.

Butter.—Market keeps well cleaned up; choice dairy make in good demand. From North Bay and Sudbury unprecedented enquiries continue for all supplies—butter, cheese, eggs, groceries, etc.

Eggs.—Deliveries of new laid have increased from all quarters. Dealers are selling single cases, or more, at 12c. per dozen, and the last few days the supply has exceeded the demand; 10c., 11c., and 12c. per doz.; further declines are looked for; the past season of over a quarter of a million boxes compared with last season.

Hay.—On the hay market very little business was transacted; the roads are not good, the supply small. For timothy, \$8 to \$8.50 per ton; for clover, \$6 to \$7.

Straw.—Only two loads on offer, at \$6. Car lots of baled straw are quoted at \$4 to \$4.50 per ton.

Hides.—There is still a good-sized kick coming from the trade, and should the compulsory hide inspection carry, it is feared that the trade will be somewhat disorganized. No. 1 green hides are quoted at 8c. to 8c. for green steer hides; calf skins, 10c. per lb.; pelts, 30c. to \$1. Wool, 15c. per lb.

Grain Markets.—Receipts at the St. Lawrence market were larger. Wheat—400 bushels—sold at 60c. to 70c. per bushel. Barley—300 bushels—sold at 45c. Oats at 34c. to 35c. per bushel. Bran.—City mills sell bran at \$14.50, and shorts at \$16.50, in car lots, f. o. b., Toronto.

Stocks.—The export demand continues. This year has proven the best for all shippers on record. The supply is very limited, and dealers are now importing for some varieties. Red clover, \$3 to \$3.50; white, \$5 to \$8; alsike, \$3.80 to \$4; timothy, \$1.20 to \$1.35 per bushel.

Dressed Beef.—The Toronto market is destined to be the base of supplies for the surrounding districts. Numerous enquiries are received daily as to prices for dressed beef delivered. Sudbury and all to towns north are looked upon as regular customers. Beef—fore quarters—\$4.50 to \$5.50 per cwt.; beef—hind quarters—\$7 to \$8.50 per cwt. Lamb—7c. to 8c. per lb.; lambs—spring—from \$5 to \$7 each. Mutton, 5c. to 6c. per lb.

Cheese.—Liverpool (Eng.) quotations on cheese are 51 shillings per cwt.—12 lbs.; an advance is obtainable on all choice grades for both white and colored; there is an upward tendency and a rise of 2 shillings predicted for next week. The Canadian stocks in store are very low, whilst on this market (Toronto) the whole of the warehouses are well cleaned up, with no reserves to draw upon for export. All choice stock is held for an advance. Prices are held firm at 10c. to 11c. per lb. This is an advance of 1c. since my last quotation.

Poultry.—The demand for poultry very good. All choice stock held for an advance. Chickens are quoted at from 50c. to \$1 per pair. Turkeys scarce at from 12c. to 14c. per lb. March 24th, 1898.

Toronto Horse Market.

The attendance at Grand's Horse Repository on Wednesday, March 22nd, was good. A very active trade was done at good prices for all classes of stock. Several heavy draft horses changed hands at prices ranging from \$50 to \$80 per head. One good-sized draft, weighing about 1,200 lbs., realized \$110. A pair of chestnut mares, matched team, by one sire, out of two different dams, sold for \$150 the pair. A bright bay horse, 15.2, five years old, warranted sound, to ride and drive, fetched \$80. A very handsome bay gelding, 16 hands high, six years old, suitable for single carriage, fetched \$100. The bidding on all these horses was spirited, and a great improvement is manifested in the value of horseflesh. Good drivers in demand from \$75 to \$90. Horses of all classes in demand, sales are better attended, and prices more remunerative than a year ago. March 24th, 1898.

British Markets.

Cables this week were of a nature to please shippers, as the recent decline had made quite a difference in the returns of cabled sales, and the advance of 1c. to 1c. on Monday last was welcomed by exporters. Light supplies caused the reaction. In London choice States steers brought 12c.; Argentines, 11c.; sheep, 11c. to 12c. per pound. At Liverpool, States beefs made 12c.; Canadian, 11c. to 12c.; and Canadian lambs, 15c. per pound, all quotations being for dressed meat, sinking the offal.



AN AMERICAN GIRL IN LONDON.

BY SARA JEANNETTE DUNCAN.

(Continued from page 154.)

"Cuckoo!" The bird caught it from the piping of the very first lover's very first love-dream—how well he must have listened!

I bade Miss Dorothy Stacy come in when I heard her knock and voice; and she seemed to bring with her, in her innocent strength and youth and pinkness, a very fair and harmonious counterpart of the cowslips and cuckoos.

"No," I said, "I don't." And then Miss Dorothy confided to me that she was very glad, "for you know," she said, "one can't like people who find cuckoos tiresome; and we concluded that we really must go down to tea."

"You met our cousin on the ship crossing the Atlantic, didn't you?" the eldest Miss Stacy remarked, enthusiastically, over the teapot.

"Mother darling!" said Kitty, "I do beg your pardon! Your daughter always speaks first and thinks afterward, doesn't she, sweetest mother? But you must have had that feeling."

"Oh, no!" I returned. It was rather an awkward situation—I had no wish to disparage Miss Stacy's cousin's heroism, which, nevertheless, I had not relied upon in the least.

"That proves it!" she was unconscious! Sweetest mother—was so perfect that it was another word; not another syllable, darling there—I won't say another word; but one does like to show one's self in the right, doesn't one, sweet mither!

It was naturally Dorothy who took me out to see the garden—sweet, shy Dorothy, who seemed so completely to have grown in a garden that Lady Torquillin, when she brought her pink cheeks afterward to gladden the flat in Cadogan Mansions, dubbed her "the Wild Rose" at once.

It was a square garden, shut in from the road and the neighbors by that high old red brick wall. There were the daisies in the grass to begin with—all over, by hundreds and thousands, turning their bright little white-and-yellow faces up at me and saying something; I don't know quite what.

"We are obliged to keep of him," I dare say you don't think so much of daisies in the grass—you have always had so many. You should have been brought up on dandelions instead—in Chicago!

Then there were all the sweet spring English flowers growing in little companies under the warm brick wall—violets and pansies and yellow daffodils; and in one corner a tall, brave array of anemones, red and purple and white.

"I have a letter to send," said Miss Dorothy, "and as we go to the post office you shall see Hallington."

So we went through the gates that closed upon this dear inner world into the winding road. It led us past the Green Lion, amiably couchant upon a creaking sign that swung from a yellow cottage, past a cluster of little houses with great brooding roofs of straw, past the village school, in a somewhat bigger cottage, in one end whereof the school-mistress dwelt and looked out upon her lavender and rue, to the post office at the top of the hill, where the little woman inside, in a round frilled cap and spectacles and her shawl pinned tidily across her breast, sold buttons and thread and "sweets" and ginger ale, and other things.

"Really!" said she, with a slight embarrassment. "Does he—does he do it himself? How clever of him!"

On the way back through the village of Hallington we met several stolid little girls by ones and twos and threes, and every little girl as we approached suddenly lowered her person and her petticoats by about six inches and looked up again in a perfectly straight line, and without any change of expression whatever. It seemed to me a singular and most amusing demonstration.

"I hope you won't mind our not having asked anyone else," Miss Wick. "We were selfish enough to want you, this first evening, all to ourselves."

"I am not a very propitious beginning, and Mr. Mafferton's further apology for not being able to take me down to the dinner, on the ground that he had to be taken down by the dinner himself, did not help matters in the very least."

"I am carrying out on board the steamship 'Etruria' to-day," the worst of it was Lady Torquillin's scolding next morning. "I mean to have done so much, and I've done so little!"

"I mean to have done so much, and I've done so little!" she said, "your little cottager girls in America courtesy to the ladies and gentlemen they meet!"

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XXVI.

I am writing this last chapter in the top berth of a saloon cabin on board the Cunard steamship "Etruria," which left Liverpool June 25, and is now three days out. From which it will be seen that I am going home.

Nothing has happened there, you will be glad to hear, perhaps. Poppa and mamma and all the dear ones of Mrs. Portheris' Christmas card are quite in their usual state of health. The elections are not on at present, so there is no family depression in connection with poppa's political future.

In order that you should quite see that nobody was particularly to blame, I am afraid I shall have to be very explicit, which is in a way disagreeable. But Lady Torquillin said the day I came away that it would have been better if I had been explicit sooner, and I shall certainly never postpone the duty again.

It occurred almost as soon as the family returned from the south of France, where they had been all spring, you remember, from considerations affecting the health of the eldest Miss Mafferton, with whom I had kept up, from time to time, a very pleasant correspondence.

There was a postscript to the invitation, which said that although Charlie, as we probably knew, was unfortunately out of town for a day or two, Mrs. Mafferton hoped he would be back in the course of the evening.

"Well, my dear," said Lady Torquillin, "it's easily seen that I can't go, with these Watkins people coming here. But you shall—I'll let you off the Watkinses. It isn't really fair to the Maffertons to keep them waiting any longer."

"You are welcome to go with me in a hansom to Hertford Street, Mayfair."

"I must really go!" I said, precipitately. "I—I promised Lady Torquillin to be home early—nothing with despair by the gold clock under glass on the mantel that it was only a quarter to ten—and the American mail goes out to-morrow—at least I think it does—and—Good-night, Mrs. Mafferton! Good-night, Mr. Mafferton."

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themselves entitled to an opinion in the first person singular. An idea appeared to be, as it were, a family product.

"She was very sorry," I said. "And so, I am sure, are we," remarked Mrs. Mafferton, graciously, from the other end of the table. It was through dear Lady Torquillin, I believe, that you first met our son, Miss Wick!

I began to feel profoundly uncomfortable—I scarcely knew exactly why. It became apparent to me that there was something in the domestic atmosphere with which I was out of sympathy. I thought the four Miss Maffertons looked at me with too much interest, and I believed that the curate was purposely distracting himself with his soup. I corroborated what Mrs. Mafferton had said rather awkwardly, and caught one Miss Mafferton looking at another in a way that expressed distinct sympathy for me.

I was quite relieved when Mrs. Mafferton changed the subject by saying, "So you are an American, Miss Wick?" and I was able to tell her something about Chicago and our methods of railway traveling.

"Francis!" exclaimed the Miss Mafferton who sat next to him, playfully abstracting the crumbs, "you know that's naughty of you! I'm afraid you've come to a very nervous family, Miss Wick!"

I felt myself blushing abominably. The situation all at once defined itself and became terrible. How could I tell the Maffertons, assembled there around their dinner table, that I was not coming to their family!

"Burgundy, miss!" How could I do anything but sip my claret with immoderate absorption, and say that nervous disorders did sometimes run in families, or something equally imbecile!

"But Charlie's nerves are as strong as possible!" said another Miss Mafferton reproachfully to her sister. We had other general conversation, and I spoke into Mr. Mafferton's trumpet several times with a certain amount of coherence; but I remember only the points which struck me as of special interest at the time.

"How could I say I was not willing?" Mrs. Mafferton took me aside "for a little chat," and told me what a good son Charles had always been, and showed me several photographs of him at earlier stages, from the time he wore a sash and pinafore. Even then, I remember, he looked a serious person.

"We are so glad you've been kind to him," they said, impulsively. "Of course we haven't seen him yet since our return, but his letters have told us that much."

I tried in vain to rack my brain for occasions on which I had been kind to Mr. Charles Mafferton, and longed for an attack of faintness or a severe headache.

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attend a church where they use spring-edged cushions and incandescent burners. Peter's England will always be the true England to me. I shall be able to realize it again easily with some photographs and Hare's "Walks in London," though I am afraid I have got all her delightful old moss-grown facts and figures mixed up so that I couldn't write them over again, without assistance, as intelligently as before. And Peter says she doesn't mind going on in my second volume, if only I won't print it; which is very good of her, when one thinks that the second volume will be American—and never written at all, but only lived, very quietly, under the maples at Yale. I hope she may be found in the last chapter of that one too. Dear Peter!

[THE END.]

Two Points of View.

(From the Century.)

HIS.

When Bidly goes, what rapture fills
My being's core! New luster glows
From hearth and wall and window-sill;
These things get dusted, I suppose,
When Bidly goes.

When Bidly goes the steak is rare;
My morning cup her absence shows;
The kettle laughs, the range fire glows;
The omelette's served without compare;
I kiss the dear cook 'neath the rose,
When Bidly goes.

When Bidly goes, my soul's my own,
My house my castle's plenty flows;
I gain in actual adipose,
My wife's a queen upon her throne,
Dispensing comfort, joy, repose,
When Bidly goes.

When Bidly goes, the sweet old ways
Come back to mock this day of shows—

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

"Our Lady of the Snow's" brief reign is over, and Our Lady of the Sun now wields the scepter. In obedience to the touch of her magic wand, the frost-bound streamlets break from their bondage and rush merrily, sparklingly, rejoicingly on their way, joining their cheery songs to those of our faithful little friends, the birds, and making earth glad with their music. The sleeping flowers awake at the welcome sound, and creeping from their winter home, lift their bright faces skyward in silent gratefulness.

"This earth is full of beauty,
Like other worlds above,
And if we did our duty
It might be full of love."

In the country especially do we realize the beauty of earth. Nature, it is true, is impartial in the distribution of her gifts, but in the town man holds sway, and Nature is crowded almost out of existence. And yet town people pity those who live in the country! A lady writing to a friend of mine said: "I wish you were living here, where your children could have so many advantages that they cannot enjoy in the country." Yes, they could always go dryshod to school, they could frequent theatres (and often see and hear what, alas! is most unprofitable), they could live at a faster rate than on the farm, but at what cost? They

Boiling Water Without Fire.

It is possible to make a pail of water boil without putting it on the fire and without applying external heat to it in any way. In fact, you can make a pail of water boil by simply stirring it with a wooden paddle. The feat was recently performed in the physical laboratory of Johns Hopkins University, in Baltimore, Md., and any one may do it with a little trouble and perseverance.

All you have to do is to place your water in a pail—it may be ice water if necessary—and stir it with a wooden paddle. If you keep at it long enough it will certainly boil. Five hours of constant and rapid stirring are sufficient to perform the feat successfully. The water will, after a time, grow warm, and then it will grow hot—so hot, in fact, that you cannot hold your hand in it—and finally it will boil. Prof. Ames, of Johns Hopkins, annually illustrates some of the phenomena of heat by having one of his students perform the trick in front of his class. It is a tiresome job, but it is perfectly feasible.

The point which Prof. Ames wishes to illustrate is what is known as the mechanical equivalent of heat. It requires just so many foot pounds of work to develop a given quantity of heat. By turning the paddle in the water at a regular speed it is possible to find out just how much work is required to raise the temperature of water one degree. The best measurement so far made, and, in fact, the one which is accepted as the standard of the world, is that which was measured in Johns Hopkins University.



"SECRETS."

The mutual service that love pays,
The thrift, the cheer, the jest, the praise,
The hominess one's walls inclose—
When Bidly goes

But this reflection makes me sad;
Our bliss may end in no one knows
What dolor; for our urgent ad-
Vertisement dogs her flying toes,
When Bidly goes.

HERS.

When Bidly leaves, my courage mounts
To meet the test. The house receives
A scrubbing straight from floor to eaves,
On each neglected spot I pounce,
Split all my nails and spoil a flounce,
When Bidly leaves.

When Bidly leaves, I write "Endure"
Upon heart that swells and heaves;
I dig out corners with a skewer,
While every bone and muscle grieves,
When Bidly leaves.

When Bidly leaves, I joke and smile
And chat, and poor dear John believes
I like it all! Alas! the while
I feel Time gather in his sheaves
Till some new maid my doom relieves,
When Bidly leaves.

When Bidly leaves—ah! there's the rub—
Such webs of work life round me weaves
I do not read, I lose my club,
I dread a call, I loathe each tub
And broom with hate no man conceives,
When Bidly leaves!

would live as do the majority of town-bred youths and maidens—largely for the few so-called pleasures, eagerly grasped as they go fleeting by, and be filled with an insatiable longing for more. This constant round of excitement must have an enervating effect. The votaries of pleasure, like the victims of a drug, become unable to live without it, and in time the beautiful restfulness of home life is sacrificed for it.

The hopeful, buoyant spirit that so gleefully leaves the country, thinking to discover Elysium in the wonderful city, too frequently finds the coveted prize just beyond his grasp. The following is an extract from a letter I recently received from a young friend of mine, whom circumstances compelled to remove from the old home and take up her abode in the city: "The world isn't nearly as good a place as I thought it. Perhaps it seems worse to me because I have always shut my eyes and endeavored to avoid anything coarse or vulgar. The country, too, is purer than the town—oh, so much purer and sweeter! I love the country, and want to move all these miserable human structures from my sight and view again the hills and valleys. Sometimes my eyes fairly ache for an uninterrupted view."

Thus I would advise you who contemplate leaving home to think seriously of what you are about to do—not to overrate the ostensible advantages of the town and overlook the greater ones that surround you in your present situation.

Your loving—UNCLE TOM.

"Secrets."

These two young damsels seem quite oblivious as to the accepted idea that whispering in public is prohibited; but I rather think that they do not consider that pensive-looking young man as "public," from the very open way in which the whispering of "secrets" is carried on! That the "secrets" have something to do with this same young man is also very evident, and his assumed air of unconsciousness would deceive—well, very few! The attitudes are remarkably good, especially that of the youth—so delicately flicking a speck of dust off his hat. He has certainly come to call—perhaps to say something very important—and I wonder to which young lady? There is something in the face of the dark one—a subtle touch of seriousness—which leads one to suppose that she is the bright, particular star of this swain's aspirations. It is difficult to fathom the actual thoughts of these three; but, from the expressions of their faces, I fancy the "secrets" are not of dire intent, and that before very long there will be a wedding!

Tell your "secrets," pretty maiden—
Whisper close into her ear;
These "secrets" are not evil-laden,
So, waiting swain, you need not fear.

"Sure," he thinks, "she'll stay forever—
Such a mischief!" But she's kind,
And does not mean for long to sever
These two hearts that Love doth bind.

Soon she'll say there's something great
That she must do at once—then go—
Ah, then!—but I anticipate—
It's very like—I told you so!



A Queer Little Boy.

There's a queer little boy (so I have been told)
Who is worth every ounce of his weight in gold,
Who always says "Thank you," and "If you please,"
And has never been known to beg or to tease
When his mother said "No, you can't go, my son,
There's work in the garden that has to be done."

For he'd much rather work and study than play,
And he never misses a lesson, they say.
He gets out of bed at the very first call,
So he never is late for breakfast at all.
He knows just where he left his books and his hat,
And his mittens and coat, and ball, and all that.

His smile's just as sweet when the school-bell he hears
As it is when the dinner-bell greets his ears.
He never runs through a house, nor slams a door,
Nor tracks in mud, nor makes trash on the floor.
His face is always most beautifully clean,
And his hands, the like of them never was seen!

Now, what is his name, and where does he dwell—
This queer little boy? I am sure I can't tell.
But if you would know, and will start right away,
And travel straight on without any delay,
Perhaps you will find him; though the truth I declare,
I never could find him myself anywhere.

"Can't You Talk?"

Dear little Jack! He has only lately found out the delights of conversation himself, and can hardly understand why his constant friend and companion does not respond intelligibly to his baby chatter. Yet they understand each other splendidly after all, for love hardly needs words to express itself. Certainly Dandy loves his young master,—you can't doubt it if you look at his dear old friendly face. Baby can talk enough for two, anyway, so there is less need for Dandy to trouble himself with the difficulties of the English language. Oh! he *understands* English well enough, but the words are so hard to pronounce, you know. What a pity some of these clever people who are finding out all sorts of wonderful things cannot learn to understand the language of dogs. However, in the meantime we may safely trust the little ones with their four-footed friends. They will learn no bad habits nor evil words from them; and may, if they are wise enough, learn many lessons of faith and love, of honesty and trustworthiness. C. D.

Making Time.

"I say, Fanny, do come here and play a game with me! Jack's gone off boating; he's a duffer at tennis, anyway, and you're first-rate," said Philip Marsden to his cousin late one summer evening when the twilight was already darkening over the lawn.

"But, Philip, I heard you say when you left the tea-table that you had all your lessons to learn still."

"Oh, stuff!" I'll easily make time before I go to bed."

"Philip," said his mother, an hour later, "what about your lessons; are they learnt?"

"Oh, they're all right, mother; I'm so awfully sleepy I couldn't learn a word now. I'll make time in the morning."

Seven o'clock struck with ringing chime next morning from the little clock on Philip's shelf. He started up in bed at the sound, with the sudden recollection of unprepared lessons. The rain slashed against his window. No sunshine this morning to coax him up and out, to go fishing with Jack, like yesterday. Philip yawned and then laid down again.

"I'll make time, somehow, before school," he muttered, and was soon fast asleep again, the last sound in his ears being the steady tick, tick, of the clock, telling him that the golden moments were passing away.

Now he was standing on the hearth listening to it.

"What a foolish boy you are," said the clock, "to fancy you can get back what you choose to throw away!"

"I didn't throw away anything," said Philip.

"You have thrown away thirty minutes since you went to sleep again this morning," said the clock.

"I can make them up again," answered Philip.

"Impossible," said the clock. "Time has gathered them safely away. He never comes back when he passes by. He cannot give back what he takes. He takes what you have ready to give him and never returns it."

"I want to learn my lessons, and I'll make time for them, I say, by and bye," said Philip, doggedly.

"That is just what you can't do," answered the clock. "Time gives you the moments one by one; he never gives one in place of another. If you don't use each moment as it comes, for its own proper

work, you will be stealing another later on that belongs to something else that should be done, for you can never make time for what you lose. I keep telling you that forever, for that is my work. I never go back or stop for one single tick. If you lose time in idleness you lose it forever."

"It doesn't much matter, anyway," muttered Philip.

"It matters far more than you understand," replied the clock, "for God sends you the hours, not to waste in idleness or wrong-doing, but to be used for Him, and one day He will bid you give an account of how you have used them. If you lost a piece of money you would think it mattered, but you might find the money again. You can't borrow, earn, or 'make' time. It is passing away, slipping out of your hold minute by minute. One moment lost is lost forever and ever. The minutes grow into years. You can't bring back last year, or yesterday, or even the half-hour you are sleeping away now."

"Tick, tick, tick, whirr!" Clear and sharp chimed the half-hour—half past seven.

Philip woke up with a start. Only time to dress for breakfast now! He sat up in bed, and his brows met thoughtfully as his dream came back to him.

"Tick, tick," went the clock. "Time is passing; give it something worth keeping for you."

Philip took, with crimsoning face, a lower place in his class that morning; but one great lesson he had learned—the importance of *time* and the impossibility of "making" it.

Our Children's Manners --- Where are They?

Where are they? This sounds like a perplexing question, yet it seems to me that the answer is not far to find, and may be summed up in very few words. Children are—we all are—creatures of imitation, and, as a general rule, our youngsters will pick up the manners they see and are allowed to



"CAN'T YOU TALK?"

practise at home. It is of little use for a boy or girl to be taught manners at school *only*. (And here let me somewhat digress. At many schools manners are *not* taught, and generally for the simple reason that the teachers themselves have had this widespread disadvantage of seldom or never having paid attention to good manners in their own homes.)

To return: Even if politeness is taught in a school, of what avail is it when the children have simply *no* manners insisted upon by their parents at home? Why should a boy's mother be treated with the outrageous disrespect which one so often sees?

Many people are inclined to say, "Oh, we don't want city airs. Our Jim's not going to be a dude. I guess his manners will do." You are mistaken, my friends, I guess his manners *won't* do when he goes out into the world, but will most materially tell against him, especially in these days of rapidly increasing education and refinement. It is very easy to tell at a glance whether a young fellow has been carefully brought up at home, although there are, of course, unfortunate cases where all the training in the world is wasted; but I am not speaking of exceptions.

Now, for an instance: How few boys take off their caps when they enter the house, for just *politeness* sake! Mothers should insist from early childhood that a boy take off his cap whenever entering a room where she or his sisters are; in fact, where *anybody* is. The habit once formed will not be forgotten. A word now to the girls as well. How often does one see a girl remain seated when introduced to an elder person, or when an elder enters the room, and how many girls fail to jump up and get mother a chair? It is not that mother is not dear to them, nor do they look upon such things as a breach of good manners, but it *is*, and stands out unpleasantly when you come across the opposite behavior in some other young people. I regret to say that these manners often prevail

where one hardly expects them, and, I firmly believe, can be generally traced to the fountain-head of *home* laxity during extreme youth. Politeness is too often confused with formality, and what a mistake this is. I have always found that those sons and daughters who are in the most affectionate and closest companionship with their parents have ever their tenderness accompanied by a deep respect, a loving consideration and politeness which is always a beautiful sight to behold.

In these days of easy access to books and other methods of information there must be few people, even in the remotest country places, who do not know what decent manners are, but if there be any farmers and their wives who have been debarred in their own youth from observing any of these little politenesses of everyday life, always let them remember that "It is never too late to mend" is a wise old saying, and let them try to save their children from sinking into a hopeless roughness and rudeness, which is deplorable, and should have no place amongst our bright young Canadians who have so much to be proud of, and of whom our fair country is so proud. ROBIN.

A Gentleman.

I knew him for a gentleman
By signs that never fail;
His coat was rough and rather worn,
His cheeks were thin and pale—
A lad who had his way to make,
With little time for play;
I knew him for a gentleman
By certain signs to-day.

He met his mother on the street;
Off came his little hat.
My door was shut; he waited there
Until I heard him rap.
He took the bundle from my hand,
And when I dropped my pen,
He sprang to pick it up for me—
This gentleman of ten.

He does not push and crowd along;
His voice is gently pitched;
He does not fling his books about
As if he were bewitched.
He stands aside to let you pass;
He always shuts the door;
He runs on errands willingly
To forge and mill and store.

He thinks of you before himself,
He serves you if he can;
For, in whatever company,
The manners make the man.
At ten or forty, 'tis the same;
The manner tells the tale,
And I discern the gentleman
By signs that never fail.

Neglecting Treasures Near at Hand.

To often we undervalue, and even neglect, the good which is always within reach, just because it is so. It is said that Londoners seldom visit the Tower, St. Paul's Cathedral, or Westminster Abbey. Just because they always can go they never go—unless, perhaps, they have in charge a visitor who wants to see them. So in our social and spiritual surroundings there are neglected possibilities of strength and joy, of which we make nothing because they are so near, so accessible, so cheap, so destitute of the rarity we confuse with worth. The home, for instance, is too often undervalued by those who should find their constant delight in it. God has not given us many better things than the cluster of wholesome relationships and the cheerful and homely fellowship which make up the family. It may be, to one who knows how to value it, the unfailing source of good inspirations, the training school in every virtue, the refuge from the world's distracting agitations, the hospital whither to bring our wounded spirits for healing care. He who sees in it only a convenient sleeping and eating place has failed to learn the first lesson of homely wisdom—to value what lies near at hand and is free to all.

"Take the Safe Path."

"Take the safe path, dear father!
I'm coming after you,"
Rang out in silvery accents
From a dear boy hid from view.
The father climbed a mountain,
Precipitous and wild,
Nor dreamed that in his footsteps
Pressed close his only child.
His heart stood still one moment—
Then rose in prayer to God
To keep his boy from slipping
In the path his feet had trod;
And soon upon the summit
His darling child he pressed,
With rapture all unspoken,
Unto his throbbing breast.

"Take the safe path, dear father!"
Rings clearly out to-day
From many a little pilgrim
Upon life's rugged way.
They're pressing close behind you,
Oh, fathers, take good heed;
Their lives will closely copy
Your own, in word and deed.
"Take the safe path," ye fathers,
Nor ever dare to sip
The cup that seems so tempting
To many a youthful lip—
Oh, choose the path of virtue,
Then, if they follow you,
Your children's lives will also
Be noble, grand and true.

THE QUIET HOUR.

Easter.

Christ is risen! Rejoice and sing! Over the earth let your voices ring; Lend to the anthem volume and might. Breaketh the morning. Past is the night. Christ the lamb that for us was slain, Lo, He was dead, but now liveth again. Nation with nation unite in the song. Gather the tidings and bear them along; Let every creature that liveth now say: Christ our salvation is risen to-day. Christ, Who this world from sin hath freed, Christ the Lord is now risen indeed. -H. O. F.

"He That Liveth, and Was Dead."

Again the great resurrection season is here, and all things seem to echo the words of their King: "I am He that liveth, and was dead." Each Sunday reminds us of that first joyous Easter, "the first day of the week," for "Sundays by thee more glorious break, An Easter Day in every week."

Every day seems also to bear its witness to the power of life over death, light over darkness. We wake each morning, fresh and vigorous, from an unconsciousness which is the type and image of death. But, more than anything else, the spring-time brings always most direct and undoubted witness to the truth of the Resurrection, and one can hardly see "the trees and plants in spring" without being forcibly reminded of it.

Too often we think and act as though the gospel story had stopped with the Cross, and as though the Easter message had no interest for us. If it had been so, then indeed that first Good Friday would have been "the darkest day that ever dawned on sinful earth." If hate had proved itself stronger than love, if death had won the victory over life, if darkness had blotted out the light of the world, we should have had just cause for despair.

And yet how many who look to Christ for salvation, believing with all their hearts that He died for them, seem to overlook the gladness of the message that "He liveth." He was dead indeed, but the brightness of His resurrection—the rising of the Sun of Righteousness—blots out the darkness of the night. He died for us, but our grateful remembrance of that great sacrifice should not make us overlook the fact that He lives. We may, like Mary Magdalene, be so blinded by tears of love and sorrow, that we fail to recognize the living Presence waiting so near us. Perhaps you may say, "We do indeed believe in the Resurrection of Christ." But is it only a belief of the mind, or does it affect the whole life? Think a moment. Are you careful and troubled about many things? Are you anxious and worried about your worldly affairs? If you are, does it not seem as though you did not really believe that He liveth: watching over your life, perfectly able and certainly intending to make all things work together for your good? Remember the maxim: "Do the best you can, leave results to God." Every time you let your peace be broken by anxious, troubled care for the future, you are proving that your faith in His love and power is very weak indeed. More than this, you may shake the faith of others who look up to you and are trying to follow your example.

"No anxious thought upon thy brow The watching world should see; No carefulness! O child of God, For nothing careful be! But cast thou all thy care on Him Who always cares for thee."

If things look dark before you remember that He liveth, and though He may test and strengthen your faith by trial, He can surely be trusted to give only what is best to His friends and disciples. If danger threatens you or those you love, remember He liveth Who can quench the violence of fire, calm the angry waves, heal the sick, and even raise the dead.

Is it not because fear springs from unbelief that we find "the fearful and unbelieving" ranked together in the Bible? We are commanded to "rejoice in the Lord always"; and good reasons for rejoicing are given in the words, "I am he that liveth," and "Lo, I am with you always."

Remember, then, you who profess to be His disciples, that melancholy, gloom, anxiety for the future, are plain, open proofs of want of confidence in your Master. If He can be trusted with the welfare of your souls, surely He can also be trusted with the less important earthly matters which cause you so much anxiety. You have explicit orders to "be careful for nothing; but in everything by prayer and supplication, with thanksgiving, let your requests be made known unto God." See that the thanksgiving is never neglected. And now let us contrast the desolation of "the man that trusteth in man" with the blessedness of "the man that trusteth in the Lord."

The prophet Jeremiah says of the former: "He shall be like the heath in the desert and shall not see when good cometh; but shall inhabit the parched places in the wilderness, in a salt land and not inhabited." While of the latter he says: "He shall be as a tree planted by the waters, and that spreadeth out her roots by the river, and shall not see when heat cometh, but her leaf shall be green; and shall not be careful in the year of drought, neither shall she cease from yielding fruit."

Will you then do your planting in this desert of salt or beside the river of the water of life? I speak to farmers! Surely, in such a choice of location advice is hardly necessary. D. F.

Bachelor's Life in Manitoba.

Frying and baking till I'm nearly mad, Patching and darning is twice as bad; Working all day—cold just a fright, Bitten half to death with Jack Frost at night.

Washing days come about once in thirty—I should remark if the clothes weren't dirty; 'Twould take a twenty-horse power machine To make the shirt sleeves or the socks look half clean.

This is "toughing it" in the "Great Northwest." When at home we all thought it a land doubly blest; I'll be blest, however, if the reality seems Just to come up to those flowery old dreams.

We soon wakened up when but on the prairie, A woman may brighten and cook in our home. We just had to tackle bannocks and bacon— If you think that's good grub you are greatly mistaken.

When tired of bannocks we fry flapjacks instead, And the first meal of them you'll remember till dead; For if prairie life didn't make good our digestion Such diet then would be out of the question.

However, of game there is always abundance, And good land to cultivate stretches around us; So we'll just make the best of our humble lot— For a strong, healthy chap this is just the spot.

So we'll brace up and hope that in years to come A woman may brighten and cook in our home. So now, my old schoolmates, to you I have shown; So, if you are thinking of leaving your home, Pack up your old duds, bid good-bye to your ma, And try your luck baching in Manitoba.

West Hall, Man. -W. E. Robbins.

In her fine poem on "Spring," which we believe was first in competition for a prize of considerable pecuniary value, offered by an adventurous Chicago newspaper for the best original spring poem, Mrs. Blewett touches perhaps her highest point. The following extracts from it will show its quality. It first describes winter:

O, the frozen valley and frozen hill make a coffin wide and deep, And the dead river lies, all its laughter stilled, within it, fast asleep.

The trees that have played with the merry thing and freighted its breast with leaves, Give never a murmur or sigh of woe: they are dead—no dead thing grieves.

Then the gladsome coming of the renaissance is indicated:

Spring, with all love and all dear delights pulsing in every vein, The old earth knows her, and thrills to her touch as she claims her own again.

Spring, with the hyacinths filling her cap and the violet seeds in her hair, With the crocus hiding its satin head in her bosom warm and fair:

Spring, with its daffodils at her feet and pansies a-bloom in her eyes, Spring, with enough of the God in herself to make the dead to arise!

For see, as she bends o'er the coffin deep—the frozen valley and hill, The dead river stirs. Ah, that lingering kiss is making its heart to thrill!

And then, as she closer and closer leans, it slips from its snowy shroud, Frightened a moment, then rushing away, calling and laughing aloud!

The hill where she rested is all a-bloom, the wood is green as of old, And awakened birds are striving to send their songs to the Gates of Gold.

Leslie Keith, the Scotch litterateur, who was visiting Ireland in the fifties, saw the most squalid-looking beggar he had ever encountered, sitting with his back to the wall. Unlike his compatriots, this man was strangely silent, so Keith asked him if he were begging. "Of course it's begging I am," the man replied. "But you do not utter a word," said Keith. "Arrah, is it jokin' yer honner is wid me?" said the beggar. "Look here," and he lifted up the tattered remnant of what had once been a coat; "don't yez see how the skin is spakin' through the holes of me clothes and the bones cryin' out through me skin? Look at the sunken cheeks and the famine that's starin' in me eyes! Man alive, isn't it beggin' I am with a hundred tongues?"

The Dear Girl—"This custom of throwing rice at a newly-wedded couple is so idiotic." The Savage Bachelor "Well, rather. Mush would be much more appropriate."

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October. For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c; 3rd, 50c.

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1-LETTER RIDDLES.

- (1) Why is the letter S dangerous to put on the head of one of your parents?
(2) Why is the letter D calculated to cause much merriment?
(3) Put my tail onto my head and turn a prominent island into a baby animal.
(4) Add a letter to an animal and leave a remedy.

SIMPLE SIMON.

2-COMPOUND SUBTRACTION.

The following question is quite possible of solution, and yet the usual method does not seem to apply: From 137 acres, 3 rods, 26 rods, 6 feet, 101 inches, subtract 137 acres, 3 rods, 25 rods, 30 yards, 8 feet, 136 inches. "OGMA."

3-TRIPLE ACROSTIC.

1, A boy's name; 2, denoting surprise; 3, barren; 4, a democrat; 5, clear; 6, a vowel, an article, and an exclamation; 7, an author. Primals and finals, the name of a popular American author. Centrals down and across spell the same. "DICK."

4-HOURLASS.

1, Hoarseness; 2, pertaining to vision; 3, a girl's name; 4, a vowel; 5, a party; 6, renown; 7, a bigot. Diagonals from right, "blooming;" from left, "called." "DICK."

5-SQUARE WORD.

1, A folding door; 2, a vowel, and judge; 3, reclined; 4, a neighborhood; 5, to come in. M. N.

6-SQUARE.

1, An expounder; 2, a bird; 3, a timber over a door; 4, given by vow; 5, a number; 6, to become less severe. "OGMA."

7-PUZZLE.

- (1) 100,—50,—R,—1000,— A river in
(2) United States.
(3) 1000,—10000,1,n,1,— What Canada is.
(4) 50,—n,—R,— A county of Ontario.
(5) 1000,—,—H,—10000. A county of England.
(6) 10000,—,—n,—R,—,—50. Canadian city. M. A. A.

8-ADDED LETTERS.

Add a letter to a body of water and get a sort of fur.
" a fondling and get a small, delicate person.
" received and get taste or relish.
" help and get an incursion.
" a kind of fish and get a useful household article.
" a boy's nickname and get a companion.
" a body and get a mark.
The added letters spell the name of a genial public man. "ARRY AWKINS."

9-DOUBLE ACROSTIC.

1, The name given to free cities under the old German constitution; 2, witchcraft among negroes; 3, an English process; 4, a measure of time; 5, a weight; 6, a Chinese coin; 7, a prince; 8, disbelief; 9, a two-wheeled rig; 10, an oil obtained from the bitter orange; 11, the chief seat of government in India. Initials spell a noted poet; finals, one of his poems. PETER HYDE.

10-SQUARE DIAMOND.

(Down and across spell the same.)
1, Drudgery; 2, at one time and a consonant; 3, a piece of ice; 4, a reading; 5, rebukes; 6, formerly (curtailed); 7, a vowel. "DICKENS."

11-OBLIQUE.

Diagram.
. 1, A consonant.
. 2, Total.
. 3, A collection of ships.
. 4, To gain skill.
. 5, Cars.
. 6, Prettier.
. 7, A drink.
. 8, Red.
. 9, A pigpen.
. 10, A letter. "DICKENS."

12-ANIMALS.

- 1, h-m-s. 6, a-i.
2, d-r-u-e. 7, w-a-e.
3, e-r-t. 8, -l-c-t.
4, a-e-l-e. 9, e-e-a-t.
5, l-m-i-g. 10, m-r-n. "UNA."

13-DOUBLE ACROSTIC.

1, A pronoun; 2, eatable; 3, sound; 4, honorable; 5, Christmas. Primals and finals spell the name of a prizewinner of our Corner. "UNA."

14-MUDDLED AUTHORS.

Aacekthry, Iecodrgle, Ecellrwrth, Oeniglw, Aallihnt, Rec euha. PETER HYDE.

Answers to March 1st Puzzles.

- 1-Parable. First three changes=Elba, able, Abel; second =rap, par.
2-A r a r a t
r e v e r e
a v a t a r
r e t i r e
a r a r a t
t e r e t s
3-Candidate.
4-Frog.
5-g r e a s e
c a r i n g
t e e t e r
a g a t e s
e m a n e s
e t w e e s
6- p
o r k n e t
p r a e m e t a l
k a n o t a t
m o d e l
d o t e n e w
m o r a l e m o n
t a g w o n
l n
9-m o h a m m e d a n
7-A cricket.
r e l i e v e s
8-May-flower.
r e t a i n
s e l l
10-We hold a vaster empire than has been.

11-Time and tide wait for no man. It is never too late to mend. Cut your coat according to the cloth. Let well enough alone. The more haste the less speed. Where there's a will there's a way. If you wish a thing done, go; if not, send. One good turn deserves another.
12-Dianthus, larkspur, mignonette, nasturtium, petunia, salpiglossis, calliopsis, candytuft, chrysanthemum.
13-A needle.

SOLVERS TO MARCH 1ST PUZZLES.

"Ena."
ADDITIONAL SOLVERS TO FEBRUARY 15:11 PUZZLES.
Lizzie Conner, J. McLean, Jessie Hyde, Peter Hyde, Dickens, Addie E. Todd.

COUSINLY CHAT.

L. C.—I hope you will get the prize, and I also hope that we may have some very good stories sent in.
"Dickens."—Yours is not a fair question—you will soon know the result. Keep trying.
Barclay.—The prizes are given for the most and best during the quarter.
"Barney."—Your puzzle is not quite suitable. Try again.

The first requirement for success on the greater number of Canadian farms is the undertraining of land.



THE LARIMER DITCHING PLOUGH

(Patented in Ottawa for Canada, and in Washington for the U.S.) is the most reasonable in price, and at the same time the most durable and serviceable drain plough manufactured.

R. G. SCOTT, Martintown, Ont. "Mount Joy Farm."

FIFTH ANNUAL Canadian Horse Show

UNDER THE JOINT AUSPICES OF The Canadian Horse Breeders' Ass'n AND The Country and Hunt Club of Toronto TO BE HELD IN

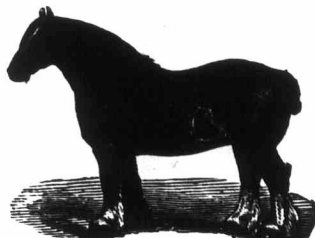
THE ARMOURIES TORONTO, CANADA.

on Thursday, Friday and Saturday, April 13th, 14th and 15th, 1899

ENTRIES CLOSE on Wednesday, March 30th, 1899, and should be addressed to HENRY WADE, Parliament Buildings, on TORONTO, ONT.

FOR SALE... IMPORTED AND CANADIAN-BRED Clydesdale Stallions

From One to Four Years Old. Also



SEVERAL THREE YEAR OLD

All registered and warranted sound. Inspection invited.

ROBT. DAVIES, Thorncliffe Stock Farm, TORONTO.

DO YOU WANT TO BUY A CLYDESDALE

Stallion, Brood Mare, or Filly?

If so, it will be to your interest to correspond with us. We have them of all ages and of the best breeding strains.

I. DEVITT & SONS, FREEMAN P.O. Farm quarter mile from Burlington Station, G. T. R.; nine miles from Hamilton, C. P. R.

One Imp. Clydesdale Stallion For Sale!

3 YEARS OLD IN JUNE. Large, Quality Good, and Breeding Right. For particulars apply to

JNO. DAVIDSON, ASHBURN, ONT. Station: Myrtle, C. P. R. or G. T. R.

PURE SEED POTATOES. PEARL OF SAVOY.

This variety has stood highest in late experiments at O.A.C. Our sample is good. Price, \$1.15 per bag of 90 lbs., F.O.B. cars.

JAS. L. SIMPSON, West End Road, GUELPH.

CLYDESDALES, HACKNEYS, COACH HORSES.

Alex. Galbraith, JAMESVILLE, WISCONSIN.

OFFERS A SPLENDID SELECTION OF EACH BREED AT PRICES TO SUIT THE TIMES.

His Clydesdales are an extra choice lot, possessing great substance and weight, with excellent quality, and of the most fashionable breeding.

FOR SALE: Nine Clydesdale Stallions

Just landed from Scotland; also a few imp. and home-bred Shorthorn females.

JOHN ISAAC, KINELLAR LODGE, MARKHAM, ONT.

CLYDESDALES, AYRSHIRES and POULTRY.

We are now offering a limited number of imported stallions and mares, and booking orders for young Ayrshires from our show cows.

JAS. HENDERSON, BELTON, ONT. Station, G. T. R.

Seven Imported Clydesdale Stallions

Four just landed, two winners at Royal Northern Show, 1898. For particulars address

GEORGE ISAAC, BOMANTON, ONT. Cobourg Station, G. T. R.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898.

Blue Ribbon = 17095 = and the famous Moneyfuffel Lad = 20521 =. High-class Shorthorns of all ages for sale. Also prize-winning Lincolns.

T. E. ROBSON, Ilderton, Ont.

F. BONNYCASTLE & SONS

BREEDERS OF Shorthorns, Cotswolds, and BERKSHIRES.

offer for sale 7 bull calves from 1 to 5 months old, also heifers and heifer calves.

ROBERT MILLER, STOUFFVILLE, ONT. Importer and Breeder of

Shorthorns and Shropshires

Offers young bulls and heifers, rams and ewes of the most approved breeding and finest quality, at moderate prices.

W. G. PETTIT & SON, FREEMAN P. O., Burlington Junction, Ont. Telegraph Office.

10 SHORTHORN BULLS 10

By Indian Statesman = 23004 =, from 10 to 20 months. Twelve young cows or heifers with calves by side or in calf.

SCOTCH SHORTHORN BULLS AND HEIFERS HERD ESTABLISHED IN 1872.

Such sires as imported Royal George and imported Warfare have put us where we are.

A. & D. BROWN, ELGIN COUNTY, IONA, ONTARIO.

Springhurst Shorthorns.

Half a dozen young bulls, and as many heifers and young cows, of best Scotch breeding and first-class quality, now for sale.

H. SMITH, HAY, ONT. Exeter Station, G. T. R., half mile from farm.

Maple Lodge Stock Farm

SHORTHORNS.-- Imported Knuckle Duster, and the great sire and show bull, Abbottsford, in service.

FOR SALE! Three Choice Young BULLS, Red and roans. Imported Prince Minister heads my herd.

J. M. GARDHOUSE, HIGHFIELD, ONT.

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

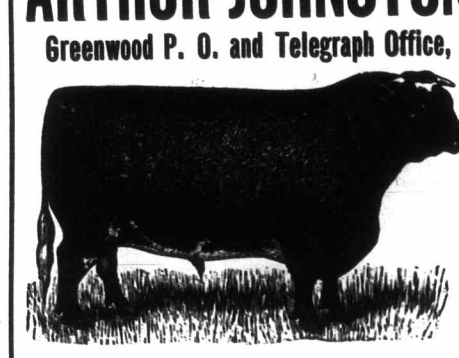


TEN CHOICE SHORTHORN BULLS

from seven to twelve months, FIFTEEN COWS AND HEIFERS,

served by imported bull, Golden Fame = 20556 =; also, a few cows with calves at foot. Farm 6 miles from Hamilton.

ARTHUR JOHNSTON Greenwood P. O. and Telegraph Office,



SHORTHORN BULLS

4 young imported and 8 home-bred Shorthorn Bulls big, good and in fine form.

together 25 home-bred Cows and Heifers. All of which will be sold at moderate prices.

Claremont Station, C. P. R. Pickering Station, G. T. R.

SHORTHORNS OF THE

Crimson Flower and Minnie Strains



And from such sires as Scotchman 2nd, Duke of Lander, Premier Earl, Indian Chief, and Clan Campbell. A few splendid young bulls ready now.

DAVID BIRRELL, Greenwood, Ont.

Scotch Shorthorns For Sale:

90 HEAD TO SELECT FROM. We are offering four young bulls by Valkyrie, and a number of cows and heifers.

T. DOUGLAS & SONS, Strathroy Station and P. O.

"MAPLE SHADE"

WE OFFER AT REASONABLE PRICES 6--Massive Shorthorn Bulls--6

FROM 7 TO 12 MONTHS OLD. Form, Flesh, Substance, Pedigree.... All Right.

John Dryden, BROOKLIN, ONT.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Baron Blanc 11th at head of herd. Seven young bulls for sale--good ones. Also a few females.

J. T. GIBSON, DENFIELD, ONT.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

FOR SALE: One young bull, a great grandson of 2nd Fair Maid of Hullett. 9017 =, the Chicago dairy best cow a good one. Price right.

Wm. Granger & Son, Lonsdale, Ont.

Ten Shorthorn Bulls FOR SALE,

Seven red and three roan, from 10 to 18 months old. In a herd of 95 head, no white calves since 1892.

THE HERD HAS PRODUCED such bulls as Topman, Banker, Lord Stanley, and Moneyfuffel Lad, all of them

1ST PRIZE and SWEEPSTAKE WINNERS at the principal shows of Canada and the United States. Also, three 1st prize herds out of five at Chicago, 1893.

A Yonge street trolley car leaves the Union Station, Toronto, to C. P. R. crossing, north Toronto; a car leaves here for Richmond Hill, four times a day, passes the farm.

J. & W. RUSSELL, RICHMOND HILL, ONT.

MOUNT ROSE STOCK FARM

Young Shorthorn bulls, heifers and cows for sale. Prices right.

J. W. Hartman & Sons, Elmledge P. O., Ont.

SHORTHORNS 9 BULLS, 4 HEIFERS,

Mostly Scotch-bred, and got by such bulls as Kinellar Sort (imp.), Northern Light (imp.), Prince and Prince Bismarck. Prices right. Correspondence Solicited, and Visitors Welcome.

G. A. BRODIE, Stouffville Stn., G. T. R. BETHESDA, ONT.

FITZGERALD BROS., Mt. St. Louis, P. O.

Offer for sale six Short-horn Bulls from 9 to 14 months old; also 2-year-old roan bull, St. Louis = 2418 =, a Morton-bred bull with exceptionally grand pedigree.

Offer for sale six Short-horn Bulls from 9 to 14 months old; also 2-year-old roan bull, St. Louis = 2418 =, a Morton-bred bull with exceptionally grand pedigree.

Statesman (63729) = 20833 =, now at head of our herd. Hillsdale Telegraph Office; Elmville Station, G. T. R.

SHORTHORNS FOR SALE

HERD ESTABLISHED 1855. A number of Young Bulls, Cows and Heifers for sale. Herd headed by Imported Christopher = =, and Duncan Stanley = 16364 =. Grand milking cows in herd.

JAMES DOUGLAS, CALEDONIA, ONT.

SPRINGFIELD FARM

HERD OF Shorthorns, Oxfords, AND BERKSHIRES.

Young bulls and heifers on hand. Also a few choice Berkshires.

CHAS. RANKIN, Wyebridge, Ont. SIMCOE CO.

SCOTCH-TOPPED SHORTHORNS.

An offering five young bulls, four of which are by Guardsman, the sire of St. Valentine, champion for three years in succession in the United States.

JOHN GARDHOUSE, HIGHFIELD, ONT. Weston Station, G. T. R. and C. P. R.

4 - SHORTHORN BULLS - 4

SCOTCH BREEDING. Good growthy ones from 5 to 15 months. Also one coming 3 years. Would spare a few heifers. Prices very moderate. Write--

SHORE BROS., White Oak, Ont.

SHORTHORN BULLS

From 10 to 14 months old, also 4-year-old bull, Elvira's Saxon 21064. Breeding and quality first-class.

R. MITCHELL & SON, Burlington Station. Nelson, Ont.

SHORTHORNS

For Sale: THREE CHOICE YOUNG BULLS. Also, heifers and young cows.

R. CORLEY, BELGRAVE, ONT.

SPRINGBANK FARM.

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.

JAS. TOLTON, WALKERTON, ONT.

TROUT RUN STOCK FARM.

Ayrshire herd now headed by Royal Star of St. Anne's 7916, 1st prize two-year-old at Toronto, 1st and diploma at London, 1898. Will now sell grand stock bull, bred by D. Morton, Hamilton, direct from imported stock; 1 yearling bull, 1 bull calf, cows and heifer calves.

WM. THORN, LYNEDOCH, ONT.

AYRSHIRE BULL FOR SALE.

Bull 10 mos. old; sire Neidpath Chief = 2142 =; dam Convey = 2683 =, by Castle Douglas (imp.) = 1126 =. Pigs, pure-bred, 6 mos. old, either sex.

GEORGE HILL, DELAWARE, ONT.

AYRSHIRES AND YORKSHIRES.

Several CALVES of either sex, young mostly light-colored. Females, any age. All of which are of the choicest breeding...

Six-Young Ayrshire Bulls-Six FOR SALE!

From eight to ten months old; all imported in dam, and all from good herds. Will sell them right. Address ROBT. HUNTER...

WM. WYLIE, 228 BLEURY ST., MON-TREAL, OR HOWICK, P.G.

Breeder of high-class Ayrshires. Young stock always for sale; bred from the choicest strains procurable...

CHOICE AYRSHIRE BULLS FROM IMPORTED STOCK.

Two bulls 12 and 13 months old, from imported cows and by imported bull, also three (3) bull calves from 2 to 6 months.

MAPLE Dairy and Stock Farm.

Three young bulls fit for service, and bull calves. AYRSHIRES, BERKSHIRES, TAMWORTHS. Booking orders for spring litters.

MEADOWSIDE FARM, J. YULL & SONS, Props., Carleton Place.

Breeders of high-class, deep-milking Ayrshires. Sweepstakes young herd at Ottawa. Shropshire and Barred Plymouth Rocks.

Ayrshire Cattle and Berkshire Pigs.

The bull Tom Brown and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd.

DONALD CUMMING, LANCASTER.

6 AYRSHIRE BULLS from 7 to 10 months old.

By Douglas of Loudoun 1384, and out of descendants of imported Red Rose.

INGLESIDE HEREFORDS.

UP-TO-DATE HERD OF CANADA! TAMWORTHS Orders booked for Spring Pigs.

H. D. SMITH, COMPTON, QUE.

Willow Grove Herd of Jerseys

Offering: Eight females, to calves short by three bulls, out of tested cows; four heifer calves. Prices right. Come and see them.

J. H. SMITH & SON, HIGHFIELD, ONT.

FOR SALE Jersey Bulls and a few young cows.

Some choice Jersey Bulls and a few young cows, quality considered. Also eggs from B. P. Rocks and Blk. Minorcas in season.

W. W. EVERITT, CHATHAM, ONT.

Apply to William Suhring, Sebringville, Ont.

4 HOLSTEIN-FRIESIAN BULLS from 9 to 12 months old, of choice breeding.

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4 HOLSTEIN-FRIESIAN BULLS from 9 to 12 months old, of choice breeding.

Apply to William Suhring, Sebringville, Ont.

Jersey Cattle

THAT WILL PUT MONEY IN YOUR POCKET.

Mrs. E. M. Jones, Box 324, BROCKVILLE, ONT., CAN.

Deschenes Jersey Herd.

HEADED BY IDA'S RIOTER OF ST. LAMBERT 17570. 4 young bulls fit for service—registered. Also Tamworth swine from a diploma herd, Canada Central Fair, Ottawa, 1898.

R. & W. CONROY, DESCHENES MILLS, QUEBEC.

S. WICKS & SONS MOUNT DENNIS, ONT.

OFFER YOUNG Jersey Stock OF BOTH SEXES.

In POULTRY we have B. P. Rocks, Blk. Minorcas, G. and Silver Dorkings, Andalusians, Blk. and Buff Orpingtons, Bronze Turkeys, Rouen and Indian Runner Ducks, as well as Games of all kinds.

BRAMPTON JERSEY HERD.

Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves; 9 choice young bulls. High-grade cows in calf; and Berkshires.

B. H. Bull & Son, BRAMPTON.

FOREST HERD OF JERSEYS.

High-class individuals, richly bred in the blood of noted performers of the St. Lambert and Tennessee blood, such as Signal's Lilly Flag (1,047 lbs. butter in a year), Bisson's Belle (1,028 lbs.), Landseer's Fancy (936 lbs. 14 ozs.), Ooman (22 lbs. 2 ozs. in 7 days), Ida of St. Lambert (30 lbs. 2 ozs.).

Cows, Heifers in Calf, Heifer for Sale at fair prices. Come and see, or write—H. FRALEIGH, FOREST, ONT.

HANDSOME A. J. C. C. BULL CALF

Dropped 8th Sept. (1898); sire Jubilee Rover, dam Matrina of St. Lambert. Also, 4 choice young Berkshire sows pigs.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lambert's), out of tested cows. Grand individuals. Prices right.

NORTH HASTINGS HOLSTEIN HERD

Contains blood of De Kol 2nd, Pauline Paul, Pieterje Hartog, Mechtildie, Inka, and Korndyke strains. Headed by a son of Manor De Kol.

Now Offering Korndyke Queen De Kol's Butterboy (dropped July 15th, '98), by De Kol 2nd's Butterboy 2nd, and out of a sister of Korndyke Queen (23 lbs. 7.76 oz. butter and 518 lbs. milk, official test).

J. A. CASKEY, Madoc, Ont., N. Hastings Co.

MAPLE HILL HOLSTEIN-FRIESIANS

BULL CALVES from Queen DeKol 2nd, winner of Prince of Wales prize over heifers of all breeds in public test; Lady Akkrum 2nd, 67 lbs. milk in one day and 21 lbs. butter in a week; Kaatje DeBoer, 63 lbs. milk and 3 lbs. butter per day at 14 years old; Marcena, 57 lbs. milk per day at 14 years old; Daisy Teake, dam of Daisy Teake's Queen, the great test winner, finest cow I ever saw.

G. W. CLEMONS, ST. GEORGE, ONT.

HAVEN'T YOU SEEN Our Advertisement?

There is no quarantine law, and now is the opportunity for you to get the best Holsteins there are in the U. S. Our herd is near the Canadian line. Expense of transportation is small. We have 100 head (90 per cent. of them are strong in the blood of De Kol 2nd and Netherland Hengerveld, the two greatest butter cows ever officially tested. We have a few bulls, sired by De Kol Artis, twelve months old, and ready for service; also females of all ages. Prices reasonable, terms easy. Address—Henry Stevens & Sons, Laona, N. Y.

Brookbank Holstein Herd

50 CHAMPIONS FOR MILK AND BUTTER. 50 A number of desirable young BULLS on hand, from one to eight months old, from our great milkers. Write for just what you want. Females of all ages.

A. & G. RICE, Currie's Crossing, Oxford County, Ontario.

HOLSTEIN-FRIESIAN BULLS

of the very richest milk and butter breeding, from 3 to 11 months old, for sale. Also, Eggs for hatching from a grand pen of B. P. Rocks at \$1.00 per 15 from Rouen Ducks at \$1 per H. Satisfaction guaranteed.

H. BOLLERT, CASSEL, ONT.

4 HOLSTEIN-FRIESIAN BULLS from 9 to 12 months old, of choice breeding.

Apply to William Suhring, Sebringville, Ont.

"GEM HOLSTEIN HERD." STOCK FOR SALE

We only keep and breed registered Holstein-Friesians. We have now some choice young bulls and heifers, also some older animals, all of the very best dairy quality, that we will sell, one or more at a time, on reasonable terms. Correspondence solicited.

ELLIS BROS., Bedford Park P. O., Ont. 7-y-om Shipping Station, Toronto.

GUERNSEYS Two Choice Bull Calves AND Five Heifers for Sale.

Tamworth and Berkshire Pigs. W. H. & C. H. McNish, LYN, ONT.

GUERNSEYS.

This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.

Address—SYDNEY FISHER, 17-y-0 ALVA FARM, KNOWLTON, P. G.

EUROPEAN ADVERTISEMENTS.

Hampshire Down Sheep.

GREAT ENGLISH PEDIGREE SALES, July, August, and September, 1899

WATERS & RAWLENCE, SALISBURY, ENGLAND.

Will sell by auction during the season upwards of 50,000 PURE-BRED EWES, LAMBS, RAMS

Including both Rams and Ewes from the best Registered Priding Flocks in the country. Commissions carefully executed. Address: WATERS & RAWLENCE, SALISBURY, ENGLAND.

HENRY DUDDING, RIBY GROVE, GREAT GRIMSBY, LINCOLNSHIRE, has always for inspection and sale from the largest and most noted flock of pure Lincoln Longwool Sheep in the country, both Rams and Ewes of all ages. Representative specimens from this flock have secured for many prizes; whilst they have also at both the Paris Exhibitions, Vienna, Amsterdam, Chicago, Palermo, secured champion awards, and at all the leading shows in Australia, New Zealand, Canada, and the States, Riby sheep and their descendants have secured the highest honors. Wool is a leading feature in the flock, its quality being amply testified by the fact that wherever exhibited it has each time secured the premium prize, including that at Windsor in 1889. The present prize including that at Windsor in 1889. A grand selection of yearling and other sheep on offer, sired by the most carefully selected sires obtainable, in which are contained all the best strains of the present day. Telegrams: "Dudding, Keelby."

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire.

breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1783, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 20 ram, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Bilingborough, G. N. R.

W. W. Chapman, Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepote, London.

SHEEP BREEDERS' ASSOCIATIONS.

American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana.

SHEEP MEN!

MILLER'S TICK DESTROYER KILLS TICKS

Eggs and all; frees the hide of them; improves the wool; easy to use. A 35c. tin does 20 sheep.

30 YEARS' REPUTATION. Still made by the old firm of HUGH MILLER & CO., 167 KING ST. E., TORONTO.

SCABBY SHEEP. \$50.00 REWARD

To any party who can produce a scabby sheep which the Lincoln Dip will not cure Write for particulars. Lincoln Sheep Dip Co. 855 Elliott St. Bldg. Buffalo, N. Y.

Canadian Office: WEST CHEMICAL COMPANY, 15 Queen Street East, Toronto

SHROPSHIRE

FOR SALE: 30--Ram and Ewe Lambs--30 Mostly sired by the imp. ram Newton Stamp 99631. A prizewinner at Toronto in 1897.

GEORGE HINDMARSH, AILSA CRAIG, ONT.

HILL HOME FLOCK of SHROPSHIRE

At Hill Home are a few of the best rams and ewes and ewe lambs that money can buy. Write for prices before you buy.

D. G. GANTON, SIMCOE COUNTY. SAURIN P. O.

SHROPSHIRE RAMS

One three-shear Mansell-bred sheep, extra well covered; also 35 ram lambs. We import and breed only the best.

J. P. PHIN, Hespeler, Ont.

SMITH EVANS, GOUROCK, ONT.

Breeder and importer of registered Oxford Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited.

6-1-y-0

YORKSHIRES. 6 - BOARS READY FOR SERVICE - 6

In-pig sows—bred to bear 12 lately imported by J. E. Brethour. 12 A large number of young boars and sows on hand, and 20 sows to farrow this spring. My stock contains the noted Marian blood—the prizewinners.

E. DOOL, HARTINGTON, ONT.

Yorkshires, Holsteins, Cotswolds

Boars and sows not akin for sale, of the bacon type. Thoroughbred and high-grade Holsteins, also a three-sheared ram for sale.

R. HONEY, WARKWORTH, ONT.

W. R. BOWMAN, MT. FOREST, ONT.

Offers York- and Berk Boars and Sows, weighing from 30 to 40 pounds, at \$5 each, registered; a few boars weighing from 200 to 300 pounds, at \$12 to \$14 each. All stock shipped C. O. D. We will have a limited number of Shrop- and Suffolk Ram and Ewe Lambs to offer, also a few shearings. A choice Jersey Bull for \$25. Five settings of Barred Rock Eggs for \$2; single setting, 75c.

Thorncroft Herd of Improved Yorkshires

Choice pigs, February and March litters. One extra good boar eleven months old. All bred from Featherston and Brethour stock. Prices very reasonable. Eggs from ten varieties pure-bred poultry, \$2 per setting; 3 settings, \$5.

WM. C. WILSON & SON, EAST ORO, ONT.

Yorkshires and Berkshires.

YORKSHIRE boars fit for service, extra quality; boars and sows from two to four months old, not akin. Berkshire sows safe in pig of the right bacon type. Booking orders for spring pigs, both breeds, from prizewinners. Barred Plymouth Rock eggs, \$1 for 13; \$1.75 for 26. Write

JAMES A. RUSSELL, Precious Corners, Ont.

MEN!



DESTROYER

improves the sheep; improves the flock; improves the wool; improves the mutton.

ABBYY SHEEP.

any party who can produce a scabby sheep which will not die in the dip will not be paid for it.

HIRES

Lambs--30 Newton Stamp 99631 into in 1897.

SHROPSHIRE

the best rams and ewes can buy.

E RAMS

sheep, extra well bred. We import and sell.

IS, GOURCOK, ONT.

WOMAN, ONT.

WOMAN, ONT.

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HIGHEST TYPE OF BACON HOGS. Oak Lodge Herd of Large Yorkshires. The largest herd of pure-bred Yorkshires in America.

PINE GROVE FARM HERD OF LARGE YORKSHIRES. Imported and Canadian herd, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America.

FOR SALE... A CHOICE LOT OF LARGE Yorkshire SOWS in pig to a show boar; also boars fit for service, and fall pigs of good length and quality.

LARGE ENGLISH BERKSHIRES. Herd headed by four first prize stock boars of large size, strong bone and fine quality.

W. H. SPENCER, GUILDS P. O., ONT. Blenheim Station or Ridgetown.

LARGE ENGLISH BERKSHIRES. IF YOU WANT ORDER A PAIR MONEY-MAKERS FROM US.

J. J. Ferguson, Box 373 Smith's Falls, Ont.

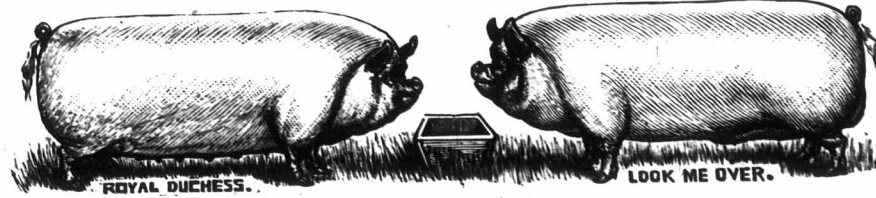
BERKSHIRES FOR SALE. A few choice boars at reasonable prices; also sows of all ages.

Special Sale for 30 Days on Following: One Chester White boar, 12 months (imp.); one Chester White sow, 12 months (imp.).

BERKSHIRES. Two sows due to farrow in February, 1899. My pigs are all of the up-to-date bacon type.

BORNHOLM HERD IMP. CHESTER WHITES. Stock for sale at all times, all ages. Nothing but first-class stock shipped.

CHESTER WHITE SWINE. Young stock, both sexes. Booking spring orders.



YORKSHIRE HOGS. LARGE, LENGTHY, ENGLISH TYPE.

Among them being the undefeated prizewinning boar, "LOOK ME OVER" 2602. Also Royal Duchess, a first prize sow at the Royal Show of England in 1898.

D. C. FLATT, MILLGROVE P. O., ONTARIO.

WE ARE OFFERING FOR SALE 8 HIGH-CLASS YOUNG IMPORTED SHORTHORN BULLS

OF THE BEST SCOTCH BREEDING, TOGETHER WITH A FEW Home-bred Bulls AND A NUMBER OF Cows and Heifers



H. CARGILL & SON, CARGILL, ONTARIO.

Cargill Station and Post Office on G. T. R., within half mile of barns.

Dentonia Park Farm. Dentonia Jersey Herd. Dentonia Trout Ponds. W. E. H. MASSEY, Proprietor.

STALLIONS FOR 1899:

The champion Hackney, JUBILEE CHIEF (2122). The Standard-bred, BIG CHIEF 29532, A. T. R. The Guideless Trotter, JOHN HENRY; registered as ARABAS 20183, A. T. R.

R. S. FULTON, BROWNSVILLE, ONTARIO.

GUERNSEYS. The grandest of dairy breeds; good size, hardy, persistent producers of the richest colored milk and butter when fed in the stable.

CHESTER WHITES. The farmers' favorite; easy feeders, early maturers, good breeders, giving satisfaction bred as pure or as cross breeds.

DUROC-JERSEYS. The ideal bacon hog; two boars fit for service; 10 sows (bred); some prizewinners included. Write

REGISTERED CHESTER WHITE PIGS. Eight weeks old, at \$5.00 each. REGISTERED JERSEY BULL CALVES \$20.00 each.

DUROC-JERSEY SWINE. The earliest established, the greatest prizewinning and most reliable herd in Canada.

OXFORD HERD OF POLAND-CHINAS. The home winners of the Headed by the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox.

5 POLAND-CHINA BOARS. Five months old, sired by imported Corwin Ranger -1065-; d. Kent Beauty -1204-; by imported Black Joe -708-.

Springridge Poland-Chinas. Now offering the 2-year-old sire, Blackmoore, and a few of his young females, and booking orders for young stock from the royally-bred Goldburg, lately added to the herd.

POLAND-CHINA SWINE. Young stock, both sexes. Eggs for hatching from B. P. Rocks and L. Brahmas, \$1 per 13; Rouen Ducks, \$1 per 11. Turkey Eggs in season. Farm three miles east of town.

J. F. M'KAY, PARKHILL, ONT.

TAMWORTH and Imp. CHESTER WHITE BOARS

Fit for spring service. Also, a choice lot of fall sows and sows due to farrow in March and April.

H. GEORGE & SONS, CRAMPTON P. O., ONTARIO.

TAMWORTHS AND HOLSTEINS.

Choice Tamworth sows and boars, not akin, six weeks old, at \$5 each. Holstein heifers and heifer and bull calves.

D. J. GIBSON, Bowmanville, Ont.

Tamworths, Holsteins, and Barred Rocks.

Tamworth (January, 1899) farrow (choice), sired by (Royal winner) Whitesire Crystal (Imp.).

A. C. HALLMAN, NEW DUNDEE, ONT.

TAMWORTHS Of the Most Approved Type.

WE have a dozen vigorous sows to farrow this spring to O. A. C. 419, and can book orders for right good stock.

P. R. HOOVER & SONS, GREEN RIVER, ONT.

Chatham HERD OF Tamworths

One boar 9 months, 4 boars 8 months, 8 sows 8 months, 10 sows 4 months, 10 boars and 10 sows 2 months, one yearling sow in pig.

J. H. SIMONTON, Box 304, Chatham.

CHRIS. FAHNER, Crediton, Ont.

I have to hand a choice lot of young ... TAMWORTH SOWS ...

TAMWORTHS.

Have twelve sows of the choicest breeding and quality due to farrow to my two boars, Brownsville Duke and Revell's Choice, bred direct from imported stock; also some choice fall pigs.

JOHN FULTON, Jr. Brownsville, Ont.

18-Tamworth Brood Sows-18 FOR SALE.

From George and Laurie stock, and in pig to a George-bred boar. Also a few beautiful St. Lambert Jersey heifers.

W. D. REESOR, MARKHAM, ONT.

TAMWORTHS AND POULTRY FOR SALE--Pigs of all ages; also eggs from Barred Rocks, White Rocks, Silver Wyandottes, Black Minorcas, Black Spanish, Partridge Cochins, Red Caps, Leghorns, Hamburgs, Pekin and Rouen Ducks, at \$1.00 per setting.

R. J. & A. LAURIE, WOLVERTON, ONT.

CHOICE TAMWORTH & YORKSHIRE SWINE

Of both sexes. Also five pair Toulouse geese; six pair of good Rouen and Pekin ducks; one pair Golden B. Poland (McNeill's).

John Hord & Son, Parkhill, Ont.

Barred Plymouth Rock Eggs

From a pen of selected, extra well barred, large, strong, healthy hens. And have purchased an AI imported cockerel of the "National" strain to mate with them.

W. C. SHEARER, Bright, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

EGGS! Rose-Combed Buff Orpingtons

Grand layers and table birds. Mine are the finest strain in England; four unrelated pens. 10s. 6d. per setting.

T. G. BINNEY, HOUGHTON Playden, Sussex, Eng. GREEN.

BARRED PLYMOUTH ROCKS (Exclusively), J. K. FELCH'S ESSEX STRAIN.

FARMERS TAKE NOTICE, AND IMPROVE YOUR FLOCKS. Eggs from vigorous pure-bred stock with free range, \$1.00 per 15. Incubators supplied at lower rates.

(MISS) P. J. COLDWELL, Constance, Huron, Ont.

DO YOU WANT EGGS From the Best Strains Procurable?

If so, try us for B. and W. Cochins, L. Brahmas, Black Spanish, Langshans, Minorcas, and Javas. Buff Leghorns, S. L. Wyandottes, Red Caps, \$1.50 per 15.

EGGS FOR HATCHING

From Barred Plymouth Rocks (imported direct from I. K. Felch, Natick, Mass., U. S.); Silver and Golden Wyandottes, and Pekin Ducks. My Wyandottes are all bred from my noted prizewinners.

J. E. MEYER, KOSSUTH, ONT.

PEKIN DUCK EGGS

From grandly developed PROLIFIC PRIZEWINNING STOCK. \$1.00 for eleven. Perfectly packed.

E. A. SPENCER, DORSET FARM, BROOKLIN, ONT.

SNELGROVE POULTRY YARDS. Barred Rocks Exclusively—Canada's Business House.

I am breeding from birds of Hawkins' Royal Blue and Perfection strains this season. Eggs for hatching, \$1 per setting; three settings, \$2.

W. J. CAMPBELL, Snelgrove, Ont.

EGGS FOR HATCHING

From Bronze Turkeys, Ducks, B. P. Rocks, Andalusians, Black Javas, Houdans, B. Leghorns, and Black Spanish. Turkey eggs, 25c. each; others, \$1.50 per setting.

W. R. KNIGHT, Bowmanville, Ont.

MEADOWBROOK W. WYANDOTTES

After the 8th of April I will place eggs at \$1.25 per setting, or \$2 for two settings. These fowls are large, are the best winter layers, and the earliest maturing.

EDGAR SILCOX, Shedden, Ont.

Barred Plymouth Eggs for Hatching.

Two pens of fine, large, well-bred birds, fine laying strain. 15 Eggs, \$1; 30 Eggs, \$1.75; 45 Eggs, \$2.

Thos. Baird & Sons, Chesterfield, Ont.

POULTRY. L. and D. Brahmas, B. and W. Rocks, S. and W. Wyandottes, Black Minorcas, Indian Game, and Red Caps.

JACOB B. SNIDER, German Mills.

\$1.00 per Setting. Eggs from the "Ontario" prizewinning Golden and Silver Wyandottes, Barred and White P. Rocks, and Pekin Ducks.

JAMES LENTON, Park Farm, Oshawa.

EGGS FOR HATCHING

Brahmas, Games, Minorcas, Wyandottes, Dorkings, Hamburgs, Houdans, Polands, Leghorns, Ducks, Geese, and Turkeys.

WM. STEWART & SON, MENIE, ONT.

IN POULTRY SUPPLIES

WE LEAD, OTHERS FOLLOW. Sole Canadian Agents for the Cyphers Incubator, endorsed by all as the only up-to-date incubator on the market.

C. J. DANIELS, 221 RIVER ST., TORONTO.

SHOEMAKER'S POULTRY BOOK and Almanac for 1899. 160 pages, 100 illustrations of fowls, incubators, brooders, poultry houses, etc.

THE ONTARIO VETERINARY COLLEGE (LIMITED)

TEMPERANCE ST., TORONTO, CANADA. Affiliated with the University of Toronto. Patrons: Governor-General of Canada, and 14 out of 15 Provinces of Ontario.

GOSSIP.

R. Honey, Warkworth, Ont.,—"My stock is wintering well and there seems to be a great demand for it. Since returning from Institute work I have answered numerous letters inquiring for stock and have made a number of sales."

Mr. W. D. Flatt, Hamilton, Ont., reports the following recent sales from his Trout Creek herd of Short-horns: To Geo. Leslie, Acton, Scottish Lad, a red bull, one year old, sire Scottish Pride (imp.), who is half-brother to Mr. Duthie's stock bull, Scottish Archer.

John A. Gordon's Short-horn Sale. As per advertisement in March 15th issue of the Farmer's Advocate, Auctioneer Thomas Ingram, of Guelph, conducted the auction sale of John A. Gordon's (Acton, Ont.) herd of Short-horns. The following is a list of the sales:

Lilly Barnes 2nd, 6 years old; P. S. Kennedy, Acton: \$98. Ethel Newcome, 8 years; Norris Black, Rockwood: \$78.

Lady Roy 3rd, 4 years, with calf. Lady Roy 5th; Aitken Bros., Osprey: \$85. Maid of the Woods, 3 years, with calf, Huster; A. & J. Mann, Acton: \$130.

Maid of the Woods 2nd, 2 years; P. S. Kennedy: \$80. Lady Ethel, 4 years, with calf, Royal Prince 2nd; Richard Graham, Ashgrove: \$125.

Ethel Newcome 2nd, 2 years; Greenless Bros., Milton: \$100. Princess Ella 2nd, 2 years; Donald Mann, Acton: \$56. Lady Roy 4th, 1 year; P. S. Kennedy, Acton: \$69.

Lady Ethel 2nd, 1 year; Wm. Mullin, Acton: \$55. Roan Duke, 1 year; Wm. R. Elliott, Hespeler: \$78.

Strathallan Boy, 3 1/2 months; R. F. Reid, Georgetown: \$35. Gordon Hall Lad, 5 months; H. Tuck, Trafalgar: \$52.

Duke of the Woods 2nd, 3 months; P. S. Kennedy, Acton: \$40. ONTARIO VETERINARY COLLEGE—GRANTING OF DIPLOMAS TO GRADUATING CLASS.

The annual closing exercises of the Ontario Veterinary College at Toronto were held March 23rd. The graduating class was a large one, as usual, numbering about fifty, and the pass list shows a large proportion of students from the United States as well as several from Great Britain.

NOTICES. Ditching by Horse Power. The old style of pick and spade ditching is about as far behind as the sickle for harvesting grain, since practical ditching plows have come into use.

Canadian Ideal Cream Separator. A hand cream separator that will handle the milk of fifteen good cows in one hour, and do it well, is a desirable machine for farmers with either small or large herds.

GOSSIP. Capt. Thomas Robson, of Hderton, Ontario, has recently sold to George Harding & Son, of Watkesha, Wis., the following Short-horns: Two year-old heifer, Myrtle 6th, by imported Royal Member, with heifer calf at side, one of the first-prize herd at Toronto in 1898.

THE FARMER'S WIFE.

The cares of family, of the household, of the marketing cause sickness, weariness and nervousness among the women of the farm. A constant tired feeling, headaches, constipation, female troubles, etc. are common symptoms. DR. WARD'S BLOOD AND NERVE PILLS are the proper remedy. This is how they work.

"I have been a sufferer for a number of years with stomach trouble, nervousness and similar complaints. Nothing seemed to be of any use to me. Reading some of the testimonials from people who had been cured through using Dr. Ward's Blood and Nerve Pills, I bought two boxes and began to improve almost immediately. After using them for a short time my appetite was restored, and my gain in health and flesh is most surprising."

Dr. Ward's Blood and Nerve Pills 50c. per box, 5 for \$2.00 at druggists or mailed by THE DOCTOR WARD CO., Limited, Dept. F., 71 Victoria St., Toronto, Ont.

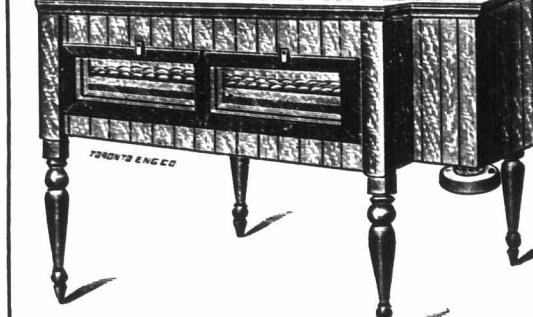
INDIAN CORN

This list is taken from FARMER'S ADVOCATE of March 1st, 1899, page 119.

Table with columns: NAME OF VARIETY, Ottawa, Ont., Nappan, N. S., Brandon, Man., Indian Head, N.-W. T., Agassiz, B. C., Average of all Farms. Rows include RED COB ENSILAGE, GIANT P. ENSILAGE, and SELECTED LEAMING.

It does not always pay to plant the cheapest seeds. The above varieties in large type speak for themselves. They are handled by E. R. ULRICH & SONS, SPRINGFIELD, ILL., U.S.A.

This cut represents our 240-eggs capacity improved SAFETY INCUBATOR



Like all our machines, it is absolutely self-regulating and supplies its own moisture. It is manufactured in Canada—hence there are no customs duties to pay on it.

J. E. MEYER, KOSSUTH, ONT.



The Wall Paper King OF CANADA. G. B. SCANTLEBURY, Belleville, Kingston, Winnipeg.

Sample books of Choice Wall Paper for Residences, Churches, Offices, Lodge Rooms, Public Halls, Hotels, Stores, and our booklet, "How to Paper," sent free to any address.

GOSSIP.

Capt. Thomas Robson, of Hderton, Ontario, has recently sold to George Harding & Son, of Watkesha, Wis., the following Short-horns: Two year-old heifer, Myrtle 6th, by imported Royal Member, with heifer calf at side, one of the first-prize herd at Toronto in 1898.

W. E. H. MASSEY, President of the Massey-Harris Co., certifies to the MERITS OF THE SPRAMOTOR



Toronto, November 9th, 1898. Spramotor Co., London, Ont. Gentlemen,—The machines for spraying and white-washing you have supplied to Dentonia Park Farm have done their work well, and are quite satisfactory.

For further information regarding this peerless Spraying Apparatus, write for our 76-page copy-righted catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies (free). Address—SPRAMOTOR CO., 357 RICHMOND ST., LONDON, ONT. Mention this paper.

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Farms.

23	1975
22	558
1,460	20 1,440
450	23 1194
100	19 1,780
1,000	13 1,830
200	23 462
1,760	20 1,610
1,100	23 1,186
220	17 1741
80	19 1,322
160	20 1,294
1,920	18 1,773
1,800	17 353
1,610	17 1,926
1,320	17 333
1,600	17 526
1,000	18 742
900	17 1,472
1,500	19 99

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U.S.A.

240 - eggs capacity

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ASSEY,

Co., certifies to the

MOTOR



November 9th, 1898.

ers spraying and white-
Dentonia Park Farm
are quite satisfactory.
was so much value in
good crop of apples,
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Yours truly,
W. E. H. Massey.

DR CO.,
LONDON, ONT.

No trouble to lay...

EASTLAKE SHINGLES

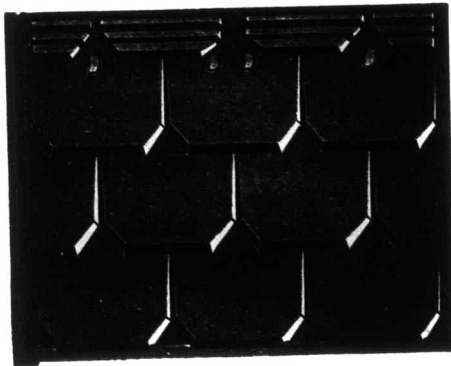
They are accurately squared and fit together perfectly at the sides by one patent telescopic side lock.

IN CHOOSING THEM YOU GAIN THE BEST

**FIRE, LIGHTNING
AND RUST PROOF
...PROTECTION.**

Save time in the laying,
and are sure of

**ECONOMICAL,
DURABLE
SATISFACTION.**



See that you get EASTLAKES—not an imitation.
We will gladly send full information.

THE METALLIC ROOFING CO., LIMITED,
1185 KING ST., W., TORONTO.

To the Farmers of this Canada of Ours!

Gentlemen,—We thank you for your ever-increasing patronage, and remember we do not class our Queenston Cement with the water limes and hydraulic cements now on the market, but we guarantee our cement equal to the Imported or Domestic Portland Cements for all farm structures, such as Basement Walls for Stables, House or Cellar Walls, Cisterns, Hog Pens, Poultry Houses, and for all kinds of stabling. Kindly investigate our system of ventilation. This system is fully covered by letters patent, but to our patrons we make no charge. Write us for our new pamphlet for 1899, containing valuable information, prices, etc.

ISAAC USHER & SON,
Queenston, Ontario.



Do you keep a DOG?

Send for free pamphlet on feeding, treatment, etc., and catalogue of foods, etc.

To SPRATT'S PATENT Ltd
239 E. 56th St., New York.

DO YOU STUDY ECONOMY?



**THE
Woodward Water Basins**
WILL PAY FOR THEMSELVES IN ONE SEASON.

Latest and most scientific method of Watering Stock.
WRITE THE
Ontario Wind Engine and Pump Co.
(LIMITED).

ATLANTIC AVE., TORONTO.

LIVE STOCK AUCTIONEER.

The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Holson and Alfred Stone, Guelph; Jas. Hunter, Alma; and Messrs. Boyd, Bobaygon, Thos. Ingram, Care Mercury Office, Guelph, Ont.

**ILLUSTRATED
STOCK
SALE
BILLS**

THE LONDON PRINTING AND LITHO. CO. (LIMITED)
Lithographers and Printers, London, Ont.

NOTICES.

Pearee's Seeds. Messrs. John S. Pearee & Co., London, Ont., change their advertisement in this issue. Of the Danish Island oats are written, Mr. John Kenward, of Oxford County, writes as follows, and his statement is vouched for by Messrs. John S. Pearee & Co., of London, Ont.: "I sowed 20 bushels of Danish Island oats by weight on 12 acres on April 20th, 1898, and cut them July 25th and 26th, and threshed 900 bushels, or 75 bushels per acre, or 75 bushels for every 564 pounds of seed sown. The land was not very rich, as it has been cropped for over fifty years, and there was no fertilizer of any kind used on the land." Carrots, man-golds and sugar beets are all the better of being sown early, but of greater importance is to sow good seed of the best varieties, and these Messrs. Pearee & Co. claim to handle.

Ravages of Insect Pests.—Ontario has made great progress as a fruit-producing country during the last few years, and built up an increasing export trade in orchard produce. The great drawback to complete success in this field has been the increasing prevalence and destructiveness of insect pests, the losses from which have seriously impaired the profits of the fruit-grower. The efficiency of the spraying process as a means of overcoming these ravages is clearly shown by a valuable report by Wm. Orr, Superintendent of Experimental Spraying for the Province, issued by the Department of Agriculture. It comprises the details of experiments made at thirty points in different sections of the Province, the results of which should be sufficient to convince the most indifferent or skeptical as to the need of spraying as a feature of successful fruit-growing. The efforts of the Department to impress this fact upon the consciousness of the farming community appear to be bearing fruit, as evidenced by the increasing interest taken in this yearly series of experiments. The attendance at last year's experiments was 3,583, being 700 more than the number present in 1897, and more than double the attendance in 1896. In addition very many subsequently visited the orchards which were the scene of operations. The applications made for experiments were much more numerous than could be granted. The results were, as a rule, of an exceedingly satisfactory character. While the trees not sprayed were assailed by the destructive tent caterpillar, codling moth and other destructive insects, and much damage was done, the fruit of the trees subjected to the process was nearly all sound and in excellent condition. After strictly rejecting all damaged fruit, the remainder in clean and unblemished condition amounted in many cases to from 90 to 100 per cent. of the total yield. A series of spraying experiments for the coming season is now being provided for, and all interested can procure a list of the orchards and dates selected by applying to Mr. Wm. Orr, Superintendent of Experimental Spraying, Fruitland, Ont. A copy of his report, with full records of the experiments above noted, can be had upon application to the Department of Agriculture, Toronto. A bulletin containing information as to insect pests in the light of the most recent scientific research, and the most effectual spraying processes for their destruction, will also shortly be issued by the Department.

The Results Were Extraordinary.

WAPPELLA, N.-W. T., Feb. 13, '97.
The Lawrence-Williams Co., Cleveland, O.:
I keep your "Gombault's Caustic Balsam" in stock. I have sold it for the last three years in this country, but it is not known to the majority. I sold a bottle which I saw used under my own supervision which gave most universal satisfaction. The results were extraordinary. I sell it here at \$1.50 per bottle. I am quite a horseman, and would be pleased to use any pictures of the noted race of the day, to our mutual benefit. J. A. MACDONALD.

GOSSIP.

Geo. Hill, Delaware, Ont., advertises a promising young Ayrshire bull in this issue, as well as a group of very choice Berkshires.

The Barred Plymouth Rocks in the Snelgrove Poultry Yards, under the intelligent management of the proprietor, Mr. W. J. Campbell, are in their usual high-class condition—new blood of the most popular prizewinning strains having been introduced. Eggs for hatching are advertised in this issue. Orders were received last year from nearly every Province in the Dominion, and nearly every shipment proved successful and satisfactory. See the ad.

Mr. I. Devitt & Sons, Freeman, Ont., write: "We sold recently a fine pair of Clydesdale fillies rising one and two years old to Mr. H. Lester of Forest, Ont. They were sired by Douglass Macpherson, and out of Topsy, by Duke of Flemington. They are a well-matched pair and will no doubt be heard from in the near future. We have still a few fillies and mares for sale. All of these are sound and in good condition. In stallions we have Douglass Macpherson [1791] and Grandeur II. [2246]. Both horses have wintered well and are now in excellent form. Any one requiring a horse this season would do well to see them before purchasing."

Wm. Grainger & Son, Lonsdale, Ont., write us in sending in a change of advertisement: "Would just say that we never had such enquiries. Sales have been brisk, at a considerable increase of price on former years. We have sold six Shorthorn bulls and two heifer calves since New Year to the following parties: Beau Ideal 2nd, to Wm. Drager, Brothagen, Ont.; Earl of Minto, to Hugh McDougal, Underwood, Ont.; Truce Bearer, to Kirk Connell Bro., Tiverton, Ont.; Stanley's Duke, to E. Caister, Tavistock, Ont.; Golden Crown, to A. Evans, Hilliwick, B. C. We shipped this one out with Mr. Butler of Dereham Centre, and Mr. Evans writes us back that he likes him well. He says that he is even a better bull than he expected to get. Those calves are all got by the pure Cruickshank bull, Beau Ideal—2254, by Siltston Stamp (Imp.), and Lobo Laddie, sold to Joseph Horn, of Atwood, Ont. They are all from first-class cows both for beef and milk, and are a good strong, thrifty lot. Our cattle are coming through the winter in nice condition. We find that advertising in the ADVOCATE is a good investment. Enclosed find the change of ad. We would say that the young bull we are offering for sale is nine months old and a right good one, a great grand-son of 2nd Fair Maid of Hullett—907, the Chicago dairy test cow."

DO YOU REQUIRE ROOFING?

WE HAVE THE LATEST IN

METAL SHINGLES

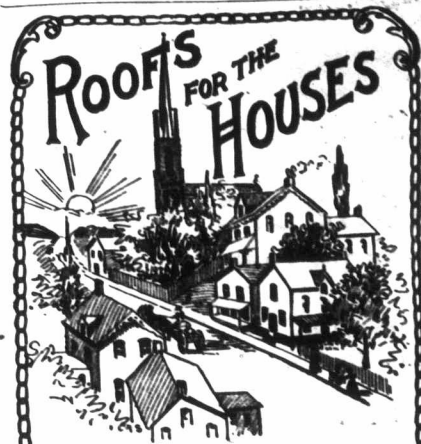


OUR

Patent "Safe Lock" Shingles

Interlock each other on all four sides, leaving no edges or laps to open up. They cost no more than wooden shingles, are practically FIRE and LIGHTNING proof, give a building a handsome appearance, and are absolutely rain and storm proof. Can be put on easily by anyone. We send free samples and catalogue to intending purchasers.

**THE METAL SHINGLE
AND SIDING CO. LIMITED.**
PRESTON, ONT.



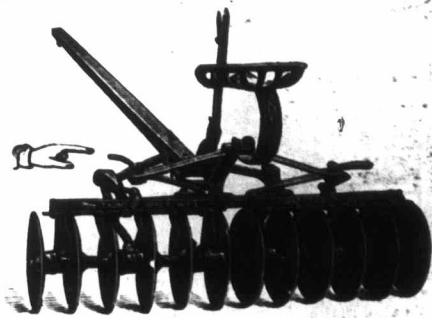
32 Years Ago

We started the manufacture of sheet metal building materials, and this long experience enables us to offer intending builders all that is desirable in Steel Roofing, Steel Siding, Steel Ceilings, etc.

We Prefer

That you purchase through the trade, still if your dealer cannot give the information you desire, or offers a substitute "just as good," write us. "The Pedlar Patent Shingles" are the best, and the best cost no more than the poorest.

Pedlar Metal Roofing Co.
OSHAWA, CANADA.



FARMERS!

The leading improvement in Disk Harrows to-day is the spring pressure and its application to hard and soft ground. And to avoid weight on horses' necks the pressure must be applied directly over and in line with center of disk just where you will find it in the Watford, and where it has been for years. See buggy spring construction for comfort. If no Watford agent in your neighborhood, write us and we will make an interesting price, which, however, must not be understood as having any bearing on the regular price. WHOLESALE or RETAIL. Just a special price for a special purpose. If in want of a good plow, just mention plows.

Thom's Implement Works, - Watford, Ont.
ESTABLISHED 1875.

**TORONTO
ENGRAVING CO.**
92 BAY ST
CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALTY.

WINONA NURSERY CO.

Offers for Spring of 1899.

A full line of stock, both fruit and ornamental, at very moderate prices. No agents' commission to pay.

Send for price list and catalogue. Dealers will find it to their interest to correspond at once with

J. W. SMITH,
MANAGER.

Winona, Ontario.

NURSERY STOCK IN VERITY!



Our new catalogue is our agent, giving descriptions, PRICES, and how to plant fruit, ornamentals, shrubs, ROSES, Clematis, evergreens and small fruits. All well assorted, clean and handsome at the Central Nursery. Shall we send you one—nineteenth year. Also choice Seed Potatoes.

A. G. HULL & SON,
St. Catharines, Ont.
(Mention this paper.)

Reliable Seeds

FOR THE FARM AND GARDEN.

Our stock includes all that is best in GARDEN AND GRASSES, FIELD ROOTS, CLOVERS, SEED GRAIN, FLOWER SEEDS, AND FLOWERING PLANTS.

Illustrated Catalogues mailed free on application.

William Ewing & Co.,
Seed Merchants, 142 McGill Street,
MONTREAL, QUE.

FOR SALE!

A quantity of Herrison's Bearded Spring Wheat, the most productive and one of the nine selected by the Dominion Millers' Association out of fifty-seven varieties as first-class milling wheats. Free from all foul seeds.

JAMES MARTIN, Renfrew, Ont.

STRAWBERRY PLANTS Fifty each of 5 leading varieties—early and late—\$1.00. Raspberries, etc.
N. E. MALLORY, GUILDS, ONT.



Sheep Shearing Revolutionized.

New Chicago SHEEP SHEARING MACHINE.

Greatest Machine ever invented. Price, \$15.
(Used and endorsed by the Editor of the American Sheep Breeder.)
Don't butcher your sheep. Saves 1/4 to 1 lb. more wool per head.

Drop us a postal and we will tell you all about it. We also make Horse Clipping Machines. Chicago Flexible Shaft Co., 158-160 Huron St., Chicago.



ROCK SALT for horses and cattle. Per 100 lbs., 70c., or 500 lbs., \$3.00, Toronto. Cash with the order. Also in car lots.
TORONTO SALT WORKS, Toronto.



FAMILY KNITTER!

Will do all knitting required in a family, homespun or factory yarn. SIMPLEST KNITTER ON THE MARKET.

We guarantee every machine to do good work. Agents wanted. Write for particulars.
PRICE, \$8.00.

BUNDAS KNITTING MACHINE CO.,
DUNDAS, ONTARIO.

GOSSIP.

W. C. Shearer, Bright, Ont., is doing a rushing business in Barred Plymouth Rocks through his advertisement in the FARMER'S ADVOCATE. See his change of advertisement in this issue.

At the sale of Shorthorns belonging to Mr. L. Brodsky, Plover, Iowa, March 15, the five-year-old bull, Strathearn Chief, brought \$500; the eleven-month-old bull, Bawn Athene, \$300; and the sixteen-month-old bull, Highland Chief 3rd, \$285. Four females sold for \$400 to \$505. Ten bulls averaged \$215.50; 39 females averaged \$229.23; and the 49 head averaged \$226.42.

R. G. Martin, Marysville, Ont., writes:—"I have sectioned, D. C. Platt, proprietor of the Summer Hill Stock Farm, Millgrove, Ont., eight very choice Large Yorkshire sows and two boars. They are of my best blood and should add to the appearance of Mr. Platt's herd, which is already acknowledged to be one of the largest and best selected herds on the continent. The demand for Yorkshires with me is good, having sold everything on hand I had to offer. I am now booking orders for spring delivery. I also have a few choice young Berkshires to offer that will be ready to ship by April 15th."

THE MEADOWVALE SALE OF SHORTHORNS.

The sale of S. J. Pearson & Son's Valley Home herd of Shorthorns, at Meadowvale, Ont., on March 22nd, was exceedingly successful, satisfactory and creditable to all concerned. There was a large attendance of solid and substantial farmers from the local district, who did plucky bidding to keep a portion of the stock in the county, and there was a really good representation of the well-known breeders, as well as a number of other enterprising men from various parts of the Province, who were evidently convinced of the value of the proved stock and bound to have it if it could be secured at a reasonable price. There were also several commissioned bidders for breeders in Manitoba and B. C., and it is understood that several animals were bought for a well-known U. S. breeder, and one goes to Oregon. With such a cheerful feeling prevailing it was a comparatively easy and pleasant task for the popular auctioneer, Mr. John Smith, M. P. P., to take the bids, which came freely and fast, a kindness which we are sure was duly appreciated by the worthy salesman, who had just risen from a sick bed, and evidently had the sympathy of the company who stood by him faithfully, giving such close attention to business that the cattle were all disposed of in an hour and forty minutes, with the exception of the aged import cow, Mina Lass, which found no bidders on account of her condition, there being doubts as to whether she will breed again. The cattle were mostly in good condition, but several of the cows which were nursing calves were only in very moderate condition, being heavy milkers. Their breeding, however, was very desirable, and their progeny, the young things in the herd—were of a good stamp. The cattle were sold in the order of the catalogue, and No. 1, the roan two-year-old heifer Nonpareil 50th, a right good one, was probably the best bargain of the day at \$190. Mr. Bye, of Guelph, being the fortunate purchaser. No. 2, the roan two-year-old Mina Lass 10th, from imported sire and dam, was generally considered the best individual female. She fell to the bid of Mr. Platt, of Hamilton, at \$245, the highest price of the day. The Linton-bred Sowerby's Lass, the best matured cow, low-set, blocky, thick-fleshed and of fine character, with bull calf at foot, went to Goodfellow Bros. at \$200. The imported bull British Statesman, sire of most of the young stock, a grand specimen of the breed, was preserved, because the property of Fitzgerald Bros., St. Louis, Ont., at \$225, and two of the young bulls reached the \$200 mark. The average on the twenty-two head sold was \$144.17. Following is the list of animals sold with purchasers and prices:

Cows and Heifers.

Nonpareil 50th—2 years; B. Bye, Guelph.	\$190 00
Mina Lass 10th—2 years; W. D. Platt, Hamilton	245 00
Sowerby's Lass—5 years; Goodfellow Bros., Mackville, Ont.	200 00
Cecilia 12th—3 years; R. Miller, Stouffville	165 00
Nonpareil 48th—3 years; R. Miller	180 00
Jubilee Jilt—1 year; R. E. Johnston Pickering	135 00
Nonpareil 45th—5 years; R. Miller	145 00
Nonpareil 51st—1 year; R. Miller	110 00
Nonpareil 53rd—1 year; Ira B. Van Natta, Ballinafad	90 00
Bessie Earl—1 year; Frank Brown, Oregan, U. S.	115 00
Favorite 5th—3 years; Jno. Cunningham, Norval	75 00
Nonpareil 43rd—6 years; A. McKinney, Brampton	80 00
Nonpareil 39th—10 years; G. D. Hood, Guelph	110 00

Bulls.

British Statesman—7 years; Fitzgerald Bros., Mt. St. Louis	225 00
Scotch Statesman—18 months; James Thompson, Belton	200 00
Gloster Statesman—13 months; John Haykins, Lavender	200 00
Royal Statesman—11 months; Geo. McBean, Aetion	135 00
Royal Champion—15 months; J. H. Kinnear, Souris, Man.	165 00
Diamond Statesman—11 months; W. Dredge & Son, Nassau, Weyva	150 00
British Subject—11 months; Wm. McLeland, Dunnville	85 00
Royal Duke 2nd—12 months; Samuel Moore, Cooksville	85 00
Noble Statesman—1 months; Wm. Barker, Paris	100 00
Grand Duke—4 months; Boucher Bros., Huttonville	40 00
13 females sold for \$1,810; average, \$140.00.	
19 males sold for \$1,345.00; average, \$70.79.	
23 animals sold for \$3,155.00; average, \$141.17.	

PEKIN DUCKS.

It is just as easy to raise ducks as chickens. One has only to buy Pekins, as they need no water to swim in. They are easy and grow rapidly. E. A. Spencer, of Paris, Ont., secured foundation stock from J. E. Lyons, Lucknow, and Wm. Hodge, Brooklyn, and advertises settings of eggs in this issue.

SEEDS 12 VARIETIES FOR 25c



No. 1—Beet, ECLIPSE, Round.

TAKE YOUR CHOICE.
THEY ARE SENT BY MAIL POST-PAID. SAFE ARRIVAL GUARANTEED. FULL SIZE PACKETS.

VEGETABLES—ORDER BY NUMBER.

- | | |
|----------------------------------------|------------------------------------------------|
| 1. Beet, Eclipse, round | 14. Lettuce, Denver Market (curled) |
| 2. Beet, Egyptian flat, round | 15. Muskmelon, extra early Hackensack (Nutmeg) |
| 3. Cabbage, Winningstadt | 16. Watermelon, Early Canada |
| 4. Cabbage, Fottler's Brunswick | 17. Onion, Large Red Wethersfield |
| 5. Carrot, Half-Long Danver's Scarlet | 18. Onion, Yellow Globe Danvers |
| 6. Carrot, Oxheart or Guerande Scarlet | 19. Parsnip, Hollow Crown |
| 7. Cucumber, Chicago Pickling | 20. Radish, French Breakfast |
| 8. Cucumber, Long Green | 21. Radish, Rosy Gem, white tipped |
| 9. Celery, Golden, Self-Blanching | 22. Squash, Hubbard |
| 10. Herbs, Sage | 23. Tomato, extra early Atlantic |
| 11. Herbs, Savory | 24. Tomato, Dwarf Champion |
| 12. Herbs, Marjoram | |
| 13. Lettuce, Nonpareil (Cabbage) | |

FLOWERS.

- | | |
|-----------------------|-------------------------------|
| 25. Asters, mixed | 29. Nasturtiums, tall mixed |
| 26. Mignonette, sw't. | 30. Sweet Pea, fine mixed |
| 27. Pansy, mixed | 31. Wild Flower, garden mixed |
| 28. Petunia, mixed | |

FREE Providing this Coupon is CUT OUT and sent to us with an order for 12 packets for 25c. (postal note or silver) we will include 1 packet New Snowdrift Pinks. Price, 15 cents FREE OF CHARGE TO ADVOCATE SUBSCRIBERS.

ADDRESS ALL ORDERS:

WILLIAM RENNIE, TORONTO, ONT.

DANISH ISLAND OATS-- Best White Oat in the World. Plump, thin-hulled, bright grain; very productive; strong, stiff straw; does not lodge. Mr. Steele of Lobo, grew 5,000 grains from one kernel. Price, 75c. per bush.; 5 bush., \$3.25; bags, 15c.

CARROT--Pearce's Half-long White. Heads list at Experimental Farm, Guelph. Price, 40c. per lb., post-paid.

MANGEL--Pearce's Canadian Giant. Best Mangel grown. Per lb., 12c.; post-paid, 16c.

SUGAR BEET--Danish Improved. True stock. This is no novelty. Stock not controlled by any one seed house. Our stock equals any ever offered. Price, 30c. per lb.; post-paid, 34c. Four pounds, enough for one acre, \$1.20, post-paid.

TRY IT! ORDER EARLY!

JOHN S. PEARCE & CO.
LONDON, - ONTARIO,
SEEDSMEN TO THE CANADIAN PEOPLE.

6 GRAND TEA ROSES FOR 25c.



FOR 25c. we will send six choice Ever-blooming Tea Roses, named, our selection. All will bloom abundantly this season.

5 Hardy Garden Roses, Fine named sorts, our selection, for 25c.

"QUEEN" BULB SET: 20 choice Bulls and Tubers, including 2 lovely Dahlias, 4 showy Cannas, 6 assorted Gladiolus, 6 Pearl Tuberose, and 2 Auratum or Queen of Lilies for 50c. or half "Queen" Bulb Set (10 Bulls) for 25c.

"Champion" Plant Collection: 12 showy plants for the house and garden includes 1 each Night-blooming Cactus, Parrot Feather, Parlor Ivy, Chrysanthemum, Geranium, Saxifraga, Ever-blooming Rose, Helianthus, Crimson Spirea, Boston Ivy, and 2 Carnations, the lot for 50c.

A CHANGE for lovers of flowers to secure a fine collection of Roses, Bulls and Plants for small cost, all of best quality, sure to please, sent post-paid on receipt of price, safe arrival guaranteed.

FREE On condition of mentioning this paper when ordering any of the above collections, we will include free, 1 Tuberos Begonia Bulb or 1 Spotted Calla Lily Bulb, the buyer's choice.

Remember our FAMOUS SEEDS may be had from leading merchants, or ordered direct from us. It pays best to plant "Good Seed." Catalogue sent free.

The Steele, Briggs Seed Co. Ltd.
CANADA'S GREATEST SEED HOUSE. Toronto, Ont.

WANTED TO SELL

THE best paying retail dairy and small creamery business in Western Ontario. Good plant, Three good milk routes. Good staff employees. With or without cattle. Two years lease to run. Plenty of milk, and business can be increased. Apply DAIRY, CARE FARMER'S ADVOCATE. LONDON, ONTARIO.

CURED TO STAY CURED
HAY FEVER
Dr. HAYES, Buffalo, N. Y.

25c

SAFE ARRIVAL
KITS.

Large Red
Shersfield,
n, Yellow
ly Hacken-
(Nutmeg),
melon, Early
ada.
Large Red
Shersfield,
n, Yellow
ly Hacken-
(Nutmeg),
melon, Early
ada.
Large Red
Shersfield,
n, Yellow
ly Hacken-
(Nutmeg),
melon, Early
ada.

Persiatric

Plant

Spray

The most effective and highly-concentrated spray in the market. Has successfully coped with the dreaded San José Scale, and readily destroys all orchard and garden pests, such as grubs, worms, brown rot, curled-leaf, pear blight, apple scab, and all forms of animal life or fungi. Persiatric Plant Spray has been tried and proved by leading nurserymen and farmers all over Canada. It does its work thoroughly and effectively, and gives unqualified satisfaction. If your dealer cannot supply you, write us direct. We invite correspondence.

Kills

San Jose

Scale.

THE PICKHARDT-RENFREW CO., LIMITED, STOUFFVILLE, ONT.

TEST OF

Alpha De Laval and Reid's Improved Danish Cream Separators

Made at Nilestown Factory of Thames Dairy Co.

Date, 1899.	Machine	Amount skimmed per hour	Speed revolutions per minute.	Butter-fat left in skim milk at following temperatures.				Lbs. Milk per Lb. Butter.
				80	85	90	95	
January 25	Alpha	2800	6000	.05	.02	.01	.01	21.10
January 27	Reid's	2800	6200	.15	.14	.12	.10	22.45
January 30	Alpha	2600	6000	.05	.03	.02		
January 30	Reid's	2600	6200	.15	.10	.08		

On January 25 Buttermilk from Cream of Alpha churned at 50 tested .05 (no water added).
 January 26th Buttermilk from Cream of Reid's Improved Danish churned at 48 tested .10 (no water added).
 Mr. Richardson, St. Mary's, and Mr. John Brodie, Mapleton, were present when testing Reid's Improved Danish, January 27th.
 On January 30th both Separators were running at the same time, and the skim milk from the Reid's was put through the Alpha. There were 3,700 lbs. of milk received, and after it had been skimmed by Reid's Improved at a temperature of 90 degrees the Alpha skimmed 303 lbs. of Cream from the skim milk which tested 8/10 of 1 per cent.
 The Cream from each Separator was ripened by the use of a pasteurized starter, and contained .65% of acid at the time of churning when tested by Farrington's Alkaline Tablets.

(Signed) **T. B. MILLER,**
 Manager Thames Dairy Co.

Famous EVAPORATOR or FEED BOILER



For Poultrymen, Stock-Raisers, and Dairymen.

Can also be used for Boiling Sap; being light, can be readily carried into the bush.

Does the Quickest Work with Smallest Cost.

Boiler is made of galvanized steel, thoroughly tight and removable for cleaning. Fire-box, grates and linings are made of cast iron, which will not burn out quickly.

Body is made of steel, which heats quickly, and is properly protected against warping and burning out.

DIMENSIONS, ETC.

Width, Depth, Height.

SIZE OF FIRE-BOX . . . 19 40 11

SIZE OF FIRING DOOR . . 11 x 12 inches.

CAPACITY OF BOILER . . 50 gals. Imp.

The Newest and Most Successful Boiler Made in Canada.

THE McCLARY MANUFACTURING CO.,
 London, Toronto, Montreal, Winnipeg, and Vancouver.

If your local dealer cannot supply, write our nearest house.

GOSSIP.

Messrs. W. & H. Jones, Mt. Elgin, Ontario, breeders of Poland-China hogs, write, under date of March 20th, as follows:—"My stock have come through the winter in excellent shape, and our March pigs are coming very strong. Black Bess 3rd No. 1221 has a litter that were farrowed March 5th, now fifteen days old, that are from Klondike No. 1170. This boar is a litter brother to Lady Klondike, and he is getting good pigs; there are nine in all, and at present are the best litter we ever had—extra good color and long, deep fellows. We have several two and three months old on hand and all good ones."

The American Hereford Breeders' Association have organized and arranged for a grand show and combination sale of Herefords, to be held in October this year at Kansas City, Mo. A full classification and very liberal prizes have been mapped out, there being six prizes in each section, and the first prize in each section being \$75, followed by \$60, \$45, \$30, and \$10. Besides these prizes, there are senior and junior sweepstakes in bulls and females of \$100 each, and grand sweepstakes, a silver cup, special for best bull and best female. For aged herd, six prizes, ranging from \$50 to \$15, and the same list for females. For groups of sire and four females, either sex, under four years old, \$100, \$75, \$50, \$25, and \$15. For produce of one cow, two animals, either sex, under four years old, four prizes of \$75 to \$20. There are also liberal prizes for fat stock, thoroughbred and grade.

F. Bonnycastle & Sons, Campbellford, Ont., report the following recent sales of Shorthorns and Cotswolds:—To Robert Miller, Stouffville, Ont., one stock bull, Redman = 21765 = also five bull calves and eight ram lambs; W. H. Chapman, Ivanhoe, Ont., one bull calf; F. A. Amesford, Eldorado, Ont., one ram lamb; T. Haig, one ram lamb; D. O'Brien, Duro P. O., one ram lamb; Geo. K. Sackville, Bewdley, Ont., one ram lamb; Russell, Springbrook, Ont., pair of yearling ewes; Richard Smyth, Port Elgin, Ont., one sow; M. Mahony, Campbellford, one boar; A. Hay, Campbellford, one; John Nixon, Trent Bridge, Ont., one. We have just bought a very fine bull calf to head our herd from G. A. Brodie, Bethesda, Ont. He is deep red in color, very long in the body, on short legs, very straight both above and below. He is of the Miss Rawden family, and has for his ancestors such bulls as Hopeful = 6375 (55902) (imported), Diphthong (17650), Scarlet Velvet (18048), and other good ones. We have at present sixteen calves, five heifers, and seven bulls, from a few days old to eight months. Prospects for Shorthorns are very bright, and have every appearance of being better.

NOTED CLYDESDALE STALLIONS.

The scarcity of really first-class draft stallions should cause the advertisement of Mr. Alex. Galbraith, of Janesville, Wisconsin, to be of great interest. His Clydesdales include Scotch winners of the very first order, possessing fashionable breeding. There is room for a number of high-class Hackneys and Coach horses in many parts of Canada for the coming breeding season. Mr. Galbraith offers a number of well-selected animals of these classes that will do some districts much good.

J. P. PHIN'S SHROPSHIRE.

As the name of Mr. J. P. Phin, Hespeler, Ont., has been closely associated with Shropshires for many years, he requires no special introduction. We found a splendid, strong, well and uniformly covered flock of 40 odd breeding ewes at his farm, on March 1st, that were bred to a Mansell-bred ram last fall, whose quality is equalled by a very few, either in coloration or covering. The females were selected personally from the flocks of Messrs. Mansell, Thomas, Bowen Jones, Farmer, and Alfred Tanner, any of which has a world-wide reputation. Four splendid shearing ewes, a dozen ewe lambs, and about 35 ram lambs, with the breeding ewes, compose the flock, and of the ram lambs we feel disposed to state that among them might easily be selected material for showing honors; in fact, they are a strong, good bunch, and should attract the attention of parties requiring sires for another season, which we judge will not be overly plentiful. Mr. Phin stated to our representative that he would like to see the three-shear sheep go into a good flock, as he is now doing with him, and as his stock have turned out highly satisfactory we would consider it an excellent opportunity of obtaining a good imported ram.

IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE.

W. R. Rowman, Mt. Forest, Ont., writes:—"We will be compelled once more to change our advertisement, as the past few weeks has made a great clearing out of our stock. Since Jan. 1st '99, we have disposed of \$1,400 worth of stock, for which we realized better prices than formerly. It would take up too much room in your valuable paper to itemize each sale. Suffice to say we have sold 12 bulls, 11 females, and between 30 and 40 boars and sows. We have shipped stock to all parts of Canada, a good number to the Northwest and U. S. Our lambs are coming strong—twins and triplets, as a rule; have lost none so far. Our Suffolk Downs, numbering over 30, bred from Lord Ellesmere's flock, England, are pleasing us, as they are great growers and vigorous. We have three York sows due to farrow in March, April, and May, from which we expect something good. Our Snell-bred Berkshire sow, from imported Star One, is suckling ten hearty youngsters. We are offering young pigs at \$6 each, so as to keep our stock low during summer months, as we contemplate building. We ship all sheep and hogs C. O. D., as we find it more satisfactory to both parties. We are well satisfied with the ADVOCATE as an advertising medium."

CATARRH CAN BE CURED.

Catarrh is a kindred ailment of consumption, long considered incurable; and yet there is one remedy that will positively cure catarrh in any of its stages. For many years this remedy was used by the late Dr. Stevens, a widely noted authority on all diseases of the throat and lungs. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all sufferers from Catarrh, Asthma, Consumption, and nervous diseases, this remedy, in German, French or English, with full directions for preparing and using. Sent by mail by addressing, with stamp, naming this paper, W. A. NOYES, 320 Powers Block, Rochester, N. Y.

ESTABLISHED 1889

BELLEVILLE

BOGLE & JEFFERS,

BUSINESS COLLEGE

Students have a **LARGER EARNING POWER** who acquire the following lines of preparation under our efficient SYSTEM OF TRAINING. IT HAS NO SUPERIOR.

1. Bookkeeping.
2. Shorthand.
3. Typewriting.
4. Telegraphing (Commercial and Railway Work).
5. Civil Service Options.

Students may commence telegraphing on the first of each month, and the other departments at any time.

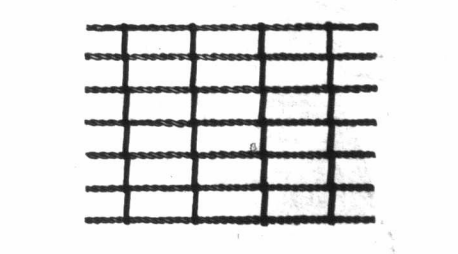
J. FRITH JEFFERS, M. A., Principal.
 Address: BELLEVILLE, ONT.

FARMERS WANT IT

AND WILL HAVE IT.



The Frost Wire Fence Co.
 WELLAND, ONT., CAN.



We can cut your 1899 fence account just in half. We claim we have the most practical fence on earth. Four miles of it in use at the Experimental Farm, Guelph. Send for prices.

TORONTO PICKET WIRE FENCE CO.
 221 River Street,
 TORONTO, - ONTARIO.

WRITE FOR SAMPLE STAY and full particulars Machine \$10

Wholesale Price where we have no Agents. AGENCY FREE. NO DUTY TO PAY

THE BOWEN CABLE STAY FENCE CO.
 Box No. 58 NORWALK, OHIO, U.S.A.

\$8 to \$15 MACHINE

To weave your own fence. Colored and plain. 30 inch high, at 25 Cts. per Rod. 250 yds wire for 100 rods. Agents Wanted. Ontario Free. GASTON Wire Fence Mach. Co. Box G. Mt. Sterling, O.

S. CROUCH, Box 12, Ridgetown, Ont., General Agent for Ontario. **FRED SMITH, Box 16, Brandon, Man.,** Agent for Manitoba and N.-W. Territories. No duty on wire.

CYCLONE FENCE CO.

From 27 to 60 inches. From 7 to 11 Cables.

Build Your Fence Cheap. 100 Rods Per Day.

TORONTO, ONT.

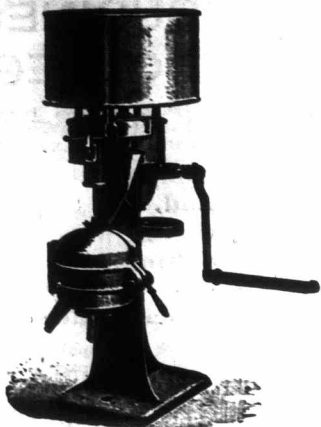
FENCE MACHINE

Still at the front! Not only the cheapest, but fastest and best. Price, \$5.00. Highest grade Coiled & other WIRE for sale. Write for particulars. Agents wanted. McGregor, Banwell & Co., Windsor, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

Alexandra Melotte

TRY THEM



TRY THEM

CREAM SEPARATORS

FOR PARTICULARS, APPLY TO
R. A. LISTER & CO.
LIMITED,
575 to 581 St. Paul Street,
MONTREAL, - QUEBEC.

SUPPORT HOME MANUFACTURE

CANADIAN-MADE HAND SEPARATORS



Turns easy. Open bowl. Well finished. Most durable. Price reasonable. Best investment farmers can make. Catalogue free. Dairy Supplies of Every Description. Genuine Patent Separator, for lbs. prints, neatly and tastefully printed. By mail, post-paid. Prices reasonable. Write us.
JOHN S. PEARCE & CO.,
LONDON, ONT.

What is Your Work?
If you are dissatisfied with your situation, your salary, your chances of complete success, write to The International Correspondence Schools, Scranton, Pa., and learn how others so situated are getting an education by mail.
Students in the courses of Mechanical or Electrical Engineering, Architecture, or any of the Civil Engineering Courses are soon qualified for salaried drafting room positions. Write for pamphlets.
The International Correspondence Schools, Box 900, Scranton, Pa.

29 of our Students have recently taken good situations; 4 positions remain unfilled.
CENTRAL Business College
STRATFORD, ONTARIO,
gives the "best" in the line of business or shorthand education. In fair competition our graduates are nearly always chosen, while others are turned aside. Enter now. Circulars free.
-on **W. J. ELLIOTT, PRINCIPAL.**

WOODSTOCK BUSINESS COLLEGE
AND SHORTHAND SCHOOL.
We give an all-round practical education. Every transaction and every paper is real. Special advantages in shorthand. Connected with the Business Educators' Assoc'n of Canada. Write for particulars.
H. M. KENNEY, PRINCIPAL, WOODSTOCK.

To Creameries:
Wanted: BETWEEN TWO AND THREE THOUSAND GALLONS CREAM, MUST BE HIGH TEST, CREAM BUTTER FAT. DELIVERED AS REQUIRED DURING SUMMER. ADDRESS:
FARMER'S ADVOCATE, - LONDON, ONT.

GOSSIP.

LIVE STOCK AUCTIONEER.

At a time when pure-bred stock sales are demanding the attention of breeders everywhere in the Dominion, much responsibility rests with the auctioneer, and in his hands, to a great measure, rests the success or otherwise of a large sale. Mr. Thomas Ingram, whose address is Guelph, Ont., and whose advertisement may be found in another column, has made a life-long study of this business, and during that time has handled many very important pure-bred stock sales in the Province of Ontario, and is in possession of recommendations from men whose integrity is above reproach, and whose judgment is sound on live stock matters. Mr. Ingram is in his prime, and with the influence he is able to command, we think he has a brilliant future among the pure-bred stock breeders of the country.

W. R. KNIGHT'S POULTRY.

In no respect has the live stock industry stepped ahead faster than in the poultry department, and wide-awake poultry fanciers are keeping a sharp lookout as to the most popular breeds to handle. It is true that some breeds appear to be peculiarly adapted to the requirements of the farm, and with this in view, Mr. W. R. Knight, of Bowmanville, Ont., has associated himself with the business. Upon our visit to his farm, a few weeks ago, we found him in active preparation for a brisk season's business in eggs from Bronze turkeys, Pekin and Rouen ducks, B. P. Rocks, Andalusians, Blk. Javas, Houdans, B. Leghorns, and Blk. Spanish, and as he has exercised great care in the selection of foundation stock and has been able to win at the leading poultry shows, we predict for him a prosperous season.

JACOB B. SNIDER'S POULTRY.

Each succeeding visit to Mr. Snider's poultry farm at German Mills, Ont., finds the stock in some special way improved over the last, and we doubt if a finer lot of light and dark Brahmans, Dorkings, White and Barred Rocks, can be found. He is also particularly strong in White Wyandottes and Black Minorcas, and in each pen Mr. Snider has been very particular to obtain the very best sires of each breed, approved type and fashionable strains. The eight splendid Light Brahma hens, of Felch strain, are headed by a cockerel from imported stock, and are splendidly feathered and laced. The dark variety were selected from George & Spettigue breeding, and a McKenzie-bred cockerel was selected to cross on them, while the Dorking cockerel comes from not only prize birds, but his sire was pronounced by expert judges to be the best bird of the breed in Manitoba. Each breed has been selected from the best obtainable and kept in the finest form.

W. D. REESOR'S TAMWORTHS.

In the advertising columns of this issue may be found the new advertisement of Mr. W. D. Reesor, Markham, Ont., in which he offers some 15 Tamworth brood sows in good, healthy, strong condition, and rising a year old. This stock was selected from some of the best herds in Canada, and only that a change has lately come over Mr. Reesor's business through the sickness of his father the stock would not have been offered. Among them are some very choice, straight, deep sided, lengthy sows, running from 150 to 225 pounds in weight, and served by a George-bred boar. We had not the pedigrees at hand at the time of our visit, but their individual merit, and the herds from which they came, is sufficient to recommend them, and Mr. Reesor will cheerfully advise intending purchasers as to breeding, price, etc. In the same advertisement it will be noticed that a few choice young Jersey females are offered, four of which are out of a full sister of Adelaide of St. Lambert, 82 pounds milk per day in Miller & Sibley's hands, and sired by Capt. Rolph's great bull Two Hundred Per Cent. This kind of stock should not be long in the market, and parties desirous of adding gilt-edge young stock to their herds will only consult their own interest in making early application for it.

P. R. HOOVER & SONS' TAMWORTHS.

Since the introduction of Tamworth pigs into this country, few, if any, firms have kept steadily advancing in more substantial lines than Messrs. P. R. Hoover & Sons, at Green River, Ont. Their aim has been to obtain and breed only from the most satisfactory stock, and to ship none but those they would wish to have shipped to themselves. They have never experienced a boom—in fact, have not bid or wished for one—but their reputation is constantly extending, and each sale in a new quarter makes for themselves a new customer. The comfortable new pens, lately constructed upon modern principles, contain a splendid lot of young, fresh brood sows—in fact, perhaps the best lot the firm ever owned at once—a dozen in all—collected from different strains, each bearing individual merit as to conformation and pedigree, and mated to a personally-selected young boar from the Ontario Agricultural College herd (D. A. C. 419), which has developed into a strong, useful animal, has developed constitution and a grand feeder. Having lately consigned the greater portion of their young salable stock to Mr. McGill, in Nova Scotia, at highly satisfactory prices, the herd was somewhat reduced at the time of our visit early in March, but as the sows had commenced farrowing they will not long lack in numbers. In a letter signed by Messrs. J. M. Gibson & Son, Palmer, Ill., dated Jan. 21st, '00, the firm not only expressed much satisfaction at the treatment they had received at the hands of Messrs. Hoover & Sons, but stated that they had swept the premium list for Tamworths with the progeny obtained from Messrs. Hoover & Sons' stock, at the Illinois State Fair, and that the stock found ready buyers at good paying prices. In the same letter they were enquiring for more stock to fill their orders. Lately added to the stock is a very choice three-year-old imported Berkshire sow, Ida 4521, by Manor Lad 6589 and out of Lady Pippin (4594), in good breeding condition. She has proven herself a mother of high order, her smooth made, At the same time a strong, twenty months' boar of the same breed was purchased, but as the firm are not desirous of extending beyond the Tamworths, they hold the Berkshire for sale, and at the prices we overheard, we think they will not remain long at Green River.

BEFORE YOU BEGIN

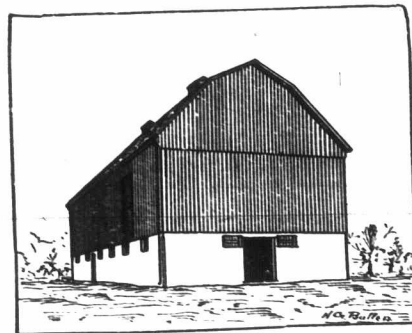
to paint anything, a hitching post or a house, a barn door or a parlor floor, see that you have the right paint for that particular purpose. No paint has ever been made equally good for painting everything—buggies and houses and furniture. The greatest triumph of modern paint-making is the making of a different paint that looks best and wears best for each class of painting. It has taken years to find out just what ingredients and what proportions are needed for each. Each must be ground and mixed by special machinery with the utmost skill and accuracy. If you go by the labels on the cans of

THE SHERWIN-WILLIAMS PAINTS

you are sure of getting the best that can be made for your purpose. They have a reputation of 30 years' success, and every can is fully guaranteed. Our little book on painting will help you—it is free.

THE SHERWIN-WILLIAMS CO., Paint and Color Makers.
Canadian Dept., 21 St. Antoine St., Montreal.
FOR SALE BY JAMES REID & CO., LONDON, ONTARIO.

WITH COMPLIMENTS
ESTATE OF JOHN BATTLE,
THOROLD, ONT.



This is the Barn that the Hurricane Blew Down.

But the walls Built with Battle's Thorold Cement stood firm as a rock.

THE Thorold Cement IS TESTED BY A HURRICANE.

Read what Mr. Burt. Kennedy, of Ilderton, Ont., says about Thorold Cement:
ILDERTON, ONT., January 27, 1899.

ESTATE OF JOHN BATTLE, Manufacturers Thorold Cement, THOROLD, ONT.:
Dear Sirs,—We think Thorold Cement is the best Cement in use for building walls and floors in stables. Last June I built a wall 36 x 100 x 11 feet high at back and 8 feet at front. We raised the days building it, under the management of Mr. P. Bovey, Ilderton (five men in all). We raised the barn on the wall in twelve days after it was completed. The next day there came a hurricane, which blew down the framework. It all fell on the wall but one bent. The posts were 26 feet long, and seven of them broke. The wall stood the test, which was a very trying one, and it only chipped off a little in one place. I intend putting floors in this spring with Thorold Cement, for I think no other Cement could have stood such a test.
Yours truly,
BURT. KENNEDY.

For Free Pamphlet with full particulars, address
ESTATE OF JOHN BATTLE,
THOROLD, - ONTARIO.
Agents wanted in unrepresented districts. -om

A PAGE OF HISTORY

The Wire Fence business has been so completely revolutionized by the introduction of

The Coiled Spring Page

that woven wire fence history begins and ends with it. There is more of it in use than of all other makes combined. Does not, this attest its superiority? Before buying any other fence get our illustrated circulars. Also '99 prices. They are way down.

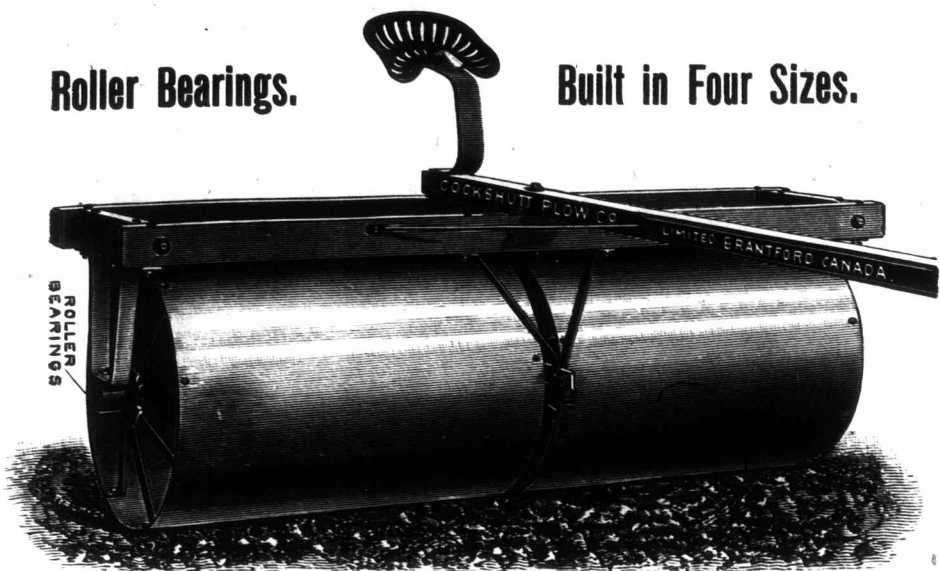
THE PAGE WIRE FENCE CO. LTD.
WALKERVILLE,
ONT.

COCKSHUTT'S STEEL ROLLERS

.. ARE HIGH-GRADE ..

Roller Bearings.

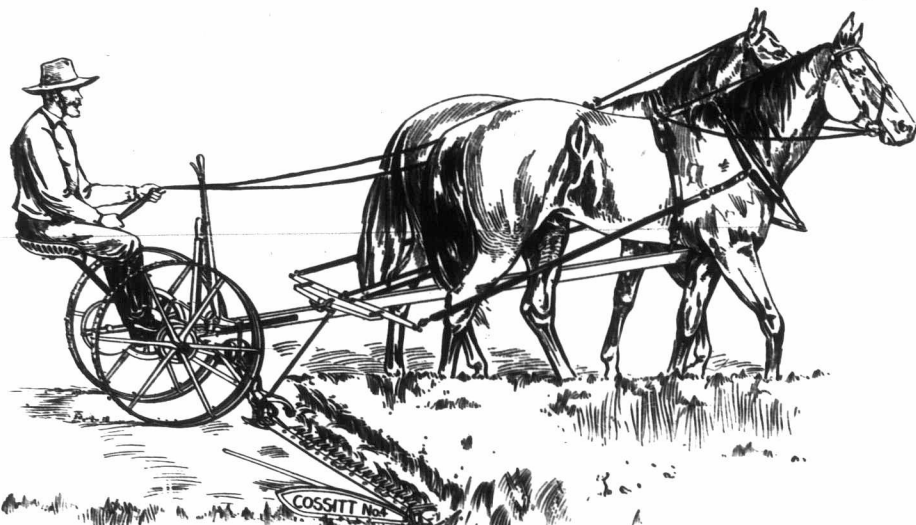
Built in Four Sizes.



ASK YOUR AGENT, OR WRITE DIRECT.

Cockshutt Plow Co., Ltd., BRANTFORD AND WINNIPEG.

The COSSITT BROS. CO., Ltd.



COSSITT'S NO. 4 MOWER

That has made itself famous throughout Canada, complete with Patent Roller Bearings and Foot Lift. Customers write pronouncing it the strongest, simplest, and the most free-cutting machine on the market. Send for Catalogue.

HEAD OFFICE AND WORKS: om BROCKVILLE, ONT.

MAXWELL CORN WEEDER



ONE OF THE MOST PROFITABLE AND LABOR-SAVING IMPLEMENTS ON A FARM.

Endorsed by the leading Agriculturists in Canada and United States.

A Scuffler eight feet wide, suitable for all kinds of root crops, whether in rows or broadcast. Made in three sections. Address us for particulars.

DAVID MAXWELL & SONS
ST. MARY'S, ONTARIO, CANADA.

NOTICES.

In writing to advertisers, mention the "Farmer's Advocate."

Up-to-Date Bicycles.—In our advertising columns may be found the extensive advertisement of the Welland Vale Mfg. Co., whose large plant at St. Catharines is this season again taxed to its utmost capacity to meet the demand for their up-to-date bicycles. As the firm puts out four grades of wheels, and set their price accordingly, they are in a position to meet each and every buyer. Their one-piece crank is one of their strong points, and as they guarantee that part to be perfect the buyer runs no risk. While visiting the firm in February we were shown many decided improvements which would seem impossible to improve upon, especially about their bearings, and with their scope of specifications each and every one can get suited. Get their catalogue.

Mr. R. C. Teft's Goutre Cure.—In our advertising columns may be noticed the new advertisement of Russel C. Teft, Markham, Ont., in which he offers a guaranteed cure for that distressing condition, Goutre, so prevalent among lambs and sheep in some sections, as well as among the people. Members of the FARMER'S ADVOCATE staff have personally known Mr. Teft for some time, and know his offer is genuine, and from the pile of testimonials we saw, which Mr. Teft assured us came unsought, we have every confidence in the remedy. The following testimonial is one of many, and speaks for the treatment: "This is to certify that the medicine, 'Siccanta,' that I got for my neck, reduced it down from 17 inches to 15 inches, its natural size. That was eight years ago, and my neck has been all right ever since." Signed, GEO. H. SHERRICK, Richmond Hill, Ont.

Three New Horse Books.—There have recently been issued from the pen of no less an authority than Sir Walter Gilby Bart., the noted English breeder of Hackneys and Shires, three highly artistic, well written and useful books, titled as follows: "The Harness Horse," "Young Race Horses," and "The Great Horse." The first named deals in a descriptive way with the various classes of single and double high-class harness horses in England. The book is designed to interest British breeders to produce the classes of light horses that are being largely imported from other countries. The volume on young race horses has been written with a view to help breeders of this noted British class of stock in the matter of maintaining and if possible increasing their original standard of excellence. Such matters as trainers' difficulties, treatment of mares with conception, natural treatment and food, and many other phases are dealt with in a masterly way. The work on the great horse or Shire horse is largely one of history, dealing with this popular English draft breed from the days of the Ancient Britons to the present time. We will prize this work as a precious volume in our library.

The Frost Wire Fence Co.—The plant of the Frost Wire Fence Co. at Welland, Ont., is a branch of a large firm of the same name at Cleveland, Ohio. The special feature in the construction of their fence is a peculiarly effective, yet small, lock, which, when forced into position, holds the wire perfectly immovable as far as ordinary, or, rather, extraordinary strain is concerned. We witnessed two large men standing on one wire which did not shift a particle. The lightness, compactness and cheapness of the little arrangement are among its strong points. The firm also manufacture a splendid gate in all sizes, and for its weight we have yet to see one of superior or even equal strength. They furnish hangings and fastenings complete, and we doubt if a really good wooden gate can be hung for the price of this one, while in the wearing and other desirable qualities we consider there is no comparison. As the firm are in touch with large wire manufacturing establishments in the United States, they are in a position to meet consumers of these goods upon liberal terms. Interested parties should not fail to obtain their catalogue, and make especial enquiries regarding their gates, which are highly ornamented as well as strong, durable and cheap.

A Busy Seed House.—One of the busiest places in Toronto was recently visited by our correspondent, when he was shown through the seed establishment of Wm. Rennie. The rapid increase in this firm's business has necessitated a large addition to their premises, to enable them to provide for and handle the many thousands of orders annually received from abroad and throughout Canada. They now occupy the buildings from Adelaide to Lombard streets. The department on Lombard street, under the management of Mr. John Rennie, is devoted to the handling of seed grain and clover and grass seeds. A complete line of the most improved cleaning machinery is kept running night and day preparing these seeds for market, and Rennie's best re-cleaned grades have now come to be recognized as a standard for excellence, and are in brisk demand by European buyers. Hoppers holding eighty tons of seed keep the machines continually supplied. After passing through a number of large storerooms, filled from floor to ceiling, we come to the mail order department, where we find a large number of clerks busy collecting, checking and packing orders all day long, and through the busy season another lot come on for all night as well. This department has been greatly enlarged and arranged on the latest and most improved lines. If we judge from the extensive preparations made and facilities provided for handling a large number of orders quickly, this firm is justly acknowledged to be the largest mail order house for seeds and plants in Canada. The manager of this department, Mr. Thos. Rennie, is thoroughly versed in its requirements and the most reliable sources of supply from all over the world. As this firm believes that the only way to give satisfaction is to always supply fresh seeds, customers can rely on the seeds offered by Wm. Rennie as being always pure and fresh, and only those selected which are adapted to stand our Canadian climate. It is a curious thing that a number of people in their haste to secure this firm's reliable seeds forget to give either their names or addresses, and so their orders still wait for them to write again. Before leaving, we pass through the store and offices on Adelaide and Jarvis streets, where we meet the courteous head of this department, Mr. Robt. Rennie, and his efficient staff of office help.

HORSEMEN! THE ONLY GENUINE IS

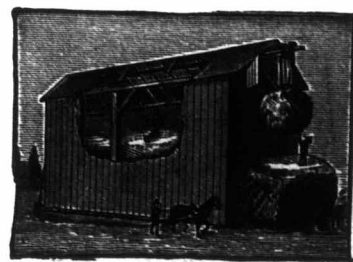


See large advertisement on page 424, Sept. 1st (1898) issue, and which is of unusual interest to the readers of the FARMER'S ADVOCATE. And any horseman interested in a reliable remedy can well afford to investigate the matter.

The Lawrence-Williams Co.,
21 Front St., West, Toronto, Ontario.

BUCHANAN'S (Malleable Improved) PITCHING MACHINE

For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable Iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter
Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED
Circulars, Prices and Terms on application to
M. T. BUCHANAN & CO., Ingersoll, Can.

American Standard Corn and Bean Planter.

PRICE, \$2.00 WITH ORDER.

It is the only Planter containing an Adjustable Dropping Disc.

Upon examination you will find it accurate, light, easy to handle, and the best made Planter ever offered for sale.



FOR SALE BY B. D. STEACY, Importer, BROCKVILLE, ONT. SOLE AGENT FOR CANADA.

STABLE FITTINGS

MADE IN

CAST IRON, MALLEABLE IRON, BRASS AND BRONZE METAL.

Send for our new Catalogue of Stable Fittings. We make and carry in stock the finest and most complete line in Canada.

The Vokes Hardware Co., LIMITED,
TORONTO.

PLEASE MENTION FARMER'S ADVOCATE.

NOTICES.

Spraying for Profit.—A neat, handy and very useful little book has been issued by the Horticultural Pub. Co. of Griffin, Ga., dealing with the best methods for suppressing the more common injurious insects and fungous diseases of plants by means of spraying with the various proved mixtures. It is in neat pamphlet form, concisely written and helpfully illustrated. Price, 25 cents.

Gratis Information.—The Supervising Committee of the Experiment Farm at Southern Pines, N. C., have just issued a very valuable and important work on "Plant Food." The book is well printed and handsomely illustrated with many fine pictures. It would pay farmers to read this book, which we understand can be obtained free by sending to the Director, Exp. Farm, Southern Pines, N. C.

A Great Commercial Enterprise.—Among the many best and greatest things that North America possesses, certain manufacturing establishments always stand out conspicuously. This is notably true of The Sherwin-Williams Company, the home plant of which, at Cleveland, Ohio, holds a unique position in the manufacturing world. The Sherwin-Williams Company owns its distinction not only to the fact that it is the largest producer of paint in the world, but as well to the system and method of manufacture, the splendid conduct of its factory and the institutions established for the benefit of employees. Besides the main plant at Cleveland, The Sherwin-Williams Company have factories at Chicago and Montreal, and their own warehouses and branch offices at New York, Boston, and Toronto, with several auxiliary interests at other trade centers. The Cleveland plant consists of fifteen large buildings conveniently arranged for shipping, both by railroad and water. The Company's printing and advertising establishment is in a separate building adjacent to the main plant. For the convenience of employees a dining-room and kitchen is provided where lunches are served to all employees of the Company. Special wash-rooms and bath rooms are also provided, while perhaps the most unusual feature in the establishment is a laundry, in which all the Company's towels, aprons, table linen, etc., are laundered. The Company always extend a cordial invitation to visiting paint dealers who desire to inspect their factories.

The Bone of the Farm.—T. C. Wallace (Wallace & Fraser), Toronto, Ont., writes:—"To blame Providence because we do not always get satisfactory crops of this or that farm produce seems to be the rule among farmers. To blame our mismanagement, or rather we might term it our misconception of the natural laws, would be more reasonable. I am often told that spring wheat does not do as well as formerly because the climate is changing, yet we find that in the matter of temperature, at least, there is not a variation of more than a degree in the average of fifty years. The true reason of the difficulty is to be found in the soil. Winter wheat, of course, has a much longer season of growth, and the plants of it in the spring may be compared with a yearling going on pasture as against a newborn calf, as a representative of spring wheat in the comparison. When we remember that plants feed in comparison to their strength, we can easily understand that the larger, stronger and more vigorous plants of the winter wheat have a decided advantage. But the real truth is that under our system of farming the land has become weakened so that the spring wheat cannot find enough readily assimilable food in the soil to develop thoroughly. The day is fast approaching when the winter wheat will become poorer for the same reason.

"I am asked what is this weakening, and how it occurred. Farmers will say they have been very careful to manure plentifully with farmyard manure. Those who have done so have done well, but not well enough. Farmyard manure is composed of the manure, solid and liquid, of the animals kept on the farm, and the straw of the crops. The manure gives us nearly all the elements of the food consumed by the animals, excepting that which makes the bone of the animal. The flesh is continually wasting, and is largely carried off by the sewage of the body. The bone is permanent and non-wasting, and only such of the bone-forming elements of the fodder as are not assimilated by the animals is carried off in the manure. For this reason the animal manure must be deficient in bone-making material. The straw of the crops used for litter contains most of the soft parts of the plant, but the bone of the plants is mostly carried to the grain or seed, consequently the straw used for litter must be deficient in the bone-forming element. Further investigation shows us that this bone element is in poor supply in the land in comparison with the other important elements, and what there is of it is in such an insoluble condition that only the stronger plants can avail themselves of it. This bone element is called the "bone earth" of the soil, and is phosphate, a compound of phosphoric acid and lime. It has still another important bearing on the subject, for phosphoric acid is the dissolving influence which keeps the other elements in solution in the plant while growing, so that it may be eventually carried to the grain or fruit. Then as we build the bone and muscle of the animals and people on the farm, and send our grain and produce to build the bone and muscle of the inhabitants and animals of the cities, we are surely weakening our land, despite our best efforts to keep up fertility with the manure of the farm.

"Remember the cities through their sewers are daily pouring into the sea the "bone earth," or true strength of our land, until we are unable to obtain from our soil either the quantity or quality of the crops of former years. How then can we sit with folded hands and blame Providence for this? Science has diligently sought for and found sources of this phosphate of which we must avail ourselves. Science has also found for us a practical method of entrapping and bringing to our aid the element of the atmosphere which gives us the size and structure of our plants, namely, by the growing of clover. But science has gone further, and shown that to grow clover so that it will take up and assimilate this element of the air (nitrogen) it must be well supplied with phosphate. The elements of farmyard manure are not perfectly assimilated, and are often wasted for the want of phosphate. The form of phosphate to be used, however, is a very important matter. It must be perfectly assimilable to the plants, but as a matter of economy and for the future benefit of the land it must be lasting. Think of this."

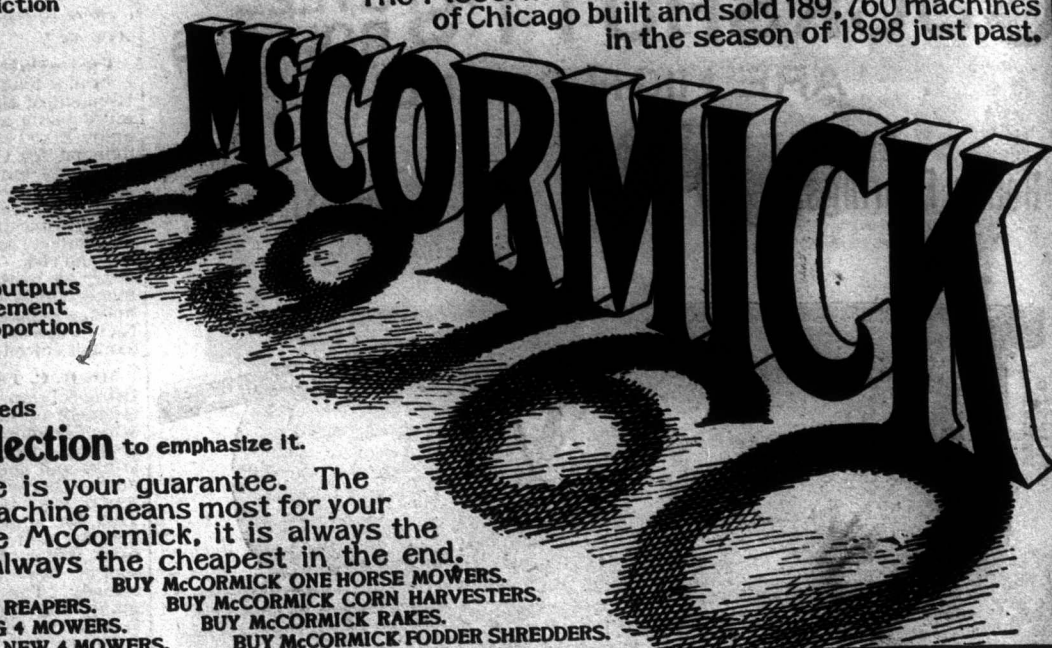
Truth is stranger than fiction
You know it
And
You forget it
Until something happens
Then
You realize it
Thus
That enormous output
Of machines
For which
McCormick is famous
All over the world
That output
Which dwarfs all other outputs
By this shrewd advertisement
Shows its mammoth proportions.
And you are astonished
Yet you knew it
Knew it well
Truth is truth but it needs

A Strange Reflection to emphasize it.

Our great sale is your guarantee. The most modern machine means most for your money. Buy the McCormick, it is always the best and it is always the cheapest in the end.

- BUY McCORMICK BINDERS.
- BUY McCORMICK DAISS REAPERS.
- BUY McCORMICK BIG 4 MOWERS.
- BUY McCORMICK ONE HORSE MOWERS.
- BUY McCORMICK CORN HARVESTERS.
- BUY McCORMICK RAKES.
- BUY McCORMICK FODDER SHREDDERS.

The McCormick Harvesting Machine Company of Chicago built and sold 189,760 machines in the season of 1898 just past.

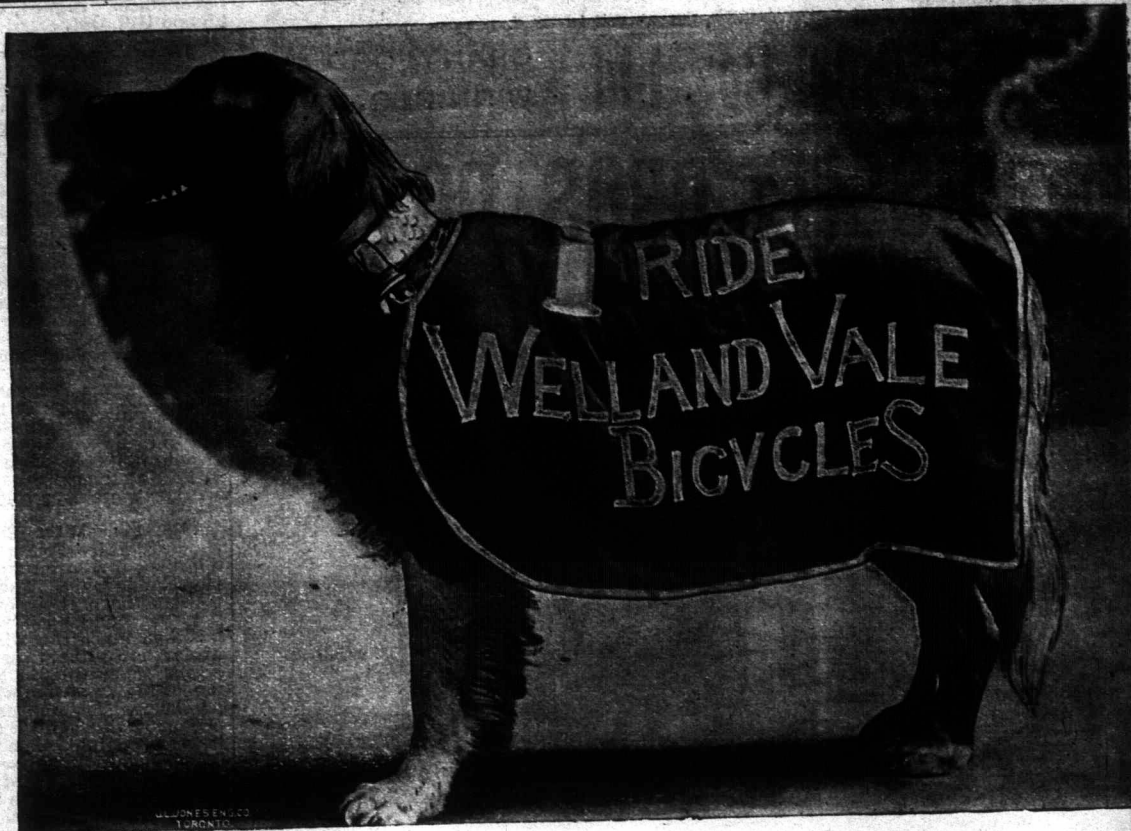


"Chainless"

"Perfect"

"Garden City"

"Dominion"



WELAND VALE MFG. CO., Limited,

ST. CATHARINES, ONT.

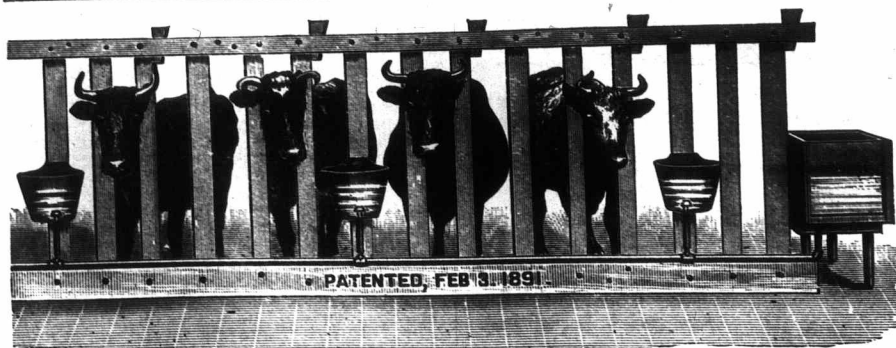
GOVERNMENT ANALYSIS

LABORATORY OF INLAND REVENUE,
OFFICE OF OFFICIAL ANALYST,
Montreal, April 8, 1895.

"I hereby certify that I have drawn, by my own hand, ten samples of the **ST. LAWRENCE SUGAR REFINING CO.'S** EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99 ⁹⁹/₁₀₀ TO 100 per cent. of pure Cane Sugar, with no impurities whatever."

(Signed) JOHN BAKER EDWARDS, Ph. D., D.C.L.,
Prof. of Chemistry and Public Analyst, Montreal.



RANEY, SELBY & COMPANY, BOX 620, KINGSTON, ONTARIO.

IT DEPENDS ON THE PROCESS

Used in the manufacture of salt whether the production is of the highest grade or not.

The "Vacuum Process" for making salt is the most modern and scientific. It makes a finer and purer salt, most readily dissolved, and perfectly even in crystal.

WINDSOR SALT

Manufactured by
The Windsor Salt Co.,
LIMITED,
WINDSOR, ONT.

ONTARIO FARMERS' FAVORITE!
BETTER THIS SEASON. IMPROVED STOCK AND INCREASED DEMAND. 12 GOLD MEDALS BEAR GENUINE WORTH AND STERLING QUALITY. BE SURE YOU INSIST ON HAVING

ROGERS' "PEERLESS" MACHINE

You will effect a great saving.



QUEEN CITY OIL CO., Limited, TORONTO.
SAMUEL ROGERS, President.



4, 5 AND 6 FOOT CUT.

"O YES!"

Our No. 8 Mower will start in heavy grass without backing the team, and will cut grass any other mower can cut. Will run as easy and last as long. We sell our machines on their merits, and build our reputation on "quality," not the quantity, of goods we make.

THE FROST & WOOD CO., LTD.,

HEAD OFFICE AND WORKS: SMITH'S FALLS, ONT.

Toronto Branch: 77 Jarvis Street. Winnipeg Branch: Market Square.

...THE...

MACHINES

.. THAT MADE ..

AMERICA FAMOUS!

An Experiment in Optics

AND A MEMORY EXERCISE.



Hold the paper at arm's length; now bring it slowly toward the eye, and within good reading distance; read the name in the center of the cut several times, with a distinct pause between each reading. It represents the name of the most reliable and efficient machinery manufactured in the world. Keep your eyes open and look it over. It will pay you to do so.

Deering Harvester Co.

Main Office and Factory:

CHICAGO, U.S.A

Permanent Branch House:

LONDON, ONT.

BIG MONEY FOR AGENTS



THE STAR RIVETER

For MENDING HARNESS, BELTING, etc. Indispensable to Farmers, Liverymen and Threshermen. **STAR RIVETER** complete, with 50 tubular rivets, \$1.00. Best selling article ever introduced. Agents write for special prices and territory.

ENTERPRISE MAN'G CO., TORONTO, ONT.



MARK YOU

your live stock of whatever kind with the thoroughly reliable, rust proof, non-corroding, easily read...

ALUMINUM

"STAY THERE" EAR MARKERS Can't pull out, rust out or tear out. Name, address and consecutive numbers on each tag. Free sample, catalog, etc. WILSON & HARVEY MFG. CO. 201 Lake St. CHICAGO, ILL.

GOSSIP.

Mr. Reuben Gentry, of Danville, Ky., who showed Berkshires with great success at the Omaha exhibition last year, and afterwards sold out his herd by auction, has accepted the position of manager of the Berkshire herd at the Billmore farm of Mr. George Vanderbilt. Mr. Gentry went to England in January for an importation of Berkshires to strengthen the Billmore herd, and is returning with a large number of pigs (principally young things), with a few noted breeding boars and sows selected from a number of the best known herds.

At the Birmingham Shorthorn show and sale, March 1st to 3rd, the total entries were 458. The first prize bull, over 12 and under 15 months old, Manor Victor, owned by Mr. A. Hiscox, jr., Motcombe, was sold for 205 guineas (\$1,075) to Hon. W. F. D. Smith. Mr. Atkinson's Estimation won first in the class over 10 and under 21 months, and was sold for 200 guineas for Buenos Ayres. Mr. T. R. Wilkin's Cashier, bred in Aberdeenshire, 4 years old, won first in the aged class and brought 77 guineas. For bulls over 15 and not over 21 months, Captain Duncombe's Pearl Diver was first, and brought 68 guineas; while Mr. Wyatt's Lavender Lad 3rd, the second prize winner in the same class, brought 140 guineas. Hon. W. F. D. Smith being the buyer. Mr. Brierley's first prize bull calf, Royal Jeweller, sold for 120 guineas to Mr. Jones, and Mr. Folgamb's second prize calf, Beau Sabreur, brought 82 guineas; fifty-four head averaged \$62 10s., or about \$312.

At the Inverness bull show and sale, March 1st, Lord Lovat's first-prize winner in the junior class, and the champion of the breed at this show, Falstaff, a magnificently fleshed and shaped red son of Royal Star, was purchased by Mr. Duthie, of Collynie, at 200 guineas, Mr. McPellor, of Buenos Ayres, being his closest competitor. Dictator, from the same herd and by the same sire, fell to Mr. Perrins, of Ardross, at 50 guineas. For his four bulls at Inverness, Lord Lovat realized an average of \$82 8s. 6d., which is even better than his Perth average of \$73 10s. The next best average in the Shorthorn section was Rosebough's \$34 13s. 6d. for four, Balmakie being third with \$33 12s. 6d. for five. The highest average in the Polled-Angus section was made by the Countess Dowager of Seafield, who sold three at \$44 16s. each. Mr. Bruce was second with \$37 5s. for four, and Sir George Macpherson Grant third with \$33 19s. for six. The highest priced bull was Prince of Waterside, sold for 51 guineas.

HIGH-PRICED DODDIES.

At the public sale of Aberdeen-Angus cattle made by J. Evans & Son, Emerson, Iowa, at South Omaha, March 10th, the bull Gay Lad 19538 sold for \$3,050 to Thomas Mattison, South Charlestown, Ohio. Another bull, Lad of Emerson, brought \$1,005, and three others from \$500 to \$800. The cow Blackcap's Beauty brought \$1,105, and Blackbird of Emerson \$1,000. W. A. Henry, Denison, Iowa, being the buyer of both. Fifteen other females sold from \$500 to \$700 each; twenty-eight bulls averaged \$446.00; sixty-nine females, \$398; ninety-seven head, \$408 each.

IMPORTED BUFF ORPINGTON EGGS.

Poultrymen who wish to secure or maintain a position in the very forefront in the matter of introducing new breeds of fowls of a very desirable sort will be glad to see the advertisement in this issue of the new English breed—Rose-combed Buff Orpington—eggs of which are offered by Mr. T. G. Binney, Houghton Green, Playden, Sussex, Eng. Mr. Binney is an honorable gentleman and notable breeder of this desirable, comparatively new sort of fowls, and has a number of well-selected, high-scoring, unrelated pens. Orders received by him will have his prompt and careful attention, and will be packed carefully and well.

GOSSIP.

S. WICKS & SON'S JERSEY CATTLE, COLLIE DOGS, AND POULTRY.

From time to time Messrs. S. Wicks & Son, whose place at Mount Dennis, Ont., is but a few miles from the City of Toronto, have never lost what they considered a good opportunity to improve their Jersey herd. Not only choice pedigrees, but good animals have been selected, and to the mating of Violet's Leo and Perla's King with such cows as Violet of Glen Duart and Perla's Queen a few choice young things of both sexes are held for sale. Worthy of special mention are a couple of young solid colored bulls, constructed upon dairy principles, with sufficient constitution to recommend them, which should attract the attention of parties requiring young dairy sires, or to head pure-bred herds.

In Collie dogs the firm are making rapid progress, and four brood bitches are kept in the stud, with a fifth rising to maturity, and as Mr. Wicks has access to the great imported dogs, Benedict K. C. S. B. 4649, and Woodmansterne Comrod 95, K. C. S. B. 4623, we would consider him in a position to produce something choice. As a show dog Benedict has made a great record, winning 8 firsts at Toronto, 10 specials in England, 1st in Montreal in 1898, as well as winnings at less important competitions. In the future the firm intend to advance rapidly along this line, and some really good things may be expected.

In the poultry business Mr. Wicks has made breeding and developing a life-long study. He keeps in touch with many of the best English breeders, and is constantly receiving consignments of eggs and birds. He is running several different varieties, as his advertisement shows, and this spring has imported a consignment of the new variety known as Buff Orpingtons, which promise to become very popular in the near future. As Mr. Wicks was working on a modern incubator at the time of our visit, he will likely be heard from upon that line in the near future.

SALE OF SHIRE HORSES AT THE LONDON SHOW.

At the sale of Shires held in connection with the London show last month, 163 stallions and mares averaged \$74 18s. 7d. The highest price was 400 guineas for the aged stallion Hitchin Drayman II. The two-year-old stallion, Hallmark, by Calwick Hellroom, brought \$10 gs.; the three-year-old stallion, Moor's Statesman, by Regent II, 200 guineas, and the two-year-old filly, Jubilee Shire Queen, by King of the Toms, 210 guineas, which was the highest price for a mare.

It Pays to Care for Your Horse

The Crystal Rosette is double the size of this cut.



The Crystal Rosette is double the size of this cut.

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Is wonder-working in its effects. No other preparation in the world can equal it. It is the only speedy and sure cure for GALLS, SORE BACK AND SHOULDERS, CORNS, SCRATCHES, MUD SCALDS, ETC. National Gall Cure does its Good Work while the Horse is Working! For Sore Tests on Cows it gives immediate relief and certain cure.

OUR SPECIAL OFFER!

On receipt of 25 cents we will send a full size box of National Gall Cure and a pair of handsome Crystal Rosettes, like the illustration above, which are retailed at 50 cents a pair. Money refunded if not found satisfactory. National Gall Cure is for sale by all dealers. When ordering from us, please write name and address plainly, and enclose this advt.

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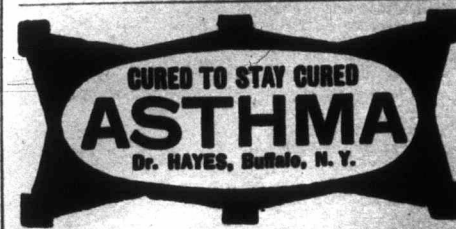
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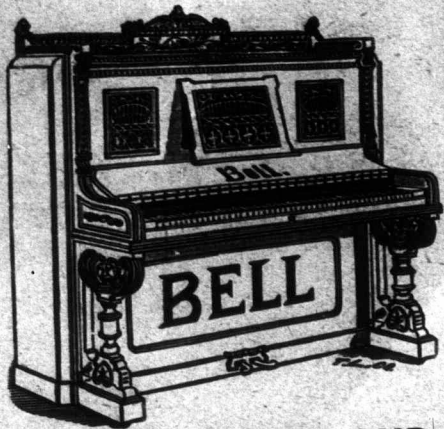
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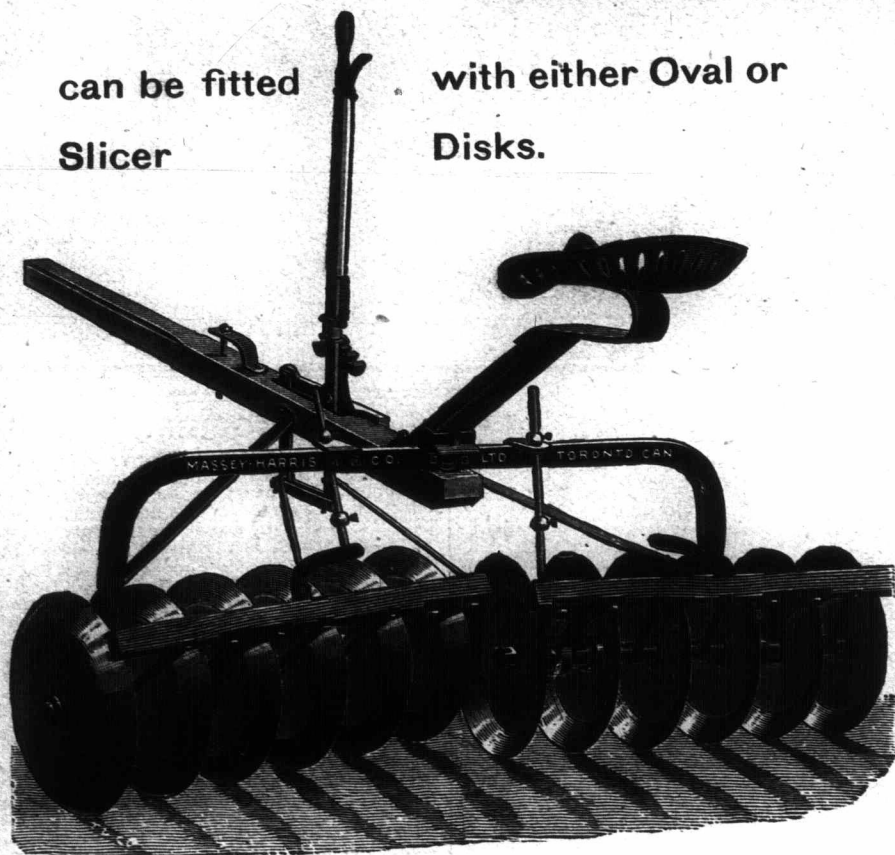
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The effective and convenient article for destroying lice on horses, cattle or poultry, ticks on sheep fleas on dogs, etc. Just the thing to dust in the nest and on the sitting hen. It destroys the large, gray-headed lice that are so fatal to chicks and turkeys.

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