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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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# The Farmer's Advocate

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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., APRIL 1, 1901.

No. 523

## EDITORIAL.

### Dairy Breeds for Dairy Work.

The trade statistics of Canada show that the export of cheese and butter from this country last year figured up in value, in round numbers, to about \$25,000,000. The dairy industry is by long odds the most important branch of all the agricultural interests of the Dominion. The value of our exports of live cattle for all purposes—beef, breeding, and feeding—is little more than one-third of that of our export of dairy products alone, while our export of bacon, hams and all other meats amounts in value to less than one-half what is received for the cheese and butter we export. Our dairy cows proved the financial salvation of the agricultural interests of the country during the dark years of the business depression of the last decade, making money steadily for their owners, and trade for the Dominion, when nearly all other industries were down in the dumps, and the dairy business has bulked larger than any other agricultural industry in the fat years which have followed the lean ones, the export returns for dairy products last year exceeding those of 1890 by over ten millions of dollars. The average production of milk per cow per annum has been steadily increasing, and it is beyond dispute that the dairy breeds, which have rapidly multiplied in this country in the last ten years, have been very largely instrumental in bringing about this increased production. In no class of pure-bred stock have the breeders shown greater skill, judgment and intelligence in improving the type and practical working capacity of their animals than have the breeders of dairy cattle. They have worked and studied with this purpose, and have succeeded at the same time in improving the conformation and constitution of their stock, and getting nearer to a uniform type.

All indications go to show that the pure-bred dairy herds in Canada are among the healthiest of our live stock, which is saying a good deal, since there is no country in the world where the general healthfulness of live stock is greater than in this Dominion. Canada stands high in regard to the quality of its dairy cattle. Our Ayrshires at the World's Fair at Chicago, in 1893, were a revelation of an ideal class of dairy cattle to the people of the United States, sweeping the prize list clean, and they have greatly improved since that time, as the grand display at our leading exhibitions amply attests, the best of judgment having been employed in breeding them for vigor of constitution and capacity for work as well as for beauty of conformation, while no expense has been spared in importing the best of new blood from the native health of the breed.

Many of the best of the great records of butter production by Jersey cows in America have been made by Canadian-bred cows and their offspring and descendants. At the Provincial Dairy Show in 1899, a Jersey cow, in an official test in public, and in strange surroundings, away from her stable companions, in two days' test gave 65.9 lbs. of milk, testing over 6½ per cent. butter-fat, and the same cow has completed a year's work, making over 500 lbs. of butter within the 12 months, which, while grand work, is far below the butter record of the breed, which stands at over 1,000 lbs. in a year. The Holstein-Friesians, in public and official tests in Canada in the last few years, have demonstrated beyond dispute their value as dairy cows in large production of milk and butter, a cow of this breed, at the dairy show at London in 1899, having broken the record of public tests by producing on the show ground, under official supervision, 146.9 lbs. of milk in two days, testing on an average 4.61 per cent.

butter-fat, or at the rate of 29 lbs. 8 ozs. butter in 7 days.

In grade dairy herds, where well-selected bulls of one of the dairy breeds have been persistently employed, remarkable results have been attained in increasing the milking capacity of herds. A striking instance of this is seen in the herd of Mr. Tillson, of Tilsonburg, Ont., whose cows, principally grade Holsteins, have been graded up in milk production by good breeding and feeding combined, until in 1899 his entire dairy of 55 cows averaged 11,472 lbs. of milk, testing 3½ per cent., or equivalent to 475 lbs. per cow, while his best cow, a grade with one Holstein cross, gave 20,134 lbs. milk in 12 months and 15 days.

That there are many good dairy cows in the beef breeds is freely admitted, and they are generally the best breeders and most profitable of the breed, giving the calves a start in the first months of their lives that tells in vigor of constitution and quality of flesh when they grow older, but as a rule beef and milk production do not go together in the best degree of each, and the training of cows of the beef breeds has generally been that of short-milking terms, ending, as a rule, when the calves are eight or nine months, while the milking term of the dairy breeds is generally ten to eleven months, while some are milked from year to year without a break. The dairyman who has a useful herd of grade cows of one of the beef breeds, with good milking character (for the general-purpose cow is no myth), will do well to continue in the same line, selecting the sires he uses from deep-milking families, having due regard to dairy conformation and robust constitution, and the average farmer will be well suited with this class of dairy cattle, since he can raise the male calves as steers, or the skim milk, and sell them at a profit as stockers, or, better still, finish them for export at 2½ years old, when, as a rule, they will realize a good price. But the dairyman suitably located for that business, who has a herd of grade cows of one of the dairy breeds, having used bulls of a dairy breed, will make a mistake if he allows himself to be persuaded, in violation of the recognized principles of breeding, to cross his cattle with bulls of the beef breeds, or of any other breed than the one he has been using, for the result will surely be a mongrel and nondescript class of stock, which cannot be depended upon to produce offspring of any uniform type or character. Having started with the use of bulls of any distinct breed, the true principle that leads to success is to continue to employ sires of the same breed, and to use one's best judgment and vigilance in securing good individual sires, with strong constitution, bred from a sire of same character, and a dam and family of known excellence of performance in the special line of work in hand. Breeders of all the different breeds of stock may do much to raise the standard of the stock of the country by castrating inferior males, or those bred from inferior dams, when young, or letting them go to the butcher as young things, when they have cost but little to raise, and will pay as well as at any other stage. By this means, and the weeding out of the unprofitable cows by feeding them off for the shambles, the general character of our stock may in a few years be immensely improved, to the advantage and profit of all concerned. In this connection, farmers will do well to study the principles of breeding, and by careful observation and experience, and the use of their own best judgment, carve out their own course, instead of lending a too willing ear to interested or irresponsible oracles.

There is no safer line of farm work than dairying for the average farmer and the up-to-date farmer. It requires but little capital, and the work can generally be done within the family. Expensive

buildings or equipment are not necessary to success, as the plainest buildings may at little cost be made comfortable and kept clean. There is always a market, and generally a good market, for dairy products, and a little money from this source comes in regularly every month in the year, to enable the farmer to pay as he goes. The herd is annually increased, at small cost, by raising the heifer calves on skim milk, to take the place of discarded or worn-out cows, while, worked in connection with pork production, the combination is in these days in the nature of a bonanza.

### Experience in Sugar Beet Culture.

In order to encourage the establishment of beet-sugar factories in Canada, the Dominion Government has provided that for the term of one year the extensive and, we understand, costly machinery required in their equipment will be admitted into the country free of duty. In the Province of Ontario, the Local Government has set apart \$75,000 per year for three years, to be paid in bounties: half a cent per pound on the sugar manufactured the first year, a quarter of a cent for the second and third years; four dollars (\$4) per ton to be paid the farmer by the factories the first year for all beets, and for the two subsequent years \$4 and such additional price as would correspond to the proportion of saccharine matter above twelve per cent.

Negotiations are already under way in several Ontario localities looking towards the erection of beet-sugar factories, but whether any of them will begin operations during the present year remains to be seen. All indications, however, seem to point to the inception of the industry in the near future; but both in regard to the establishment of factories by capitalists and the growing of the beets by the farmers, there is some preliminary work to be done. Farmers who have not been in the habit of growing roots—and probably least of all, sugar beets—unless very careful, may find their initial efforts disappointing, though not necessarily so if they take the trouble to inform themselves as to proper methods and make wise choice of the soil. In the present and previous issues of the FARMER'S ADVOCATE, the results of a great deal of practical experience in sugar-beet growing have been given, and which will help the readers to attain success. Judging by what has taken place in other countries, once the industry gets a foothold it will soon attain large dimensions, and immense quantities of beets will be required to keep the factories running. Now, we would suggest the wisdom of farmers preparing to meet that demand even though a factory is not going up this year or next in the immediate vicinity. In any event, favorable freight rates will enable the roots to be shipped to considerable distances and still leave a fair margin to the grower. There need be no loss to the farmer, because, even though there be no factory demand, the roots are extremely valuable, as our readers well know, as food for dairy cows, swine and other live stock. Hence the farmer will simply be providing himself, at no risk, with an additional supply of a most excellent succulent food for late fall or next winter feeding, and he will have gained valuable experience. It is not necessary to launch out on a large scale the first year. A half or quarter of an acre, or even less, will do for a trial; only let the land be the very best root-growing land (not new) available this spring, and then follow the most approved methods at each step throughout the season. Make an exhibit of them at the local fairs next fall, if matured in time; and, what is most important of all, have them tested for sugarmaking quality. The more generally approved sorts appear to be the

## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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JOHN WELD, MANAGER.

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Vilmorin and the Kleinwanzlebener. It is absolutely essential that a fine, mellow, but well-firmed, seed-bed be secured in order to a good even seeding and speedy germination. We presume that experimental work, in the nature of that carried on by Prof. Shuttleworth last year, will be conducted again this season, and Mr. C. A. Zavitz, Experimentalist at the Ontario Agricultural College, Guelph, and Secretary of the Experimental Union, is sending out, for a feed-growing test, to the members of the Union, two varieties of beet seed, one being the same as those used for the production of sugar. It has also been announced in the Ontario Legislature, by the Minister of Agriculture, Hon. John Dryden, that sugar-beet seed is to be distributed by his department in municipalities where agricultural societies, Farmers' Institutes, boards of trade or other representative bodies furnish the names of a number of farmers who would undertake a trial of beet culture under proper arrangements. In this way, and by what progressive, intelligent farmers will undertake on their own account, we shall accumulate valuable experience and lay the foundations securely, in so far as the root-grower is concerned, for a permanently successful branch of agriculture.

### Sensible Suggestion to Governments.

Lord Salisbury is convinced that it is quite possible for Parliament to meddle too much with private enterprise and commerce. This constant interference with personal liberty is a formidable danger, he says, tending to discourage labor and to dry up the sources of capital. If there really is a decadence of British trade going on, His Lordship thinks its cause may possibly be traced to this interfering spirit. "The sensible old Premier is perfectly right," observes the *Toronto Globe*, which adds: "Legislation should in general confine its function to the removal of obstacles, natural or artificial, from the path of labor—that term embracing capital as simply one of its forms." Not only is it a bar to enterprise, but it tends to pauperize and enfeeble the energies of those it is supposed to benefit, and when the cost which the general taxpayer contributes is also counted up, it will usually be found that it would have been in every way better to let people manage their own affairs rather than by means of officialism. Canada has in the past had a good many unfortunate examples, both federal and provincial, arising from the various ill-advised efforts of this description in connection with agricultural affairs.

### The Process of Beet Sugar Manufacture.

I shall not attempt here to give a detailed description of these manufacturing processes; that would require too much space, but, in brief, they consist in first thoroughly cleaning the beets and then slicing them into thin pieces, after which warm water is employed to dissolve out the sugar. The juice thus produced is clarified with lime, then concentrated, then evaporated, and finally crystallized. In about twelve hours from the time that the raw beet enters the factory to be sliced, the pure, white-grained sugar comes from the crystallizers, ready to be barreled for market. In making cane sugar, the factories on the ground usually produce only the raw sugar, and this is purchased and refined by the great sugar companies of New York and elsewhere. This work of refining at a point far distant from the place of production has enabled what is known as the U. S. "sugar trust" to control, in large measure, the output of fine granulated sugar. But the advent of the beet-sugar industry, with every factory producing the white sugar directly from the beets, may play an important part in placing sugar again among those commodities the prices of which are regulated solely by the law of supply and demand. A sugar factory requires large quantities of lime for clarification, plenty of pure water and coal for fuel, and the success of the factory is governed to a considerable extent by the abundance and cheapness of those commodities. The factories of Michigan are very fortunately provided in regard to all of these particulars; coal is especially cheap, the mines being located only a few miles from the factories.—*R. S. Baker, in Review of Reviews.*

### STOCK.

#### "Some Horse Talk."

To the Editor FARMER'S ADVOCATE:

SIR,—Have read with interest your editorial on "The Horse Breeding Outlook" in the March 1st number of your excellent paper. The following from the daily papers might be described as the "Canadian," the "American," and the "South African" episodes of the "War Horse Question":

#### REMOUNTS FOR THE ARMY.

Toronto, March 1.—Lord Strathcona, replying to what in effect a protest by Hon. Geo. W. Ross against the ignoring of Canada in the purchase of the horses recently shipped from America to the British army in South Africa, writes to the Ontario Premier under date February 15th. The reply shows that the Imperial authorities still regard Canada as the "frozen north" at this season of the year: "I am, at the present moment," says Lord Strathcona, "in communication with the Imperial officer, Major Dent, who visited Canada last year to purchase horses, and although he is now at home in Yorkshire, I hope very soon to have an opportunity of seeing him here, and of talking the matter over fully with him. Afterwards, I will take the question up with Mr. Broderick, the Secretary of State for War, and in any other quarter that may seem desirable, and will press it in whatever way may appear most advantageous.

"With regard to the reported purchase of horses in South America and the United States by the Imperial authorities at the beginning of the year, I drew the attention of the Secretary of State for War to these statements, and expressed the hope that if anything of the kind were being done, the capabilities of Canada would not be lost sight of. In reply, I was informed that it did not seem advisable at this season of the year to ship horses from Canada to South Africa, but that if animals were required later on, the capabilities of Canada would certainly not be overlooked. You may rely upon my giving this important subject my best attention."

#### AMERICA AS SUPPLY BASE.

Washington, March 1.—Secretary Gage yesterday submitted to the House a reply to the resolution of enquiry as to whether United States ports or waters have been used for the exportation of horses, mules or other supplies for use in South Africa. Mr. Gage says:

"1. Our ports have been used for the exportation of horses, mules or other supplies for use in South Africa.

"2. Between October, 1899, and January 21, 1901, horses, mules and other supplies to the extent of \$25,345,692 were exported to South Africa.

"3. No steps have been taken to prevent the lawful exportation of horses, etc.

"4. The number of horses and mules shipped from our ports during this period was 75,632."

Mr. Gage adds that it is not feasible before Congress adjourns to give the shipments by ports in detail.

A table shows all the shipments to South Africa, the chief ones being horses, mules, wheat, canned beef, and rum. The items of gunpowder and firearms are very small.

#### CANADIAN HORSES GOOD.

All the returning soldiers report the Canadian horses as equal to any that were sent to Africa. Captain Mackie, Canadian Staff Officer, brought back two Canadian horses which went through the whole campaign.—*From Toronto Globe re Strathcona's Return.*

Why England should go to the United States to purchase horses for South Africa is a matter of considerable surprise to many Canadians, particularly when we have the horses required right here in Canada, for no doubt you noticed a letter some weeks ago from Mr. Walter Harland Smith, of "Grand's Repository," Toronto, in one of the daily papers, in which he stated, if my memory serves me, that there were over sixty thousand (60,000) horses in Canada to-day suitable for service in South Africa, and that the reports to the War Office proved that the horses from Canada gave the best satisfaction.

Now, while our newspapers are daily devoting space to "Imperial Federation," "Preferential Tariff," the proposed "Pacific Cable," etc., etc., it is rarely one of them refers to this surprising and important matter of hundreds of thousands of British dollars being spent across the line for horses, when it could, and should, be spent—all things being equal—among the farmers of Canada.

Welland Co., Ont. JAMES BATTLE.

### Horse Training and Educating.

To the Editor FARMER'S ADVOCATE:

SIR,—I read with interest the short articles on "Colt Breaking," "Breaking Vicious Colts," etc. We farmers, as a rule, need all the good advice we can get on this very important question. Your footnote, regarding the breaking of vicious colts, was in good keeping. The articles referred to are found in February 1st number. May I ask a question here? Would it be going too far to include the whip and the hard word "breaking," together with the "comanche bridle" and the "double half-hitch," referred to in footnote. I consider that all of these articles are useful, but a word of caution is good to the inexperienced, and others as well: The use and abuse of these contrivances will bring about very different results.

In the first place, the colt has a capacity for affection, we must all admit. Then why not try to cultivate it in him. He can learn who his friends are very quickly. He is intelligent. The farmer who is a true friend to the horse must not forget to put up the bars or the colts will be after him. If he wants a colt, he does not need to call in all his neighbors to help him catch one. The animal will follow him to the barn and may ask for a taste of oats, as usual, and the farmer may load all the harness onto him that he can find. Now, I contend that such a colt is not necessarily "broken" to this business, and will not need to be, either.

The colts that require "breaking" are the ones that are neglected and abused. They are strangers to man's kindness. They are rushed to the front by brute force in too short notice. No time to make friends; not even time to get acquainted with the new surroundings. If he shows fight, then throw him down, hold him there, and then whip him up. Show him that he is weak. Whip him into the collar and expect him to pull a good big load tomorrow. Tomorrow comes, he is loaded, driven off, and comes back with sore shoulders, sore limbs, and broken spirits. He is discouraged. How many horses are ruined before they reach maturity! One reason for the breaking down of these animals is this: Many colts are tied by the neck all winter. Young and soft, they are taken out and forced into heavy work in the spring, before their bones and muscles are able to stand it, ruining their constitution and their cheerful disposition, and destroying their market value also. Would it be a waste of time to give the colt 15 minutes per day, during the cold weather, talking, brushing, feeding from the hand, carefully harnessing and unharnessing him, leading him to the pole, rubbing it on his side, etc. There are lots of little things that we may do without annoying the colt at all, and at the same time the colt is being educated by these very simple movements. We may just call them the A B C's, and not giving the big, hard word "breaking" in his first lessons. SANDY COLTS.

### Grade Sheep Judging at the Fat Stock Show.

To the Editor FARMER'S ADVOCATE:

In reply to the letters of Messrs. J. T. Gibson and H. Noel Gibson, in your issue of March 1st, there is little to add, as my published statements 1, 2 and 3 are admitted correct, with a very lame attempt made to make me a party in the doings mentioned in 2 and 3. I had no more to do with the appointment of any one of the four acting judges than the "man in the moon." Mr. Richard Gibson is my authority for statement 2, but never did he mention that his request was for a fourth judge, nor did he mention Mr. Hammer's name as the extra judge of his choice, and that for obvious reasons well known to exhibitors of sheep. My first intimation of a fourth judge acting, and that one Mr. Hammer, was when the judging began. Previous to that, I supposed it was the third judge Mr. Gibson had selected. Regarding the reply to statement 3, I neither asked for nor objected to the change in question when Mr. H. Noel Gibson made the request. By that time, the strange irregularity of the proceedings throughout led me to lie on my guard, and so give the closest attention to the work in hand. For proof of statement 4, I might well rely on the list of awards published in January 1st ADVOCATE, which Mr. J. T. Gibson states to be incorrect. But I will add further proof, by asking anyone interested to look in the list of awards given in the official publication of the live-stock associations, where can be seen the list just as I gave it, for class 28, sec. 4. Regarding statement 5, it also is admitted correct, but in his reply, Mr. H. Noel Gibson asks: "If not, why call in a referee?" My reply to that is, when the referee was called in, and gave his decision, how was it that the said referee was, as stated in my first letter, given "further instructions by the gentleman who held the book"? And that gentleman was the owner of one of the pens in dispute. As Mr. H. Noel Gibson is manfully shouldering the responsibility, I will ask what his thoughts would be were I to step up to a referee and whisper him instructions in the ring, leading him to reconsider his decision? In case it may seem that I am drawing on my imagination, allow me to state that the said referee's letter to me, under date of Dec. 28, 1900, will fully bear me out.

I maintain that no exhibitor, whether holding a sheep or the judge's book in the ring, has any right to give instructions to the acting judge or judges.

So long as the moral atmosphere of our show-rings is purified, even if strong doses of bitter medicine are administered, my object is attained.

Victoria Co., Ont. JOHN CAMPBELL.

### Our Scottish Letter.

The principal events here recently have been the spring bull sales and draft horse shows in Scotland and England. The leading event in Scotland was the show of Clydesdale stallions at Glasgow on the 6th of February, as reported in our last letter, appearing in the issue of March 1st. On account of about seventy of the best of the Clydesdale stallions having been engaged between the date of the Highland Society Show at Stirling, in July, and the Glasgow Spring Show, there were not nearly so many horses on exhibition as was the case in the old days. The best thing that can be said in favor of the new system, is that it obviates the necessity of feeding up so many horses as used to be the case, and breeders thus get the travelling stallions in hard condition and fit for their work. It is, however, rather hard on the Glasgow Agricultural Society, which has for so long and so successfully conducted this show, that it should be so curtailed, the reduced entries meaning, of course, a big reduction in revenue to the Society. The show, up to about the year 1890, was more a horse-hiring fair than a show, and it had continued so for about twenty years. Originally started to allow the Glasgow Agricultural Society to make a good selection of a district premium horse, it blossomed into a general hiring fair about 1870, when an arrangement was come to whereby all the smaller shows throughout the country were stopped, and every one sent a deputation to Glasgow. The only reservation made by the Glasgow Society was that it should have the first "pick," and any horse hired by another society, before the judging, was hired with that reservation in favor of Glasgow. The advent of the Studbook, which put everyone in possession of a directory to Clydesdale stallions, gradually altered all this, and the great demand for horses during the eighties made remote districts as keen as Glasgow to have the best. Deputations from these districts then began to be sent all round, and the competition developed so rapidly that now there is as much hiring done at the Highland Society in July as used to be done at the Glasgow Stallion Show in February.

In spite of these many absentees, we had a very good show on 6th Feb. Mr. Pollock's great horse, Hiawatha 10067, again proved invincible, winning the Cawdor Cup for the third time—a very notable event, and all the more remarkable as amongst his competitors on this occasion were his own sons, Marcellus 11110 and Labori 10791, the former first in the three-year-old open class, and the latter second to him, as well as winner of the Glasgow district premium. Both are gay horses like their sire, but Marcellus has many points which suggest that he may finish a better horse than either. He is a wonderfully well-balanced horse, and has more width and thickness than the old horse had at the age. Hiawatha has arrived at maturity very slowly, and his quality is clearly seen on this account. The formation of his hind legs has been characterized as a masterpiece, and the language is not too strong; it is perhaps the best formation of hind limbs seen in any horse for many a day. He has an extraordinary crest and very grand shoulder, but there are horses which stand better on their fore legs, and his action is nothing out of the common. Another very nice, level Clydesdale horse is Casabianca 10523, winner of the Glasgow district senior premium, and second to Hiawatha in his class. This is a very true short-legged Clydesdale, got by the celebrated Baron's Pride 9122, and winner of first prize and championship in 1899, when first exhibited. As a level, well-balanced Clydesdale stallion, Casabianca is not easily beaten. Mr. James Kilpatrick was first in the two-year-old class with the fine colt, Lord Dundonald 11094, which gained first at all the leading shows last year but one. He is a thick, well-coupled horse, and was got by a good big horse named Royal Carrick, in some respects not unlike Hiawatha. He was the Glasgow senior premium horse in 1900; another son of Hiawatha, named Mercutio, being the junior.

#### THE ANGUS BULL SALES.

The sales of young bulls this spring were lively events. The leading prices have been made by herds which have long occupied premier places in the respective breeds. His Majesty the King is going to carry on the Aberdeen-Angus herd owned by the Queen at Aberfeldie Mains, Ballater, and his commissioner, Mr. Forbes, at Perth, gave the highest price, 220 gs., for a bull of the breed this season. He is named Elandslaagte, and was bred by Sir George Macpherson Grant, Bart., in his famous Ballindalloch herd. He is a strongly inbred Erica, and if the sale demonstrated anything, it was the supremacy of this tribe over all others in the black polled breed. Sir George got an average of £118 1s. for seven young bulls on this occasion; Mr. McLaren, Auchnaguite, Ballinbrig, a breeder practically unknown until last year, got an average of £82 19s. for five; Lord Strathmore got £62 17s. 8d. for nine; and Mr. Wm. Whyte, Spott, £42 12s. 7d. for ten. These

were the best averages amongst the Aberdeen-Angus breeders, and the reader will agree that they ought to please the most exacting. Many high prices were got for individual bulls, such as 170 gs. secured by Mr. Whyte for his first-prize winner, Gipsy Major; 155 gs. secured by Mr. McLaren for Meramore, which was placed third; 140 gs. to Ballindalloch for Earl Elfin; 150 gs. to the Earl of Strathmore for Mondan, also placed third in another class; 140 gs. by Mr. McLaren for Ellamere; and several went at 100 gs. or thereabouts. An interesting feature of this sale was the fact that the 220-gs. bull which went to the King was not placed by the judges, the price being given as much for blood as for individual merit. Of course, judges cannot consider blood when placing animals in a showing. All the animals referred to were calved after 1st December, 1899, so that only a limited number of them were over one year old.

#### THE SHORTHORN BULL SALES.

The highest price at these sales has been paid by Mr. Wm. Duthie, Collynie, Tarves, the world-renowned breeder of Shorthorns, for the young bull, Alastair, bred by Lord Lovat, at Beaufort Castle, Beaulieu. His price was 400 gs., or £420, the best price ever made in Scotland at a spring bull sale. The youngster was bought at the Inverness sale. He is a very fashionable Shorthorn, the null of Scotch blood, and got by a sire named Royal Star, whose stock promise very well indeed. Another of them was first at Perth this week, and made a fair price, well up to the £100, but he is not nearly as good a bull as Mr. Duthie's purchase. The Lovat herd is a robust, healthy combination, reared on high land, and not greatly pampered. The animals bred in it have long enjoyed a first-class reputation, and two of the young bulls from the herd at Perth sold for 100 gs. Although the Shorthorns have thus made the high-

### London Shire Horse Show.

The 22nd annual show took place February 26th and three following days, at the Royal Agricultural Hall, Islington, London. The aggregate entry was 667, 335 being stallions, 301 mares, and 31 geldings. The show was the largest ever held by the Society, and the general average of merit and quality was never so high, nor do we remember in any previous year so very few disqualifications for unsoundness being made; in fact, in no portion of its most valuable work has this Society been more successful than in the eradication of unsoundness.

At this show the three judges all acted together in the first selection, when each class is paraded entire, from which there can be selected not more than twenty-five, these being sent out to be examined by the veterinary surgeons, and those passed as sound by them are again placed before the judges to award the prizes, two judges acting, the third man being referee, if necessary.

In the class for stallions foaled in 1900, there were no less than forty-six entries, a typical lot of well-bred youngsters, the choice for premier place being a grand colt owned by Mr. A. Henderson, M. P., who, a year ago, won in the corresponding class a similar honor, and sold the colt to Sir J. B. Maple, Bart., at last year's show, for \$7,500. Next to him came one of rare quality, exhibited by Capt. W. H. O. Duncombe.

There were eighty-six entries in the class for two-year-old stallions, and a truly grand lot they were. Every one of the twenty-five selected for veterinary inspection were returned to compete for the nine money prizes and five breeders' prizes. Messrs. J. & M. Walwyn here took the first place with Bearwardcote Blaze, a grand young colt, hardly masculine enough in appearance, and probably a wee bit wanting in substance,

but, for all that, a grand young horse, with particularly fine quality of bone and hair. To this colt went also the champion cup for best young stallion under four years, the champion cup for best stallion in the yard, and the Society's gold challenge cup with its gold medal. His nearest competitor in the class was W. G. Wainwright's Royal Bendigo, a colt with a promising future.

Eighty-eight entries were made in the class for three-year-old stallions, and again all the twenty-five selected ones came back. Desford Combination took with ease the premier place in what was probably the strongest class in the show, and that his owners, Messrs. Thompson, did not secure with him the champion cup in the young stallion classes is a matter of regret, for his high merit, fine masculine type and character, together with great weight and substance, ought, in the opinion of many, to have carried him to the top. Lord Llangattow, with Hendre Champion, came in for second honors. Eight others were also awarded cash prizes, and five additional breeders' prizes went to the breeders of the first five winners.

Thirty-five four-year-old stallions were entered, a first-class lot, no less than eighteen being noticed by the judges, seven of which took cash prizes, the leading one being Moor's Regent, by that noted horse, Regent II., a wide, deep-bodied horse, on excellent feet and legs, from Mr. E. Green's stud; Messrs. J. Forshaw & Sons being second in this class with Black Topsman, a very handsome stallion, whose dash and go made him a favorite with many.

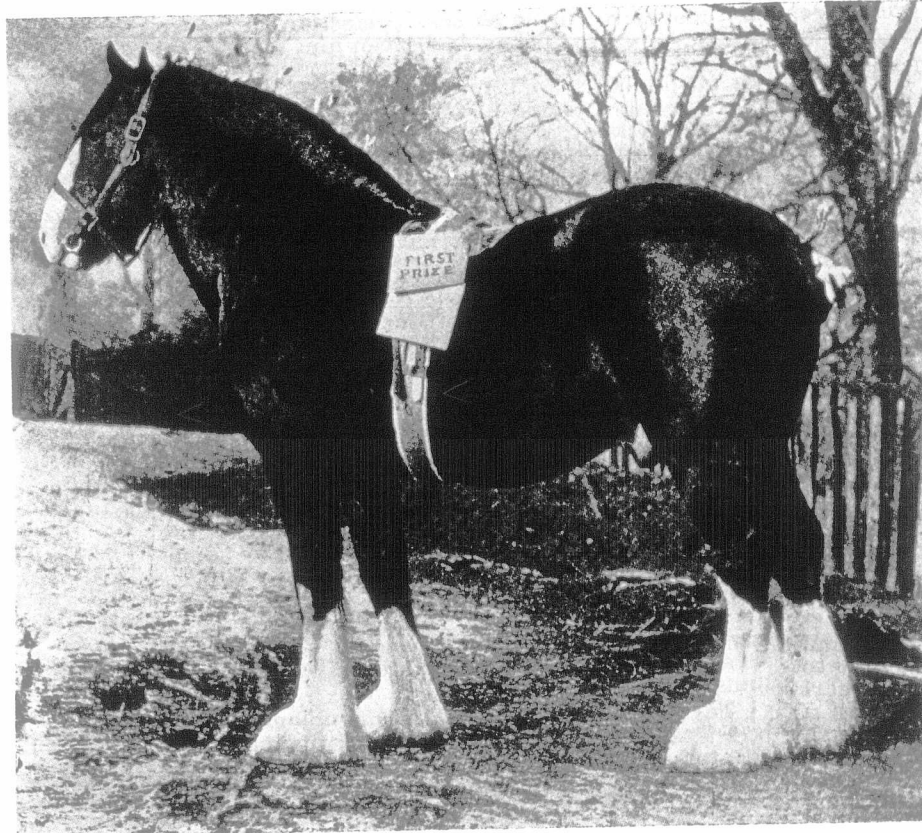
Stallions under 16.2 hands, between five and ten years old, came out to the number of twenty-four, and in this and the two succeeding classes it was a real pleasure to see how fresh and sound so many matured stallions were whose service in the stud had been so large and successful. Capstone Harold, a typical son of that very noted horse, Harold 3703, took first place in this strong class, and did great credit to his owners, Messrs. J. Forshaw & Sons. Seven others were decorated with award cards of different value.

Stallions over 16.2 hands high, and with the same limitation as to age as in the preceding class, numbered thirty-six, fourteen of which secured notice from the judges, seven with money awards, the premier winner of which was Messrs. Forshaw & Sons' Stroxtan Tom, who, besides being first in his class, secured the champion cup for the older stallions and ran the winner of the challenge cup and gold medal a very tight race for the blue ribbon of the meeting, but he had to be content with the r. n. for this honor, his nearest competitor being Mr. J. Rowell's Bury Premier Duke, who won the second-class prize, being made r. n. for the champion cup.

Twelve out of the twenty entries in what we call the veteran class, namely, stallions over ten years, were duly noticed by the judges, four with money awards and six with barren honors, the president of the year, Lord Middleton, taking the first place with Menestrel.

#### SALE REPORT.

The Shire Horse Society's Show was concluded, as usual, by the sale of a large number of those entered in the exhibition classes, a summary of



HIAWATHA (10067).

Champion Clydesdale stallion, Glasgow Show, 1901. Bay. Rising nine years old. Height, 17.1 hands. Weight, 2,128 pounds.

est price at the season's sales, the best averages have been made by the Aberdeen-Angus herds. Shorthorns are not nearly so numerous as the others, and the autumn sales at Collynie, Uppermill, Newton, and other famous centers in the north, rather discount the offering of bulls of this breed in spring. However, this is not a serious drawback, and the demand from Ireland has this season been a great boon and help to the sales.

Perth, Aberdeen and Inverness are the great centers for these northern breeds. Oban is the headquarters of the Highland breed, and a capital sale of bulls was held there last month. Of course, the hardy sons of the mountains take longer time to mature than the more modern breeds, and their numbers are not nearly so large. The Highland bulls are brought out very much better than used to be the case, and are distributed from one center. The highest price realized at Oban was £75, paid for a two-year-old bull named Schichallion, from the Marquis of Breadalban's fold at Taymouth Castle. He was purchased by Mr. Arch'd Turner, Kelchamaig, Kintyre, one of the oldest and best-known breeders, and his match for size and fleshiness is not easily found in the breed. Hair, horn and face are important points in the Highlander. His hair is a great protection to him in the inclement regions where his lot is cast, and he has some difficulty in keeping himself thriving amidst surroundings not too congenial. The Galloway pedigree bull sale at Castle Douglas, and the Ayrshire pedigree bull sale at Ayr and Lanark. But these events are not due for about a month. "SCOTLAND YET."

Parties requiring breeding stock in the line of horses, cattle, sheep, swine, or poultry, will do well to look carefully through the advertising columns in this issue, and to write for what they want,

which is given below. The aggregate total of the sale, £19,002, as well as the average of those sold, establishes a record. Throughout both sale days the interest never flagged, and the biddings were as keen at the end as at the commencement, but the females were throughout more sought after than the males. Fourteen stallions over four years averaged £95 17s. Ten four-year-old stallions, £133 4s. 10d.; highest price, £315. Twenty-three three-year-old stallions averaged £98 14s.; highest, £262. Thirty brood mares, £100 15s.; highest, £630.

The champion stallion of the year, Mr. Walwyn's two-year-old stallion, has been sold to the Earl of Ellesmere privately, and it has been reported that the price paid was \$10,000.

### The Ideal Export Steer.

BY D. E. SMITH.

The export trade in beef cattle is rapidly becoming an important factor in the wealth of this country, and bids fair to rival many of the other great industries of North America. Whilst there has been a greater production of beef cattle in many parts of the world during the past decade, there has also been better markets, and the prices, as a rule, have been good. The quality of beef from North America has been quite satisfactory wherever it has had a fair trial, and an open door for beef and beef products is found in all parts of the civilized world. Last year there were exported from Chicago alone 934,649 head of cattle, and these found ready sale across the waters. In fact, it may safely be said that North America has become the breeding, rearing and feeding grounds of cattle for the world's largest and best markets. The beef industry has enriched its thousands, and many of the most prosperous and wealthy districts in Canada and the United States can point with pride to this industry as the source of their wealth and happiness.

Therefore, it is most befitting that we should carefully consider what is the best and most profitable steer to raise for the home as well as the foreign markets. The Britisher requires a steer of excellent quality; in fact, nothing is too good for him, and his cousin on the other side of the great waters ranks in the same class. They want an animal thoroughly fattened; not too fat, but fed for a long time, so that the flesh and fat are firm. They lay great stress on the quality of the beef, and are willing to pay a high price if they can rely on its superiority. It will be my first endeavor to give in concise form an outline of what I consider the Englishman wants in an ideal steer. The steer should be of superior quality, and from two to two and a half years old. At this age the carcass has a brightness and whiteness not found in older animals. I may also say right here that steers at this age are the most profitable for the producer as well. Many choice steers are exported as yearlings, and they have been found to be most satisfactory. As a rule, the weight ranges from 1,200 to 1,500 pounds, but most run from 1,300 to 1,400 pounds. The ideal steer should possess a short and lean head, broad between the eyes, with a medium-sized, quiet eye. The head should be small and gracefully formed. The neck should be short, and not by any means thick or coarse. The shoulders should be fairly broad across the top, and the part just back of the shoulders should be well fleshed. The loin and ribs are the expensive parts, and should be deep-fleshed and broad. The flesh on these should be firm and deep. This depth of flesh is opposed to the shelly carcass so frequently seen in a steer of inferior quality or not well fattened. The hind quarters should be broad, square, and well let down to the hocks, and also good in the twist, and the hooks should not be too prominent. The bone should be medium fine and the legs short. There has been a tendency to breed too close and produce a steer with too fine a bone. This is done at the expense of the constitution, and so an animal is produced that has not the strength of constitution to fatten well. It seems to me that many of our farmers and breeders are making a serious mistake in using males that do not possess sufficient quality and vigor. It does not seem to count for much that the male should have long legs, or a coarse head, or be too flat on the sides, or have large coarse hip bones, but when the steers from these come to market, the price obtained is a sure indication that something is wrong. It then dawns upon the owner that his bull had not the standard of quality requisite for a good breeder.

Buyers and butchers have different ways of telling when an animal is ripe and ready for the market, and I wish to remark on a few of the commonest ways. The butcher, as a rule, relies on the flank, and whilst it is a good indication, yet it is by no means infallible. Many buyers lay great stress on the purse as the most reliable test, and no doubt it has its merits. Others, again, require a thick, firm rib, well covered, and are satisfied if the animal possesses them. That the hips should be well covered is also a good indication. An animal that is ripe shows a thickness in front of the shoulders on the neck. As this is about the last place a steer stores away fat, it indicates that he is fat, and that he has been fed a long time. Then, in addition to these, there is the general appearance. These all combined are a safe guide in determining whether a steer is ready for the best market.

### London Hackney Show.

The 17th annual show of the above-named society opened on March 5th. The entries were twenty in excess of last year, and comprised of Hackneys, 163 stallions, 82 mares, 59 geldings, and 31 harness horses. The average merit was well up to the standard of former years, and there can be no question of the uniform soundness of the breed as a whole. The result of veterinary examinations at the Hackney Show from 1890 to 1900, inclusive, reveals that 3,268 stallions and mares have been thoroughly examined by the four veterinary inspectors appointed annually, and of this number, 3,111 have been passed as sound.

Stallions 4 years old and over, exceeding 15 hands 2 inches, were the strongest class of this section of the show, no fewer than 52 entries being made, as against but 21 last year. There was a wonderfully good lot of horses included in this large class, and as an evidence of the quality of the class, we may mention that in addition to awarding four prizes and the *r. n.*, five others were *h. c.* and three *c.* There was neither doubt nor hesitation as to the destination of the first prize, for last year's champion, Mr. H. Livesey's McKinley, came out in grand form, and was, without much question, put to the front. Next him came Rosellan, now owned by Mr. J. Rowell, but bred by Mr. F. W. Buttle, and sired by Rosador. Third fell to Mr. Tennant's Revival, by Ganymede, whose height is recorded as 1 inch over 16 hands.

Stallions 4 years old and upwards, over 15 hands, not exceeding 15 hands 2 inches, made 26 entries, an exceptionally good class, no less than ten of them being included in the award list. Royal Danegelt, a champion in 1898 and *r. n.* for this honor last year, again went easily to the top of his class, his form and movement being as near perfection as can be, whilst his increased age has given him more development and substance, that has materially added to his good looks. Langton Masher, by Garton Duke of Connaught, came in for second honors, a real typical Hackney, with good front and hock action. He occupies the same place as last year. Acid Drop, who comes third, was in that position last year. Rosador, first in his class last year, when a year younger, has, in this year's contest, to be content with *r. n.*

Three-year-old stallions, not exceeding 15.1 hands, were led by Knowle Stratford, a splendid bay son of Garton Duke of Connaught, shown by Mrs. Edmondson. Ryedale Sensation, from Mr. B. Wilson's stud, was a good second, the third winner being Atwick Junior, by Chocolate Junior. This class was followed by another, for the same age, exceeding 15.1 hands, in which there were 23 entries. The winner, a grand one, Bonny Danegelt, by Royal Danegelt, came from Sir Walter Gilbey's stud, and he is a worthy son of a noted sire. Close on his heels, however, came a real good colt, the property of F. W. Buttle, by Rosador, Garton Sidar by name.

In the 2-year-old class, Fitz Rose, by Sir Walter Gilbey's Royal Danegelt, won the first prize easily for Mr. Wrench; a grand colt, with capital movement. Another of Royal Danegelt's sons came in for second honors; this time exhibited by Sir Walter himself.

**The Championships.**—The champion cup for best stallion went to Mr. Livesey's McKinley, and the reserve number to Sir Walter Gilbey's Royal Danegelt. The championship for younger stallions went to Sir Walter Gilbey's Bonny Danegelt, and reserve to Mr. Buttle's Garton Sidar. The champion cup for best mare went to Mr. C. E. Galbraith's (Dumfries) Rosadora, last year's champion, by Rosador. She is 5 years old, 15 hands 3 1/2 inches high, well proportioned, having brilliant action, and won first in the class for mares 5 years or over and over 15 hands 2 inches. Her stable mate, the first-prize 3-year-old mare, Rosarene, was the reserve number. Queen of the West, by Garton Duke of Connaught, won first in her class for 5-year-old mares over 15 hands and not exceeding 15 hands 2 inches. She is owned by Mr. Galbraith, who also secured the junior female championship with the first-prize 3-year-old filly, Rosarene, by Rosador. These female championship winnings stand as a notable triumph for the Scottish exhibitors at this year's show.

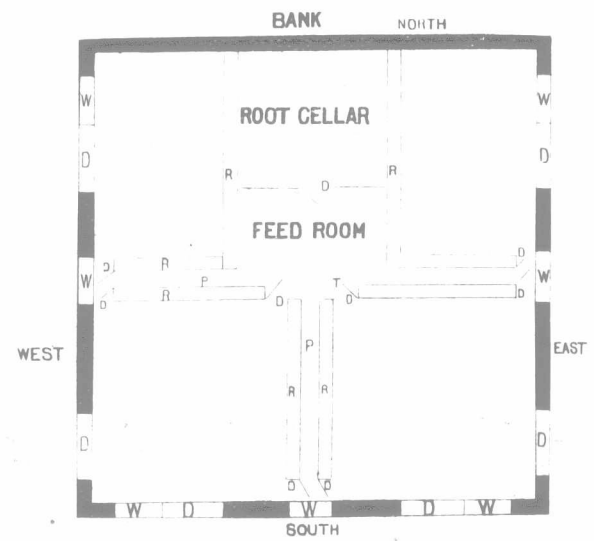
### Air Space in Byres.

American and Canadian newspapers announce a return to sanity on the part of a good many people across the Atlantic on the subject of the tuberculin test, and county councils on this side are also becoming more reasonable in connection with the air-space question. At a recent meeting, Colonel Maude mentioned that in one district in Yorkshire a demand was made that each cow in a country byre should have 1,800 cubic feet space, while in another district the demand was for 900 cubic feet. The folly of these demands is seen in the fact that all parties have united on 600 cubic feet per animal—a reasonable working compromise, and one which, in most cases, is capable of being realized. In a fine byre which the Duke of Argyll is erecting for Mr. Howie on Rosneath Farm, 600 cubic feet of air space is being aimed at, and the whole fittings and roofing, with ventilation, are so arranged that it is expected the byre will be both warm and well ventilated. Mr. Roy's byre at Baillieston, erected in accordance with ideas suggested by Mr. John Findlay, is fitted and planned in the same way, and is understood to be a great success.—*Scottish Farmer.*

### Sheep Barn Plan.

To the Editor FARMER'S ADVOCATE:

SIR,—As requested, I have forwarded you a plan of our sheep barn. The sheep are housed in a stone basement, 50x50 feet, 9 feet high. It is well plastered inside, and special attention is given to lighting and ventilation. Besides the windows shown in plan, which are double sash, sliding back and forth, there is one above each door, hung on hinges and operated with weights, rope and pulley, so that any desired amount of ventilation can be given, whatever direction the wind blows from, without creating a draft. We can carry 40 to 50 breeding ewes, with their lambs, and as many more yearling rams and ewes, in this barn. For 100 breeding ewes, considerable more room would be required during and after lambing time. The feed is stored in barn, overhead, the drive floor of which is reached by a bank, made against north side of root-cellar wall, affording



GROUND PLAN OF JOHN CAMPBELL'S SHEEP PEN.

protection against frost. As the feed is dropped into feed-room, convenient to feeding passages, labor is saved. The root cutter, pulper, grain and bran boxes, with water tap, are all located in feed-room. The feeding racks divide the barn into four divisions, and they are movable, with the doors wide enough to admit a team, so that the manure can be loaded directly for the fields. There is a yard for each of the four pens, with high, dog-proof, tight board fence, to insure sound sleep at night, not so much for the sheep as the shepherd. The passageways between racks provide for feeding without going among the sheep, thereby saving waste. Having used the barn for nine years, we are well satisfied with the arrangements and can suggest nothing different in the way of improvement.

JOHN CAMPBELL.

Woodville, Ont.

### Plan of Root House.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of March 1st, D. C., Pontiac Co., wishes to get points about building a root house. The following is a description of one I built in the summer of 1898: The whole structure is above ground. My cattle stable is a stone building 46 feet long, with large hayloft overhead, running north and south. The root cellar is built at the east side of cattle stable. The foundation trench was dug 2 1/2 feet deep and filled with stone. The stonework was carried 2 feet above ground surface, then a brick wall 9 inches thick and 5 feet high was built on top of stonework at outer edge of wall, and a 4 inch wall same height was built inside, leaving an air space of 2 inches between walls. The 4-inch wall was built first, and received 1/2 coat of mortar (1/2 inch) on the outside as it was being built. The two walls are held together by hoop-iron hooks built into the walls at intervals. Over this, for a roof, we erected a lean-to hayloft that will hold 6 tons of hay. The whole building is 46 feet long by 12 feet wide at outside of walls. There are two windows to fill it from, 10 feet from each end, at side wall. This has proved a very satisfactory root cellar, it being, so far, frostproof.

A. J. RUSSELL.

Northumberland Co., Ont.

### To Remove Warts and Lice from Cattle.

To the Editor FARMER'S ADVOCATE:

SIR,—Let me give you our plan of taking warts off stock: Mix sulphur and lard (equal quantities) and apply twice weekly for three or four weeks, and to your surprise the warts will disappear, leaving no scars, nor does it hurt the animal. It is far ahead of a dull pair of scissors.

**Lice again.** Lice on cattle can be easily taken off by dusting a little ashes on the backs of the cattle once or twice during winter. If you will notice, these lice breathe, not through their heads, but through holes along their sides, and the dust of the ashes simply clogs up these pores, or breathing tubes, and they die at once. Why do we seldom see lice on cattle in summer? Simply because they will get in some ash pile or dust and throw it over their backs and kill the lice, if there are any.

I wait anxiously for every issue of your paper. Father has taken it for over thirty years, and could not do without it.

ARTHUR KELLY.

Brant Co., Ont.

**More About Abortion and Carbolic Acid.**

To the Editor FARMER'S ADVOCATE:

SIR,—In reply to the letter of Mr. Geo. Rice, in your issue of March 1st, I am very sorry that he takes my former letter so much to heart, for there was no intention to be offensive. I am after information, and shall indeed be pleased to learn that we have a remedy for so dire a scourge as contagious abortion, but much fear that I shall look in vain to carbolic acid. Mr. Geo. Rice has, fortunately, never had to do with contagious abortion, or he would not speak so very dogmatically about carbolic acid, a material the action of which he apparently knows nothing or very little about. The only experience that he reports is one of a cow that he says had aborted twice. That does not say she was suffering from contagious abortion. He only thought she was going to abort a third time. There are quite a number of gentlemen, who own herds of cattle, who can tell of experience which is heart-breaking to a breeder, and if carbolic acid was capable of doing all that Mr. Rice says it will, why here is a splendid opportunity of trying its efficacy even to-day, under exact conditions; no beliefs, suppositions or opinions, but hard, solid, unfortunate facts. What I am desirous of finding out from actual experience is: Will carbolic acid cure contagious abortion? Will carbolic acid prevent a cow aborting a second time? Because if it will do both these operations, why here is a splendid opportunity for Mr. Geo. Rice to prove that he has succeeded where a commission, appointed by the Royal Agricultural Society of England, composed of the highest and brightest scientific men in the world of veterinary medicine, gentlemen well skilled in the art of bacteriology, who have subjected scores of animals to the most exacting and accurate tests, up to the present time have failed to understand the disease.

Mr. Geo. Rice says that carbolic acid will prevent milk fever. How does he know? He has not had a case, and may never see a case in his herd again, because his system of feeding, etc., may be practical and the management of his cows at calving time may be good. But let him fail in any one of these particulars, and I do not believe that carbolic acid, given internally, will prevent milk fever. It is not its particular function, and milk fever is not a germ disease in the strict sense of the word.

With regard to the expulsion of the afterbirth, carbolic acid has no specific action on the uterus to cause its contraction. If it had, why it would cause abortion, according to his theory. Again, he says that when pure and undiluted it burns the flesh, but when diluted it becomes harmless in this way. This is not even so. When diluted its action is not so violent, but it does burn the flesh (for it does smart when put on), although not severely. Its action is to cause a thin film of dead tissue over the wound, and thus exclude the germs of decomposition. I have only one more request to make. Will Mr. Rice please give me the name of his veterinary surgeon, who gives thirty-drop doses of carbolic acid for expulsion of the afterbirth, that I may write him for specific information, as I am anxious to learn and willing to be taught all and everything about the action of carbolic acid?

SEMPER PARATUS.

**FARM.**

**A Good Word for the Tread Power.**

SIR,—I notice a request in your issue of March 1st, for information about tread powers as a farm power. In the fall of 1895, I purchased a two-horse tread power, also a grinder, and they have given me every satisfaction. I keep as many as forty-five head of cattle, and do my own grinding and cutting for them. The power being in the barn, work can be done on stormy days as well as in the fine weather. I also run a circular saw, and saw my own wood. I have also rigged up my fanning mill with a wheel, and run it with a rope. One horse and a man are all that is needed cleaning up grain, as it gives splendid speed, and very even. With a modern fanning mill and bagger, I can clean sixty bushels an hour, and make a splendid sample. In fact, there is no work about the place that requires a power to drive it but what you can adapt the tread power to. I think the two-horse is better for the general farmer than the three-horse, unless it would be for heavy grinding or threshing. One good feature about them is that you can increase your power by raising your machine, or decrease it by lowering, and the governors now in use on the best machines place the speed entirely under your control.

Peel Co., Ont.

JOHN WEYLIE.

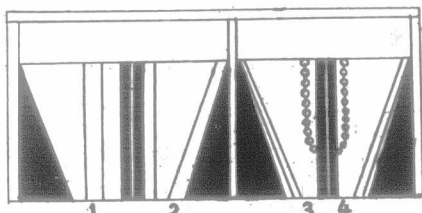
**Feeding Value of Spelt.**

"I have analyzed the spelt and find it to have about the same composition as barley and oats. It is not as rich in protein as ordinary wheat, but, nevertheless, has a high feeding value. Like the 'goose wheat,' it should be coarsely ground when fed, and mixed with other grains. It is not of value for bread-making purposes because of the peculiar character of its gluten; it is, however, a valuable animal food, and can be fed to advantage, taking the place of expensive mill products. Composition of spelt: Water, 10.02; ash, 3.25; fat, 2.25; protein, 11.25; fiber, 9.22. The protein contents of this grain, together with its productiveness and hardness, seems to make this a desirable dairy feed."—Snyder, St. Anthony's Park, Minn.

**A Handy and Well Equipped Stock Barn.**

I see in your valuable paper, the FARMER'S ADVOCATE, that D. C., of Pontiac Co., Quebec, and N. McP., of Ontario Co., Ontario, ask for plans of Mr. M. H. Penhale's barn and root house for their information. His barn is 36 by 76 feet, with 16-foot siding and a high roof, making it about 33 feet from floor to peak of roof. It is on a store wall 9 feet high, with a ceiling 7 feet 6 inches in the clear from the basement floor, which is above the level of ground outside of basement, so that the water cannot run in.

The root house is a brick arch, and was described in the ADVOCATE last May, and again in Nov. 15th issue. Mr. R. A. Penhale was the first to conceive the idea and carry it into effect, building his six years ago. Since that time thirteen have been built near here, and four have made application for the frame arches for this season already. There is needed frame arches to build the brickwork on, which has been so well described in those two issues that it is not necessary to do more than refer to the



COW TIES IN M. H. PENHALE'S BARN.  
1. Stanchion securing cow. 2. Stanchion ready to receive cow. 3 and 4. Stall ready to tie cows with chains.

arch. When they are once built, they will do for many other root houses if taken out with care.

All of those arches have been built under the approach to the barns except one, which is used similar to what D. C. wants, being a little way from his barn and endways to a hill. It is built the same as the rest of the arches, and is as good as any of them, and makes a cheap, durable root house. It is filled from the top, and roots are taken out from the end.

Mr. Penhale's barn holds 32 head of cattle, besides four box stalls. It has concrete floor throughout. The surface of box-stall floor is four inches below the hall floor, and the mangers of box stalls are one inch above the hall floor, so that no liquid can run in the mangers or on the hall from the stalls. From manger to gutter where the cattle stand is five feet, and slopes three inches to the gutter. The gutter is fourteen inches wide at the bottom, sixteen at the top, and four inches deep. The five feet where the cattle stand is covered with lumber, first by putting lengthways four pieces cut on an angle to correspond with the slope in the floor of three inches in five feet; then covered crossways with 2 by 4 scantling half-inch apart, which puts the cattle standing level, with a thorough drainage under them to the gutter. The cattle stand nine inches above the bottom of gutter. These platforms are movable, and can be drawn back or pushed up to the required length of individual cattle. If length is required, they are drawn back and a plank is dropped under their front feet on cement. The manger bottoms are made of cement, and are two inches above the cattle's feet.

Mr. Penhale has a good rig for tying the cattle up, by chains or stanchions, which can be changed in a few minutes, using stanchions for the cows when they are just in for milking, and chains for winter use. One box stall has small stanchions for calves, which can be tied up when being fed milk. They are given a few mouthfuls of dry chop to prevent sucking one another. The other three stalls are used for anything that is required. At the present Mr. Penhale has 35 cows and 8 yearling heifers in the basement.

The stables are well lighted and well ventilated, having 13 windows of six panes 12 by 14, hung with pivots about one-third up from the window sill, allowing, when tilted open, to have twice their space above than below the sash. In this way the sash is not out in the way of the cattle, to be broken. There are 14 six-inch tile through the wall for ventilation, which can be closed or opened as wanted. Mr. Penhale cleans out the stable with a horse and boat, and takes the manure to the field when frozen up. In cleaning out the side next the root house, he closes back the gates, as indicated in the diagram by dots, which forms a passage to the last stall or any one of them. I send you a draft of stalls with stanchions and chains, showing a stall with the chain and two with stanchions. When the chains are wished, the stanchions are both laid back one

way to fill the space. The manger is 16 inches wide in the bottom, and slopes to the hall to 30 inches at 30 inches high. It is divided so that each cow has her share to herself. Another contrivance which is very effective, is to prevent the cow from soiling the platform on which she stands. It is made by nailing a piece 1 1/2 inches by 1 inch on the stall, about 2 1/2 feet from the manger, and a piece the same size across the stall about 1/2 inch above the cow's back. This is screwed to the uprights that are nailed to the stall, so that when a cow goes to urinate or defecate, she has to back up a little. Mr. Penhale intends to build a tub silo this next fall, at end of barn, 16 by 32 feet.

N. McP. could plan his barn with two rows of cattle and a row of box stalls, a root house at one side and a silo at the end, if he wishes to have both.

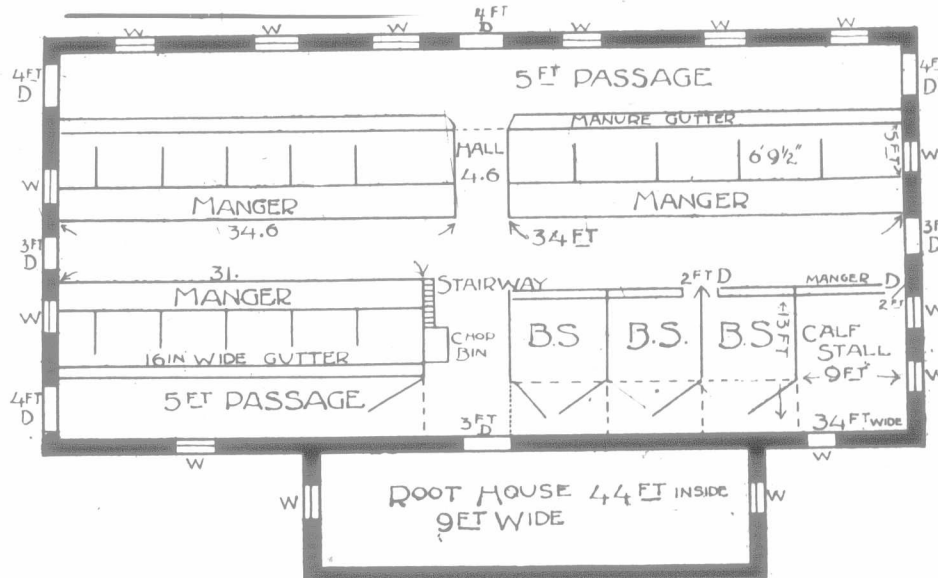
Elgin Co., Ont.

SUBSCRIBER.

**Successful Methods and Profit in Sugar Beet Cultivation.**

A new force is gathering great headway in the United States and all over the world—the growing of sugar beets, an enterprise which means to many a locality a new industry, well worthy of encouragement. In view of the increasing interest taken therein by the readers of the FARMER'S ADVOCATE, we have been in communication with persons familiar with successful beet-growing. Several valuable contributions on this appeared in our last issue. We give herewith an article, received from W. S. Stevens, Secretary of the Fruit Growers' Association of Grand Rapids, Michigan, a State that has made rapid strides in this business, as our readers are aware. At that city the question is a live one at present, because a new factory is about to be built there, at a cost of \$350,000. Mr. Stevens writes:

"In America, as well as in Europe, its promoters have demonstrated that raising sugar beets is valuable and feasible, that it is a success in its very inception, and that encouragement extended in its behalf is one of the best of investments. The farmer requires a diversified crop, so that in seasons of failure in one, he may have success with others. In the raising of sugar beets there is no monopoly, and he will find no lack of a market for all he can produce. It is apparent that the increase in the uses of sugar exceeds the increase in population. The average gain in consumption in the United States has been over 12 per cent., while the exact rate of increase in population is not over 3 per cent. All that seems necessary is to keep in mind the supply and demand, in order to get an intelligent idea of the future consumption of the sweet commodity. There is hardly one of the 75,000,000 inhabitants that does not use sugar to some extent. It's a luxury and a necessity, and as our people are becoming gradually 'better fixed,' there is an increasing tendency towards luxury. This presages a greater increase in



BASEMENT PLAN OF M. H. PENHALE'S BARN, 36 X 76 FEET.

this article as we progress. It is beyond computation to know the possible increase in its use.

**"HOW TO GROW BEETS SUCCESSFULLY.**

"In answer to the FARMER'S ADVOCATE's question as to the best practice, I will say, first, the physical basis for growing sugar beets is the quality and composition of the soil. Soils generally described as clayey, sandy loam or alluvial, or the black prairie soils, are best. The least favorable is a heavy, sticky clay. In general, a soil that will produce good corn and potatoes is well adapted to the sugar beet; reasonably level and well-drained preferred. A certain amount of moisture is absolutely necessary.

"What Crops to Grow Between Beet Crops.—This question is one that needs careful thought, as the soil plays so important a part. Soils well fertilized with well-rotted manure, one year previous to each crop, or with a commercial animal fertilizer, made up of bone, blood and potash, will produce a good crop of beets for several years in succession. Beets should follow wheat, or some cereal crop, or clover (not a timothy meadow), because the ground will early be available for fall plowing, a prerequisite to



a most successful beet culture. As we are now entering upon the new year and first year's growing, plow early and deep—10 to 12 inches—and thoroughly harrow and pulverize soil up to the day of seeding; and here let me say, the weeder in use to-day is an excellent tool to keep back young growth of weeds.

**Rotation of Crops.**—Special attention should be given to the condition of moisture in which the preceding crop leaves the soil. Three samples of rotation are given to guide the grower.

"First, a four-year rotation, with 25 per cent. beets:—(1) Winter wheat, with strong stable rotted manure; (2) beets; (3) summer crop; and (4) clover.

"Five-year rotation, with 20 per cent. beets:—(1) Beets, with artificial fertilizer; (2) summer crop; (3) clover; (4) rape seed; and (5) winter crop.

"Six-year rotation, with 5 per cent. beets:—(1) Beets, with well-rotted manure; (2) beets, with artificial fertilizer; (3) barley; (4) beets, with stable manure; (5) wheat or barley; and (6) clover.

**Best Manure, When and How to Apply,** is fairly well covered in preceding answers.

**Best Time, Method and Machine Used in Seeding.**—After thoroughly preparing the soil, plant as early as soil will permit, when warmed, in drills, 18 to 22 inches apart, using any of the popular seed drills now on the market. The Planet Jr. is among the best. Use plenty of seed: 15 to 18 pounds to the acre. It is easier to thin than to not have plants enough. Cover the seed with 1 to 1½ inches of soil. As soon as beets appear plainly enough to see four leaves, thinning should commence. A wide hoe in the hands of an energetic farmer will do much. Go through the row, cutting crosswise all plants, except every ten inches, then let girls or boys follow and thin to *One Good Healthy Beet Plant*. Follow this process with the cultivator, and keep diligently at it until all danger of weeds is over or lack of moisture is shown. Beets planted early will mature early and require less irrigation. The more thoroughly the soil is worked, the greater per cent. of sugar will the crop show.

**The Sugar Content.**—The presence of sugar in the beet is due to the chemical changes in certain of the constituents of the roots, which change is effected by the action of the sunshine. Accordingly, this process is conducted through the channel of the leaves. The beets well cultivated will have large strong leaves, and, of course, contain the most sugar. Smaller, long beets, also have the most sugar; grow them fast by cultivation. The sugar-bearing portion of the beet decreases toward the center, and in the center of a very large one there is no sweetness, but rather the flesh is salty. In a small beet the saccharine cells extend through the center and pervade the entire beet.

**A Fair Average Crop** is 16 tons to the acre, of 13 to 14 per cent. of sugar. As high as 20 tons, with 16 per cent., has been grown here. One grower had 10 acres. Result: 16 tons per acre; 14.2 per cent.; sold for \$81.80; cost, \$26; net profit, \$58.80.

**Cultivators.**—The ordinary corn cultivator, with narrow teeth, is used almost exclusively after plants are up. Many improved tools are on the market, which must be tried before recommending. Land should be harrowed and smoothed as fast as plowed, and then finished to a fine tilth. The retention of moisture in the upper layer of soil is absolutely essential for best results. One quite common error is the preparation for beets of new land or land a number of years in sod.

**Harvesting.**—Having grown your crop under the best conditions, the method of harvesting comes next; and again there are new and successful tools on the market. If the receipts are to correspond with the labor, then a tool that will dig and top beets will be a money-saver; but the potato fork, in the hands of a faithful worker, is the tool most in use. Let the boys follow and break off tops and throw the beets in piles, ready for hauling. Sugar beets do not spoil by freezing, but do by freezing and thawing. Many, therefore, leave the crop on the field until quite late, drawing them to the factory after other fall crops are cared for. Here they are weighed, and a percentage of dockage deducted for dirt and parts grown above earth. In Michigan, \$1.50 a ton is paid for 12 per cent. beets, and 33¢ added for all beets showing a percentage of sugar of over 12 per cent.

**Purchase of Seed.**—The companies all reserve the right to furnish their own imported seed, and the purchase price is deducted from sales on delivery.

**The Sugar Quality** varies from 11 to 18 per cent. of sugar.

**The Average Cost of Production** varies from \$26 to \$31, including every item of expense. To illustrate: Plowing (usually subsoiling), \$2.25 per acre; harrowing, \$1.00; seed, \$2.50; sowing, 50 cents; cultivating six times, \$2.50; thinning and weeding, \$7.00; pulling and piling, \$2.00; topping, \$5.00; drawing, average 2 to 3 miles, \$5.00. Total, \$27.75, a fair average.

**Delivery.**—Beets are delivered until quite late in the fall, companies generally running until long into December and January. It is profitable to haul six miles, and if railroad facilities are ample, then ship. A gain is thus made, owing to the delays in unloading from wagons, when the teams are generally so numerous. Although every facility is offered, farmers sometimes have to wait hours for their turn to unload. Many companies advance \$5 per acre after the crop is once under cultivation, which comes oftentimes as quite a blessing. There is no trading stock for sugar; you cannot as a producer obtain one pound of sugar from a factory.

**Experience with Pulp.**—The pulp of the sugar beet is valuable as a succulent food for cattle, especially so for fattening stock. A herd of 60 head will consume about two tons a day, only requiring a small amount of hay and no grain. Pulp is valued as high as \$3 a ton. In many localities it is given to the grower for the drawing; in other localities it is charged for at the rate of \$1 a ton. From one Michigan factory, the product goes up into Wisconsin to the stock yards, selling for 60 cents and freightage to be added. At \$1 a ton, it is a valuable and cheap food, demonstrating the need of securing this refuse. As a fertilizer, there are no authentic experiments, but the tops have certainly a value left to be plowed under. In the far West, experiments are being made in producing an article of syrup from sugar beets. The syrup is fine, with a pleasant flavor and desirable color. I regard this as being a grand introduction for future beet-sugar factories. Its use will be limited, no doubt.

"In conclusion, let me say that the industry is well worth attention. The business of beet-growing resembles horticulture, and demands every attention to detail. The beet is a delicate, high-bred plant, and will resent very decidedly any neglect, by a reduction in tonnage, sugar content and purity; hence the importance of careful selection and preparation of soil, of seeding plentifully, of thinning just at the right time (when four leaves appear), and of thorough cultivation. Retain moisture near surface and work soil to a tilth immediately after plowing. Observe these rules and you can grow beets that will produce results like the following: One acre, \$70.31, lowest in all; 2 acres, \$180.71; 2 acres, \$159.99; 3 acres, \$293.98; 5 acres, \$317.85; 10 acres, \$630.91; 16 acres, \$1,265.05; 110 acres, \$8,331.05. These are facts as gleaned from a list of growers in Michigan last year.

"With the reputation the Canadian farmer has, there seems no reason for hesitancy. The industry is unattended by speculation, the price is fixed for each tonnage, and it only remains for him to so raise the crop that he will increase that tonnage and get the highest per cent. of sugar. W. S. STEVENS.  
"Kent Co., Mich."

[EDITORIAL NOTE.—As to depth of plowing, that will depend somewhat on the nature of the soil. We have seen fields damaged seriously by bringing to the surface a heavy, yellow subsoil. The beet does need, however, a deep, mellow soil to grow down into. In fattening cattle on pulp and hay, we fancy the Canadian feeder would be disposed to add a little grain to the ration.]

### Sugar Beets a Boon to the Illinois Farmer.

Looking back over how I raised sugar beets last season, I would say:

1st—Take the best well-drained, level black land you have. It cannot well be too good. Be careful to keep it from washing.

2nd—Crops following beets should be oats, corn, and clover. I think beets can be raised continuously, if the land is well manured every year, but it is better to change off every two years.

3rd—Stable manure I consider best applied in the fall or winter, if convenient. Spring will do, if well rotted and spread as hauled. If this cannot be had, then use some other good fertilizer to take its place. Put on just before preparing the ground for sowing.

4th—The best time to plant is as soon in the spring as the ground can be put in proper shape, and is warm enough to germinate seed. We use a drill same as a wheat drill, arranged to sow your rows 18 inches apart, which it plants nicely, using two horses.

5th—Preparing Soil.—Plow thoroughly, at least six inches deep. When the ground is in condition, cultivate, harrow, and roll. Keep this up until you have packed the ground, and, at the same time, have a good seed-bed of two or three inches.

6th—Flat cultivation is best the first time; then cultivate deep with a tool made for the purpose; next surface cultivation, following several times. Then comes the hand weeding.

7th—How to Thin.—When the beets are about three inches high, take a seven-inch hoe and cut across the row, leaving between each cut three inches with the beets you wish to grow. After this is done, you go over the field, take out of the three inches left all but one plant, always leaving the best one. Then cultivate frequently.

8th—Harvesting.—September 15th is a good time to commence. We have a tool just the same as the nurserymen have for taking up trees, that straddles the row and cuts both sides and under the beet. This loosens the beet, so you take it by the top and lift it out easily. Leave all beets not pulled in the ground—they keep better. After pulled and piled, top them by cutting off the top just below the lowest leaf.

9th—Good land ought to produce from 18 to 30 tons per acre in a good season. I raised 24 tons, rich in sugar, per acre last season.

10th—A fair yield would be from 12 to 20 tons per acre. Cost, \$27.50 per acre. Price per ton, \$1.00. This is what we get here.

11th—Deliver as soon as harvested. Haul off as fast as taken out of the ground. This saves wilting, which is a loss to producer.

12th—Pulp is a good feed and also a good fertilizer. Take it all round. I consider the beet industry a godsend to this country.

McLean Co., Ill.

J. S. ROSS.

### Long Distance Shipment of Sugar Beets.

A dark clay loam is preferable for sugar-beet growing.

Corn or barley may be grown between two crops of beets.

Barnyard manure applied with crop preceding beets is the best fertilizer.

Use hand drill, and sow as early as ground will permit in spring.

If the preceding crop is barley, plow the stubble as soon as harvested, and cultivate well, and plow deep in fall, cultivating shallow in spring to work up a good seed-bed.

Flat cultivation is the correct thing.

As soon as you can see the drills of plants, go through with a beet cultivator, then block and thin. Blocking is done with a hoe or a beet blocker by cutting the drills crossways, taking beets clean out of drill for 8 inches, leaving as small sections as you can between. Thinning consists in taking all the beets out of these sections except one plant.

There are several different kinds of beet lifters in use through this State.

Klienwanzlebener, a German variety, is a good sort.

From 15 to 20 tons per acre is a very good yield; cost of a crop about \$25 per acre. We get \$4.50 per ton for 12-per-cent. beets, with the addition of 33¢ cents for every per cent. over that.

Delivery is from September to January. Where they are near a factory they are hauled with wagons; where they are distant they are shipped by railway. I would rather be a 100 miles from factory and near a railway than be 5 or 6 miles and have to draw with wagon.

I have not had any experience with the pulp as a feed or fertilizer.

Huron Co., Mich.

GEO. M. GRANT.

### Proposed Western School of Agriculture.

Mr. J. H. Smith, M. A., Principal of the Ridgetown Collegiate Institute, who has had a lengthy and successful experience as an educator, advises us that he proposes organizing a farmers' school, to serve specially the needs of the Western peninsula of Ontario. It is to be opened in Ridgetown in October next, and the term will extend till March. Any one 16 years old or over, with a good public school education and a practical knowledge of farm operations, will be eligible for admission. There is no doubt whatever, as has often been pointed out in the FARMER'S ADVOCATE, that the public school course is weak in regard to subjects calculated to be of real service to the young man whose occupation is to be farming. In fact, the youth generally, including those living in cities and towns, would be greatly advantaged in their educational equipment for the work of life, were more rational methods pursued and greater attention paid to the natural sciences, thus training the observation and practical judgment of the scholar. Principal Smith has undertaken this plan at the solicitation of a number of the most progressive farmers of that part of the country, and towards which he has received much encouragement when speaking at Farmers' Institute meetings. The recognized need for more general agricultural education is apparent. In the light of present-day conditions, no one can seriously contend that such is not the case. In mapping out the course for the proposed school, everything that has not a direct bearing on some department of farming has been left out. The laboratory will be amply equipped to illustrate the principles and laws of the various sciences. The course of study is to include the following:

#### CORRESPONDENCE.

Special attention given to good, plain, rapid penmanship correct spelling, and the use of good English.

#### MATHEMATICS.

Arithmetic and mensuration; rapidity and accuracy in calculation; measurement of lumber, land, pits, bins, silos, mows, stacks, etc.; cost of feed and feeding; cost of tiling, draining, building and fencing; interest and discount; profit and loss in different farm operations.

#### BOOKKEEPING.

A complete system of double entry, specially adapted for the farm; use of stock register and field books; business forms, such as receipts, notes, drafts, cheques; contracts, commercial law.

#### PHYSICS.

The constitution of matter, measurements, weighing; farm mechanics, or the principles of farm machinery; the physics of solids, liquids and gases; heat and its effects; physical analysis of the soil; soil moisture and methods of controlling it; conservation and transformation of energy; the principles of electricity sufficient to illustrate its application on the farm. This course consists of class work, lectures and experiments.

#### CHEMISTRY.

The work of this course is general, embracing class work, lectures and experiments to illustrate the main facts, principles and laws of chemistry in their application to farm operations.

#### GEOLOGY.

Ten lectures, giving a general outline of the various systems and formation; occurrence of useful minerals in Canada; soil and soil formation.

#### BOTANY.

Observation and description of plants, chiefly weeds; pollination, fertilization, germination, growth, dispersal of seeds; detection of seeds in samples of grains; the character of rust, smut and other injurious fungi, with their remedies. Special attention given to a few of the more important families, such as grasses, clovers, etc.

#### ZOOLOGY.

The chief divisions of the animal kingdom, with special attention to those forms which are either a benefit or an injury to the farmer, such as insects, birds, domestic animals; anatomy and physiology.

#### AGRICULTURE.

This course embraces a wide range of topics, a few of which are given below: Physical properties and classification of soils; tillage operations, manures, relation of certain plants to fertility, rotation of crops, drainage; breeds of cattle, horses, sheep

and swine, with valuable points of each; poultry, different breeds, houses, breeding, feeding, etc.

DRAWING.

Plans and elevations of houses, barns, poultry houses, silos, etc.; objects of utility.

GENERAL.

A few lectures on general topics, such as marketing, advertising, transportation, wealth, labor, land, capital, joint stock companies, money and exchange, co-operation, forestry, etc.

**An Institute Trip in Southern Alberta.**

BY J. H. GRISDALE, AGRICULTURIST, CENTRAL EXPERIMENTAL FARM, OTTAWA.

The stranger who arrives in the night and gets at sunrise his first impressions of Lethbridge, the principal center in this vast and fertile territory, is impressed by the natural beauties of the country rather than the architectural grandeur of the buildings which go to make up the scattering town. Far to the south and west loom the mighty Rockies, with sentinel summits rising, snow-capped, above the long, dark range. Between the observer and the "great divide," the rolling foothills lie, covered with cattle in herds, whose dark forms show against the white snow or rise clear-cut above the horizon. Scarce a low-browed hill but bears its rancher's shack or cot or house, surrounded not infrequently with stacks and corral, with here and there a stable or shed or barn.

The Belly River almost surrounds the town, and countless coulees show where the melted snow has rushed to join its muddy springtime torrent through the ages.

The coal mines lie to the north of the town, and upon these, rather than upon agricultural pursuits, Lethbridge depends for her present, and, in part, her future prosperity.

The canals of the Canadian Northwest Irrigation Company are stretching, with their life-giving currents, hither and thither through these fertile plains, and now that one of the long, silvery streams has found its sinuous way to Lethbridge, the thirsty soil and dusty streets, the gasping trees and sere brown grass shall next summer drink in great drafts of the gentle waters.

The townspeople and surrounding gardeners and farmers are enthusiastic over the prospect of controlling the water content of their soil, and are filled with bright anticipation of waving avenues, shady parks, lawns whose verdure shall know no fading, gardens whose crops shall be fabulous, and

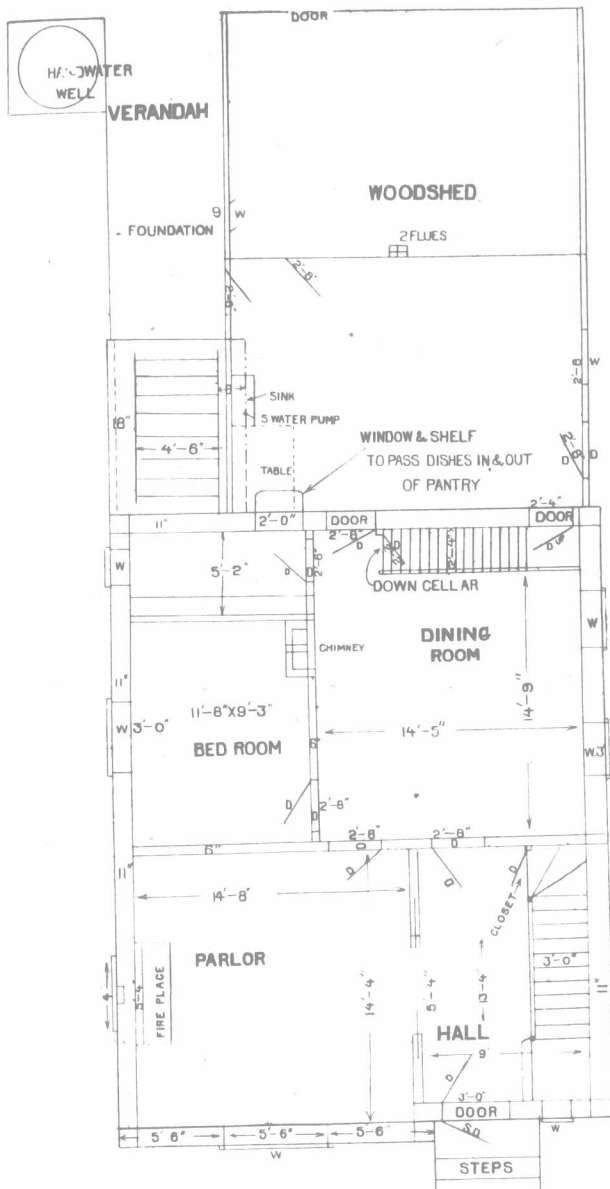
thing but dry when the chinook prevails. The crossing of any one of these streams in summer is usually easy, but when the snow is going off at the rate of a foot a day, there is a considerable spice of danger connected therewith.

The thoughtful traveller who drives from Lethbridge southward to Cardston, across to the foothills and then northward, observing the signs and talking with the settlers, soon becomes convinced of one thing: The years, if not the very days, of the rancher are numbered. In the last two or three years it is evident that a rapid change has been going on. Settlers from all parts of the world have been rolling in on prairie schooner, cayuse back, or afoot, and now countless sections are being homesteaded, many more pre-empted, and practically the whole land is applied for. A line of railway is being built and already extends 50 miles south of Lethbridge, where it joins the C. P. R. An irrigation system, the same as mentioned above, will water thousands of acres, and a population of hardy, thrifty people, accustomed to irrigation, already occupy these plains in thousands, and thousands more are coming in from the great republic to the south.

The Mormon settlement, which began some 15 or 16 years ago, under the direction of President Card, kept growing slowly until two years ago, when some thousand or more were added to their number, and now every day sees some new families added to the "stake." The industry, patience, perseverance and intelligence of these pioneers is quite remarkable and worthy the highest commendation. In the newer settlements, more especially, are observable a keen appreciation of the existing conditions, and the proper steps to take to insure success, such as is seldom seen in the individual, let alone the community. Coming as they do for the most part from Utah, where irrigation is the rule, it may be expected that the problems of irrigation agriculture, under the rather unique climatic conditions of Alberta, will be solved in the shortest time and with a minimum of loss.

The question naturally arises: "What are the actual prospects for mixed farming in the country?" As would be inferred from the mention of irrigation canals, the seasons are frequently so dry as to destroy all, or almost all, vegetation before maturity. It has been found, however, that, with proper cultivation and precautions, all grain crops are fairly certain of giving good results. In that part of the Territory immediately surrounding Pincher Creek, as well as in most of the country lying to the south and east thereof, fall wheat has been grown for the past ten years. Crops yielding variously from 30 to 70 bushels per acre are reported, and the unanimous opinion of the farmers appears to be that this is their surest crop.

Vegetables, such as potatoes, ruta-baga, mangels and sugar beets, yield immense crops per acre, with



GROUND PLAN OF A. M. MUNRO'S FARMHOUSE.

The foregoing course was unanimously endorsed by the East Kent Farmers' Institute, March 1st, 1901, and several young men have already signified their intention of attending the school as soon as opened.

**Residence of A. M. Munro, Glanworth, Ont.**

This house, built in the summer of 1900, has a nine-inch brick wall, rendered, strapped and plastered, and an 18-inch stone wall in the cellar. The stone wall is continued around the outside cellar entrance. The stone is common field stone. The first floor is finished in black ash. The main house has a slate roof and the kitchen has a galvanized metallic roof. The attic is floored. Plate glass is in parlor window and stained glass in stair window and transom over front door. Front stair is oak. Chimneys are capped with freestone. A double-flue chimney in the inside of house is expensive, but I thereby get a better draft and prevent the outside wall from being blackened with smoke, as is frequently seen. One of the flues can be used for ventilation. Between the floor and ceiling the first story is nine feet six inches, the second is eight feet eight inches, and the cellar is six feet six inches.

A different division of the second story could be had, whereby the sewing room over front hall could be made into a bedroom, by having the hall upstairs at the top of front stairs four feet further to the back. You could thus make the sewing room four feet longer and wider if desired. But this would make the west double bedroom smaller.

The workmen boarded themselves, and counting everything, the main house cost, without plumbing and heating, \$1,800, and the kitchen and woodshed \$300. Everything is of good quality.

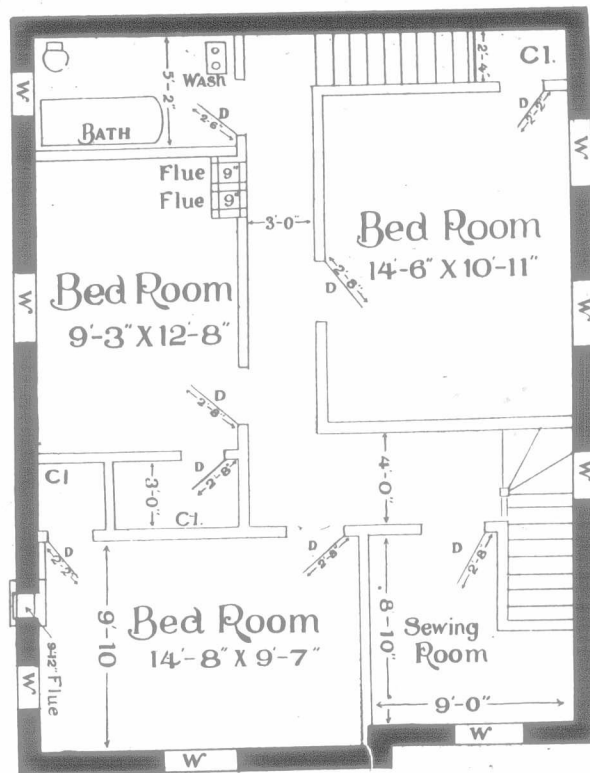
**"Farmer's Advocate" is Up-to-Date.**

To the Editor FARMER'S ADVOCATE:

SIR,—I suppose it may seem like acknowledging receipt of your paper at the eleventh hour, but rest assured that it is not from want of appreciation. I have been much pleased with it indeed. As a general thing, when night comes, the first thing in the form of farm information that comes to my mind is the FARMER'S ADVOCATE, as it is up-to-date in all its information, and I would not be without it for twice the amount. As a new subscriber, I indeed wish you the full measure of success your paper deserves.

HENRY MACDONALD.

Lanark Co., Ont.

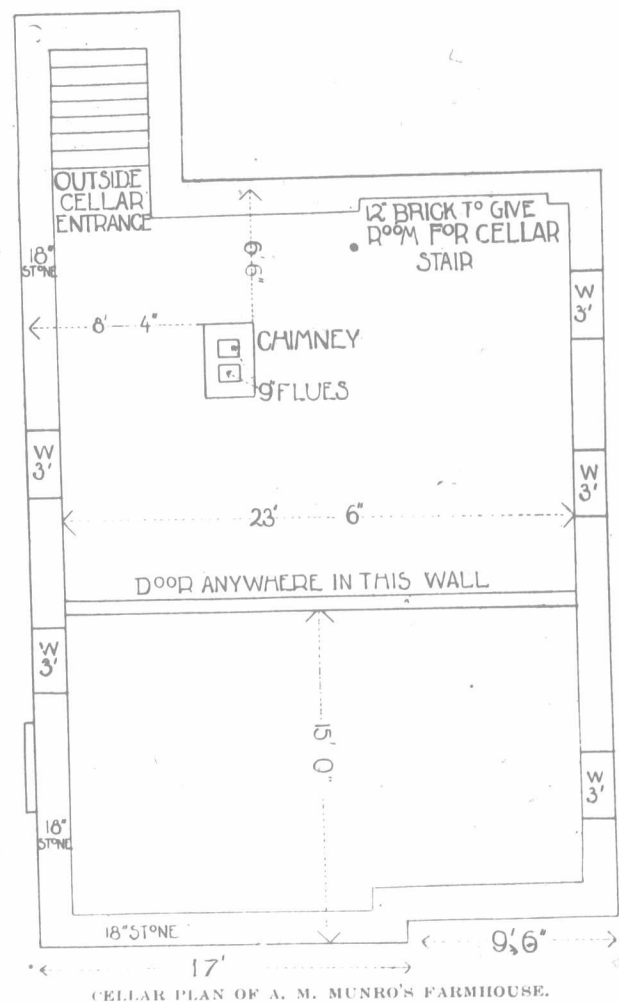


UP-STAIRS PLAN OF A. M. MUNRO'S FARMHOUSE.

fields whose harvests shall never fail. It is to be hoped their dreams will materialize.

At present, and for the past 15 or 20 years, the chief agricultural line has been ranching. A visit to a few of the ranches in the immediate neighborhood of the town showed the cattle wintering only fairly well. The grass was plentiful, also quite easily obtained, and the winter had not been severe, but water was scarce, and this great lack affects the condition of cattle on the ranges more, even, than poor pastures, for usually the one may be supplemented with hay, but the other is an irremediable contingency. In the more southerly, however, as well as in the more northerly parts of the Territory, the supply of water is better, and, as a consequence, the great majority of the hundreds of bunches observed are in good condition. Practically no feeding has been done yet, and an easy winter is considered to be on, as the three most severe months are over. The mortality from various causes has been very light, and, while here and there a shipwrecked steer or calf mars the beauty of the plain, the total is small and much below the average. Two of the largest ranches visited were the Cochrane and the Hatfield. On both of these the cattle are coming through in most excellent condition, and thousands of steers were seen, the great majority of which were fit for the slaughter-house.

Across country from Mountain View to Fishburn, between which two hamlets these ranches lie, is a most interesting drive of twenty-five miles. The interest is considerably intensified, however, if the traveller venture in winter and a chinook prevail at the time. Between the two lie the Belly River, traversing the Cochrane ranch; the Kootenay, forming one boundary of the Hatfield estate; the North Kootenay, a picturesque stream, of uncertain demeanor, and the Dry Forks of the Kootenay, any-



CELLAR PLAN OF A. M. MUNRO'S FARMHOUSE.

a minimum of labor. In the case of sugar beets grown the past year and analyzed in Utah, the sugar content averaged 15 to 20 per cent., reaching over 80 per cent. pure. With irrigation in some parts, in other sections without this aid, immense crops of Brome and timothy hay are grown. The most difficult problem would appear to be the growing of trees and shrubs. The winter is usually a series of cold spells, followed by warm southerly or south-westerly winds ("the chinook"), which take

away all snow, and very often the soil is thawed to a depth of 3 to 4 inches. This climatic peculiarity, together with the strength and persistence of these same prevailing winds, render tree culture, up to the present, a most unsatisfactory pursuit.

From the present indications and conditions, one would say that if there is any place where the "dual-purpose" cow should belong *par excellence*, it is in Southern Alberta. The pastures are well fitted for dairy husbandry, while there will for some time be more or less range available for feeding steers. This is more especially true in the neighborhood of the foothills, whose elevation militates against successful grain-growing, but where excellent pasturage is found.

The Institute party consisted of Angus MacKay, Esq., Manager of the Experimental Farm, Indian Head; Mr. George Lang, recently Horticulturist at the same institution, and the writer. Lectures were delivered to large and representative audiences at Lethbridge, Magrath, Cardston, Mountain View, Fishburn, and Pincher Creek, these being some of the principal centers of farming sections south of the Crow's Nest line of the C. P. R. The subjects discussed were: "Soil Cultivation," "Weed Eradication," "Tree Planting," "Fruit Growing," "Beef Breeding," "Milk Production," "Pig Feeding," "Mixed Farming," and "Hen Culture." All the subjects were apparently quite interesting to the farmers present, and every man is a farmer in this country. The fact of a change being imminent seems to have dawned on many of the smaller ranchers, and the problems of mixed farming were discussed quite warmly in some cases, showing the antipathy of the ranchers to the change now going on. The change is coming, however, and no amount of objection raised will retard it in the least.

**Seed Selecting and Testing.**

SIR,—Too little attention is given to selecting and testing seeds used for field crops. If we know that seed oats, barley or wheat are of last season's growth, and that they have not been damaged from wet, it may not be necessary for us to worry about their vitality; that can be judged largely from their appearance.

When preparing seed for cereal crops, it is always advisable to use grain that has been grown under conditions favorable to a growth most suitable for producing a maximum yield of grain of the best quality. It cannot be too highly recommended that each spring an acre or so of the earliest and best land be specially prepared and used for the purpose of growing seed grain. Fully as much attention should be given to selecting the seed for such plots as is given to selecting breeding animals for a stud, herd or flock.

Commencing with the seed, careful experiments have shown that the large plump grain selected from ordinary seed gives an increase in yield over the ordinary seed sufficient to add a remunerative profit from the crop, when the crop from the poorer seed would only pay for the cost of production. Again, plants from large, well-developed seeds are more vigorous, and will continue to be more thrifty, from germination until the plant becomes mature, than plants from small or shrunken grain. Selection should also be made in the field. It is from these perfectly-developed plants that the large, plump seed should be selected. From one day's work for three persons among good grain, plenty of large heads can be picked to produce enough good plump seed to sow one acre. From that seed-grain plot large heads should be selected to sow the plot for succeeding year, and the grain harvested from the plot should be used as seed grain for the general farm crop.

The idea that grain after having been grown in one locality for a number of years tends to "run out" is growing less common. It is now more generally believed that the decrease in the vigor and productiveness of grain is largely due to lack of attention in seed selection. If a farmer has been growing a variety of oats, which he finds to be well suited to his soil, for five or six years, without giving any attention to keeping up its productiveness, it can hardly be disputed that it is to his advantage to get fresh seed of a good productive strain of the same variety. Nearly as much attention is now being given to productive strains of old standard varieties as is given to new varieties, and when a good, practicable, systematic selection of seed becomes more general and the results carefully observed, the craze after a change of seed will die out.

Such agricultural education movements as the "Macdonald Seed Grain Competition" are having a good effect, not only with the boys who live on farms, but with the farmers themselves. Each one of those quarter-acre seed plots which are being operated by the competitors in that competition serves as an illustration to many who would otherwise have no opportunity to observe the effects of such a systematic selection when applied to wheat and oats. Farmers who encourage their boys in this work are doing much toward leading them out and helping them to take a deeper interest in the whys and wherefores of agricultural operations in general.

The vitality of grass, clover and root seeds should be tested before they are sown. We have limited means of finding out when or where our root seeds, and in most cases our clover and grass seeds, were grown, and it is a regrettable fact that we are at the mercy of the seedsmen so far as the vitality of such seeds is concerned. It is noticeable that seed dealers take care to insert inconspicuously on their invoices

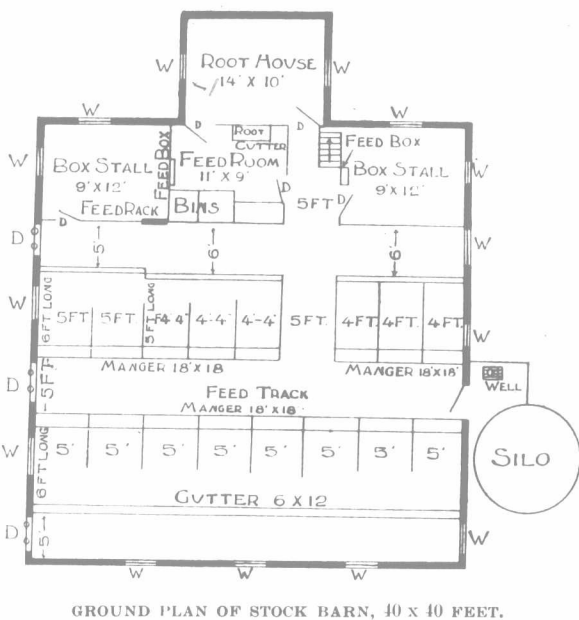
or elsewhere, that they will not be held responsible for the purity or vitality of the seed supplied. If our legislative machinery were brought to bear, and unscrupulous seed dealers were asked to substitute for their provision—which is a safeguard to themselves—a guarantee, which would be a safeguard to the purchaser, as to the purity and vitality of the seed supplied, the percentage of loss sustained with such crops as mangels and carrots, and, to a less degree, with clovers and grasses, would be materially decreased.

In order to be assured that the seed which is to be sown this spring will readily germinate, arrangements for thoroughly testing it should be made. It is always well to carry on such tests in duplicate and under different conditions *re* moisture and temperature. One hundred seeds may be tested in a pot or box of soil under the most favorable conditions, while another hundred should be tested under field conditions such as are common at seeding time. If less than eighty or ninety per cent. of the seeds germinate, and the growth from those is weak, it will be wise to discard it as unfit for use and endeavor to get seed that will be sure to produce a strong growth of good uniform plants.

RURAL SKETCHER.

**Plan of Basement for Barn 40 Feet Square.**

In answer to N. McP., in your March 1st issue, I send you plan of a basement beneath a barn 40 by 40 feet. In the following plan the entrance to the basement is on the south side and the driveway is on the west side. On the east side is a row of cows, tied with their heads towards the feed alley. The best cattle-tie is a swinging stanchion, although many prefer tying with a chain, but swinging stanchions give every freedom of movement necessary. The well and silo are situated near the end of the alley, and are, therefore, easily accessible for feeding and watering. The cow stalls are 5 ft. wide and 6 ft. long, while those made 4 ft. wide and 5 ft. long are for young cattle, and the two box stalls are very useful in keeping calves. The root room is under the driveway, and from it the roots are taken into the feed room, where they are cut up and then distributed to the stock. A small car may be used in the feeding alley, and I also use one in hauling out the manure. I also have a manure shed, into



which the car runs. The partitions are from four to five feet high, and, therefore, there is plenty of light all over the basement.

J. R. B.

[NOTE.—There are several features about this basement plan that might be changed with advantage. A cow stall five feet wide is too narrow for two cows and too wide for one. A double stall should be from 6½ to 7 feet, and a single stall 4 to 4½ feet. There should also be a passage connecting the east cow stable with the feed passage. We would also find fault with the 6-foot length of stall, which should not be more than five and one-half, if the cows are to be kept clean. If silage is to be fed alone, perhaps the position shown in the cut will do, but most feeders like to mix the silage with cut feed and roots. In that case the silo should stand beside the root house, next to the feed room.—EDITOR F. A.]

**The First Number More Than Paid the Bill --- Mandescheuri or Mensury.**

To the Editor FARMER'S ADVOCATE

SIR,—One of my neighbors, Mr. Charles Krenger, who is a subscriber to the ADVOCATE for the first time this year, informs me that the first number saved him more than the price of the whole year's subscription. He had a fine pure-bred Yorkshire sow that was killing her young pigs, and in reading the ADVOCATE he saw the information he was just in need of; he took the advice and saved the young pigs. To say he is pleased with it is putting it very mildly.

Which is the best kind of barley to sow if wanted only for feed, Mensury or Mandescheuri? My soil is a good clay loam and in fine shape for crop.

Bruce Co., Ont. SAM'L MILLER.

[NOTE.—In comparative tests over Ontario Mandescheuri barley has yielded better than Mensury on all classes of soil.—E.V.]

**GARDEN AND ORCHARD.**

**Flowers.**

**HELPFUL SUGGESTIONS FOR THEIR CULTIVATION.**

I hope every one of the home-makers who read the ADVOCATE has decided to have flowers in their vegetable garden this coming summer. It is such a rest and relaxation for tired nerves to go out and work among the flowers for a few minutes now and then. In recent years there has been a return to the lovely old flowers of our grandmother's days in flower gardening, and beautiful flowers they are.

*Sweet Peas.*—Nothing could be more daintily exquisite than the sweet pea, once so dear to our grandmothers. It is easily grown and comparatively free from insects, but it must be planted very early to make sure of doing its best. One can, and should, sow the seeds of the sweet pea just as soon as the frost is out of the ground. This will be about the first of April. The small velvety-looking brown seeds have remarkable vitality, and a little freezing of the surface of the ground after the seed is sown will not hurt them in the least. Be sure and sow the seed at least five inches deep. It is a good plan to dig a trench about six inches deep and sow in it a double row of seeds, covering them to a depth of about two and a half inches at first, and filling in the rest of the trench as the plants grow. This will make the plants stronger at the roots and bloom late in the summer. Early planting enables the sweet pea to become a strong and thrifty plant before the extreme heat of summer sets in. It is sensitive to the heat, and is a great drinker. Give it water in great quantities. Do not allow it to become dry around the roots or its vitality will depart, not to return. It is difficult to restore them to their former vigor after the vines have once begun to turn yellow. Do not let the flower form seed-pods or the bloom will soon cease entirely. Pick them at least every other day.

*Shirley Poppy.*—A flower of somewhat recent origin is the Shirley poppy. One can not do better than have part of a row of these if one wants something that will make a brilliant show in the flower garden. They are apt to be of every conceivable tint and hue. I once saw a small bed in which there were more than one hundred blossoms, and no two were alike. They were infinite in variety, and it would have been hard to say which was the most beautiful. If you have never had any experience with this beautiful little flower, give it a place in your garden this summer and it will be sure to delight you.

*The Morning Glory* is another old-fashioned flower that has again come into favor. It is no longer spoken of as "such a common flower," and there are some new varieties that are extremely beautiful. The Japanese varieties grow like weeds, and send forth thousands of beautiful blossoms. Give the seed ordinary garden soil, plenty of water in times of drought, and you will have flowers galore.

*The Nasturtium* is another easily-grown plant that is immensely popular, and justly so, for it is a remarkably prolific bloomer, and its flowers are of so many tints and shades. The climbing varieties do not bloom so freely as the dwarf plants. The seeds of this beautiful plant are very inexpensive, and the plant is so easily grown that anyone can succeed with it. It is admirably adapted to window boxes.

*The Aster* is another fine flower for late blooming. It is a plant of rather slow growth, but it will be sending forth its purple or pink or white flowers when other flowers have had their day. The aster seeds should be sown in boxes about the first of April, as seed sown in the open ground may not develop into blooming plants before early frost cuts them down.

*California Poppy.*—A dainty yellow flower is the California poppy. Its foliage is as finely-cut as the fern, and is of a pale green, contrasting charmingly with the pale yellow flowers. But one must enjoy its beauty while it is on the parent stem, for, like other members of the poppy family, it wilts almost as soon as it is cut. You will find the poppy to

"Pay you more than double For all their cost and trouble."

*Phlox.*—Then one will want at least half a row of Phlox Drummond, with its flowers of every conceivable shade and hue. The Grover Cleveland is a splendid variety, with its large and snowy-white flowers with a bright crimson center. Then there is the Stelleta, which is a glowing scarlet, with contrasting eye of white.

*The Petunia* is one of the flowers that grow with weedlike vigor. Some of the double varieties are as beautiful as roses. They have lovely curled edges, and are very handsome. I find the petunia does not always come true from seed.

*The Pansy* is one of my favorite flowers, and oh! how I love the baby-faced darlings. First of all, pansies are big eaters, so must have a very rich soil. They are hard drinkers, so must have a sprinkling every evening of warm sunny days, but do not freeze them with cold well water. That seems like queer advice when we have picked pansy blossoms from under the snow. Yet the cold water from the well will surely injure, if not kill them. Stir the soil lightly around each plant every week. This may seem too much work for a few flowers, but if you do not love them well enough to care for them, let them alone. The blossoms should be picked as soon as they reach perfection, and not allowed to seed, although a few of the choice plants

may be left for this purpose if desired. The more blossoms you pick the more you will have.

"Thank God for the beautiful flowers  
That blossom so sweet and so fair.  
They garnish this strange life of ours  
And brighten our paths everywhere."

FARMER'S WIFE.

### Early Spraying and Pruning.

As the time has arrived for fruit-growers to make it a point to grow only the very best samples of all kinds of fruit, it becomes their imperative duty to be fully prepared to successfully combat and conquer the various fungi and insect pests that are causing and have caused in the past so much trouble and loss to the fruit-growers of Canada. Let me enumerate some of the evils that go to reducing the profits of the horticulturist, viz., the want of sufficient pruning, improper cultivation or no cultivation of the orchard, and the lack of proper fertilizers in the orchard. I fully believe these three items alone reduce the profit one half of what it might be. And next, but not least, is the importance of spraying every fruit tree in the orchard, and doing it at the proper time to produce the best results.

I am sure no fruit-grower in the Dominion need say he did not know what to use and how to use the remedy. Our Local and Dominion Governments have spread information through the agricultural press, Farmers' Institutes and other agencies so cheaply and freely that even he who rides a bicycle may read and learn the whole principles of producing only the best.

During these fine days in March every fruit tree should be carefully gone over and all limbs and branches removed that are injurious to the fruit, also before the buds open very many nests of caterpillar and moths will be found and should be at once destroyed. Then all brush and other unsightly objects can be removed before spring work begins, but, above all, have the spray pump all right to commence operations against the insects before they begin to do mischief.

I have found by experience that a good spraying with sulphate of copper before the buds open will prevent black knot of plums and cherries. Just as the buds are opening, another spraying with Bordeaux mixture, with lime and Paris green added, will thin the insects largely. Then immediately the blossom is mostly off spray very thoroughly, as more insect-life can then be taken than at any future time. Then I would recommend another spraying every two weeks till the fruit is well formed, and if season is wet or unfavorable, another or even two more sprayings may be necessary. I have said nothing here about feeding the trees, for I assume that no sane person would expect to have a good fat pig if it were not fed; neither will an orchard do its best without liberal feeding and cultivation. More about this matter later on.

Whitby.

R. L. HUGGARD, Exptr.

### Pruning the Orchard.

Perhaps there is no one little job that the average farmer dreads at this time of the year more than "tendin'" to the orchard. He knows the apple trees must be trimmed; he wishes to do some grafting; he is sure the soil needs fertilizing; and, in fact, the whole orchard needs "toning up." It is not well to prune in winter, as the wounds heal slowly and the action of winds, frost and sun are injurious; nor in early spring, because the sap is active and fairly drips out of the cut. This always causes premature decay and injury to the tree. The time to prune is in early summer, just after the first rush of sap is past. The wounds will then commence to heal over at once.

A travelling pruner is not usually the best man to employ, as he frequently mutilates the trees without judgment and does more harm than good.

A tree that needs pruning badly may have the top branches very crowded. The way to prune this is to take a long step-ladder and a pair of good strong pruning shears; set the ladder just outside, underneath the limbs, and with the shears cut away the small sprigs and limbs that cross one another and crowd the extremities so as to prevent the sunshine penetrating to the center. Cut off the little branches that make the tree a "shady" one. Do not cut out one large, thick, healthy branch, but take away all the young shoots that you can plainly see are not fitted to make permanent bearing branches. The sooner these are removed, the better for the tree. Shoots in the center of the tree not reached by the sun are better removed.

If you notice that a tree is not producing wood, you should find the cause. Perhaps the soil is poor or the roots are robbed or dried. The very best thing to do is to cut back the top. This reduces the work the tree has to do and gives it a chance to recruit.

After pruning, it is wise to clean up the orchard. If this is neglected and the brush left lying around, or even in brush heaps, the embryo insects mature and begin their work. The loose bark should also be scraped off and placed with the brush to form a bonfire. Attention to this at once will save a great deal of loss and vexation as well.

It is important to cover the cuts with some substance that will protect them from the weather. I have used common red paint with good results the last two years. Common grafting wax is beneficial, but perhaps the best thing, when it can be got pure and good, is gum shellac, dissolved in alcohol to the consistency of paint.

As regards the pruning of peach trees, I have found it to be the case that judicious pruning will help a peach tree to bear evenly. An overloaded tree will produce inferior fruit of less value than half the quantity of a better size, and then the overloaded tree is injured so that it will require a year or two to recover. All this overloading may be avoided by judicious pruning. The main branches of a young tree should be early in spring cut back to eighteen inches, being careful to leave on them any sub-branches near their base. The next spring the next crop of branches should be cut back in about the same way, and on half of the sub-branches cut clear away, leaving every other one, and those not cut away should be cut back one-third or one-half. The summer after this the trees should give a splendid crop of fine fruit that will need no thinning. The after cutting-back and pruning should be on the same general plan. As the trees grow older it will be necessary to cut back one-half the main branches near their base at some point just above where a thrifty young twig is growing, so as to form a vigorous head. WM. WILLSON.

### Making a Garden—Some Practical Hints.

Our garden is 12 rods long and about 5 rods wide, well fenced. It has an opening, through which a team and any piece of machinery may pass. Everything is planted in rows, far enough apart to admit of cultivation with double team and ordinary field cultivators. One-half of garden is planted to potatoes, alternating sides each year to procure rotation. Late-maturing vegetables are planted on the outer half or more of the other side of garden, the parsnips occupying the very outside row. In case we want them to stand for spring use, they do not interfere with the fall plowing. Early vegetables, or those likely to be off the ground by the latter part of July, are grouped together, and the ground, after they are off, is sown to turnips; or, if we have nice growing showers at that time, we often raise second crop of early-maturing things.

Peas, beets, radish, lettuce and onions we always put out as soon as the ground will possibly do. Last year we had quite a snow after these were in the ground, but it went off with a warm rain, and the plants soon began showing along the rows, while if we had waited, it would have been several days before the ground would have again been fit for working.

Of all varieties of peas tried, none suit me quite so well as Nott's Excelsior; almost as early as the earliest, and such an abundant cropper!—a blue, wrinkled variety, very sweet, and stands early planting better than any other wrinkled sort tried. It needs no sticking, and this alone would recommend it for main crop to most people. The head varieties of lettuce are my favorites. We drill it as thickly as other kinds, and while the plants are young, use out in such a way as to leave an extra fine plant standing about every 8 or 10 inches in the row, which forms nice heads, that stand in all their crispness late into the summer.

Salsify is easily grown, and may be had the winter through by packing in sand or dirt, or it may be left in the ground for early spring use. We stew it in little water and add milk, cream and butter, salt and pepper, and serve just like oysters. I think the soup is improved by adding a few pieces of celery to the stew. Parsley is not liked by everyone as a flavoring, but it is so very nice and attractive when used for garnishing that it should be found in every garden.

Asparagus should be included in every garden. Plants are obtained more cheaply by planting seeds, but a gain in time is obtained by setting plants, either fall or spring. Give the asparagus bed protection during winter. After the ground freezes, we cover ours to the depth of 6 inches with litter from the horse barn. In spring it is raked off and burned, as it is usually coarse, and nearly all the value of it has been washed into the ground by the winter rains. When the brine from the meat is no longer needed, we pour it on the asparagus. It helps keep down weeds, and is said to be a benefit to the plants.

Vegetables are so conducive to health, that at any place in the temperate zone it is folly to be without them for a single day. The one that invariably has plenty of fresh vegetables for his own, besides some to give a neighbor in harvest or at threshing time, is interested in this subject during the entire year, and does not wait until he sees his neighbor's rows of tender green before he thinks of his own, and then has to rake and burn trash before plowing. After that is finished, he finds his garden spot a heavy, wet mass, because the wind and sunshine could not reach it.

Anyone who has been gardening by the old method, in a little spaded patch, using hand labor exclusively, is just wasting that much time and strength. "Turn a new leaf," and turn it completely. Don't waste your strength pulling these machines. The most of us played horse until we were satisfied when we were little. And when tending time comes, if the farmer quits one-half hour earlier at noon or night, once a week, and has a steady team and uses his cultivator carefully, he will in this short time accomplish more, and in just as good a manner, as his wife or daughter could in ten times as much time. Don't be afraid of lightening your wife's burden. She will not become lazy on account of having this done for her. Your table will be more tempting and your fare more nourishing, your store bills lighter, your health better and your brain clearer, by paying attention to the garden at the proper time.—A. M. K., in *Drovers' Journal*.

## APIARY.

### Queens.

BY MORLEY PETTIT.

"The practical man, contemplating the advisability of entering upon any line of work or business, carefully studies the situation from every point of view, and, when fully convinced of its desirability as a lucrative venture, complies most assiduously with all the conditions necessary to the complete success of the undertaking." So said Mr. M. B. Holmes in a paper on "Queens," read before the Ontario Beekeepers' convention at Niagara Falls last December.

"The splendid hives and foundations of the day are certainly a boon which every true beekeeper appreciates; but the great center on which success most largely depends—that 'center' at which no 'master' beekeeper can err—is in securing 'the good queen' for every colony. . . . I mean the queen that will do the largest amount of work in a given time."

Observation teaches that colonies vary greatly in their honey-gathering qualities, some yielding scarcely any surplus, and others very much exceeding the average. "Take, for instance, an apiary of one hundred colonies, the average annual yield of which is, say, eighty pounds of extracted honey per colony. Now, let us suppose that twenty-five of the one hundred colonies are poor, fifty average, and twenty-five strong, and then try and solve the problem as to how the average yield of eighty pounds per colony is obtained. The poor colonies will gather about half as much surplus honey as the fifty of average strength, or, say forty pounds each; then, in order to get the average of eighty pounds per colony for the whole apiary, the twenty-five strong colonies must gather one hundred and twenty pounds of surplus honey each."

If these one hundred colonies have all received the same treatment, the difference in their work must depend on the quantity and quality of the workers in each. These again depend directly and solely on the laying queens, and "the mere act of tolerating the twenty-five poor queens has incurred an expense of one thousand pounds of honey, when compared with the average colonies, and three thousand pounds short when compared with the strong colonies, either of the items being sufficient to pay for all the good queens required and leave a considerable balance to the good."

"You may change the figures as you desire, and the result will always show that the poor queens are heavy debtors, with no prospect of paying, and should under no circumstances be tolerated. Keep the best, and only the best; the very best are the cheapest in the end, and an economy that prohibits the employing of the best queens is certainly a false economy."

In what does a good queen's excellence consist? In being capable of becoming the mother of a strong and useful colony of workers, for it is by her bees that we know her, and if we have a good colony of bees, we know they must have a good queen. The question of the good queen, then, resolves itself into the question of the good colony. Now, the best colonies are the ones that store the most honey in the supers at all stages of the season. Queens of colonies which come below the average should be replaced by others reared from the best queen in the yard or procured from a reliable queen-breeder. It is as expedient to weed out poor queens in the apiary as poor cows in the dairy.

In order to be good honey-producers, the bees must be (a) *industrious*—two colonies apparently equal in strength do not always gather the same amount of honey; (b) *numerous* in the hive at the right time and of the right age—much depends on having the hive full of bees that are old enough to work as soon as the honey comes; (c) *long-lived*—a short-lived bee requires as much time and food to mature as a more vigorous one, but has its working days cut short; (d) *long-tongued*—the depth of corolla tube in red clover ordinarily prevents honeybees reaching the nectar contained therein, and it should be our aim to develop a strain of bees having tongues long enough to overcome this difficulty. Mr. J. M. Rankin, of the Michigan Experiment Station, reports that they have a strain of Italian bees whose tongues are nearly two-fifths longer than those of black bees and more than one-fifth longer than those of the average Italians. Is it not possible—nay, is it not more than probable—in view of the wonderful success already attained in developing the most desirable qualities in plants and animals, that by always selecting queens and drones from the longest-tongued bees a strain of red-clover bees may be secured, and tons of the choicest honey, now wasted, brought into our hives? Such bees would be a boon to the farmer who is at present struggling to grow red clover seed by the sole aid of bumblebees.

Other characteristics of good bees, space does not permit to mention. Thanks are due the *Canadian Bee Journal* for the stenographic report of the convention.

We would direct the attention of those of our readers who wish to ask us questions to the new conditions at the head of the Questions and Answers Department in this issue,

## DAIRY.

## Improve Cheese and Butter by Improving the Milk.

Canada, through its Dominion and Provincial Parliaments and many of its citizens, has spent barrels of money and tons of energy placing the cheese and butter manufacturing industries in the front ranks. How far success has crowned the efforts, the millions of pounds of cheese exported annually and the vast increase in the butter-export trade each year bear ample witness. But, for the past year or two, the fight for supremacy in the British market for our cheese has had to be renewed, largely on account of some deterioration in quality. Makers have been thoroughly educated to turn out the best possible product, and special efforts are being turned to the thorough education of the milk-producer—the farmer. There has been little or no improvement made along the line of having clean, unadulterated milk furnished to factories and creameries, as year after year we read in the newspapers the old list of convictions for tampering with the fluid given by the dairyman's faithful servant—the cow. There are hundreds of cases, too, that are never heard of outside the immediate neighborhood where the culprit lives. The great question is how to get at the milk producer. Farmers' Institutes, cheese, creamery and dairy meetings are held, and the farmer is told all about the bacteriological world, with its millions of inhabitants, and he goes home somewhat bewildered with the big names for such little creatures, does nothing to improve, because, he reasons, "Oh, well, I get just as much for my milk as any of the others." These meetings are doing good and should be maintained, but, from an experience of three years among farmers in connection with a large creamery, I have arrived at the conclusion that to make any permanent improvement the farmer must be shown that he is losing money by not taking good care of his milk. That is, it must be brought home to him, month after month, that his careless habits and inattention to well-known rules (for they do not all do as well as they know) make his returns less than they otherwise would be. If this can be done, he will soon take hold and make improvement.

The greatest hindrance to much more rapid improvement in the milk supply is the evil of the pooling process of taking in milk—that is, paying every patron the same price per hundred pounds for milk furnished, whether it is from a Holstein herd or Jersey herd, whether properly cared for or whether no attention has been given to it. Milk should be taken only on the test system, and careless, slovenly patrons will soon learn by sad experience that they are paying dearly for their lax methods. Some scheme should be devised that will compel every cheese factory to pay for milk by Babcock test, adopting Prof. Dean's method of adding 2 per cent. to actual reading, which, I understand, is the best known method of arriving at proportionate value of milk for cheese. This can be accomplished with small expense to patrons. Central test stations could be opened, where creameries and cheese factories would send their sample test bottles for testing. This would answer the excuse that is now advanced that cheesemakers have not the experience to make tests; also, it would meet the objection that one factory would read tests higher than another.

Patrons would soon learn that the better care they take of their milk the more absolutely correct would be the test, and in this way the quality of cheese and butter would be greatly improved.

I am perfectly aware that this proposition will not remedy all troubles in this connection, but believe that it would place in the hands of makers a leverage that, properly used, would effect a great change for the better.

Perth Co., Ont.

W. K. MACLEOD.

## Test the Dairy Herd.

There can be no question of the value of the test as it may be applied to the cows in a dairy herd. Differences between farmers' tests of their own milk and the tests given to them at the creamery need be feared only where the creamery tests, through juggling or incompetency, are inaccurate. A competent and trustworthy creamery test is essential, not only to justice in the relation between creamery and patron, but to true progress in the dairy industry. It is doubtless true that farmers will show varying degrees of proficiency in making milk tests for fat, but if the creamery test is kept exact, and can be shown to be so to the satisfaction of any reasonable patron, errors of manipulation on the farm will gradually be overcome and corrected. This may make some trouble, but it is more than worth it. If a patron can once be induced to get a Babcock test and use it to determine the value of each individual cow in his herd, the first great step is taken toward more profitable work for farmer

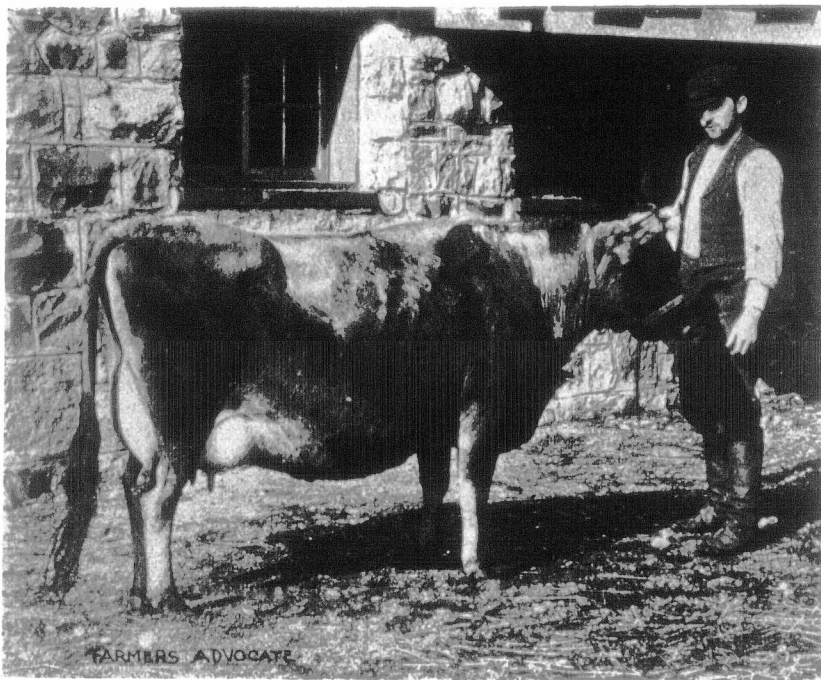
and creamery alike. When a farmer begins to look at his cows from the point of view of scales and fat test, he is virtually won over to the side of intelligent dairying, and may be counted upon for all that this implies—progressive cow care and breeding, careful handling of milk, and valuable influence in his community.—*New York Produce Review.*

## Folly of Shipping Immature Cheese.

To the Editor FARMER'S ADVOCATE:

SIR,—Several times during the last few months we have read, in the newspapers and agricultural journals, about the quality of our cheese products deteriorating through soft, or unripe, cheese being shipped to Great Britain and arriving there in an almost rotten condition. These same complaints were made by members attending at the last annual meeting of the Eastern Ontario Dairymen's Association.

During the last season I had a few sales of cheese to make for a neighboring factory, and, not having had much experience in that line, I made enquiries from the owners of other neighboring factories, at what age, etc., they shipped their cheese, and was somewhat surprised that the answer in every instance was that the cheese was shipped every two weeks during the whole season, and the whole, up to within three or four days' make, was shipped until cold weather in November set in, when it was allowed to remain in the curing room a few days longer before being shipped. The factorymen said they obtained the same price for the green cheese, and, therefore, the patrons received more per 100 lbs. of milk, so, to hold our own with the other factories, we had to practice the same method. One man, running two factories, actually told me he invariably made it a rule to take his cheese out of the presses in the forenoon, and shipped it regularly to a dealer in Montreal in the afternoon, every ten



PRIMROSE PARK'S PRUDE 80475.

FIRST-PRIZE JERSEY COW, ONTARIO PROVINCIAL DAIRY SHOW, 1899. BUTTER RECORD, 543 LBS. WITHIN 12 MONTHS. WEIGHT, 1,040 LBS. PROPERTY OF W. J. CRAIG, LONDON, ONT.

The registered Jersey cow, Primrose Park's Prude (illustrated above), is a good model of the ideal business dairy cow, having a record of 543 lbs. of butter made from her milk within a year, commencing November 20th, 1899, and ending November 17th, 1900. She was the only cow kept by her owner, Mr. W. J. Craig, of London; and while she was well fed, no attempt was made to force her for an extraordinary record; and the manner of handling her milk was far from such as was calculated to make the most of it for a butter test, as it was creamed on the old-fashioned plan in shallow pans, and churned in a common dash churn in such high temperature that usually the butter came in about ten minutes—a system which up-to-date buttermakers well know must fall far short of securing all the butter that is in the milk. This cow, her owner asserts, has given 40 lbs. of milk per day when at her flush, testing 6½ per cent. butter-fat. At the Provincial Dairy Show, at London, in December, 1899, in strange company and on inferior hay supplied with other feed, she gave 65.9 lbs. in 48 hours of the trial, testing 6.9 per cent. butter-fat the first day and 7 per cent. the second day. Under more skilful care and treatment, it is clear that this cow is capable of doing very much better work than she is credited with, and her conformation and udder development proclaim her a dairy cow of great capacity.

days or two weeks. It is often said that competition is the life of trade, but will it not be the death of our cheese trade with Great Britain in this instance, if this practice is continued much longer? Let our law-makers make some arrangement to have all cheese inspected, and where it is found to have been shipped before it was thoroughly cured, to have a couple of cents per pound docked off the price to pay for the trouble of having it properly cured before shipping to Great Britain, and in a short time there would be less improperly-cured cheese shipped. The dealer who buys and encourages such a practice ought to be punished also, to stamp out the evil, and have Canada retain the reputation, made in years gone by, for making and shipping the finest quality of cheese to be had in any country.

Two Mts. Co., Que.

W. A. OSWALD.

## Our Fountain Pen.

GENTLEMEN,—I received the Post fountain pen, as a premium for new subscribers to the FARMER'S ADVOCATE. It is a fine pen, and cannot be spoken of but with praise by those that use it.

Doaktown, Ont.

HARVIE DOAK.

## POULTRY.

## Feathers or Eggs?

BY JOHN B. PETTIT.

It is with deep and increasing interest that I have read the many valuable articles dealing with the numerous phases of the poultry industry, that have appeared in the columns of the FARMER'S ADVOCATE during the last two or three years. I have also made it a point to read anything that might appear upon this subject in the other publications we receive, whether they be agricultural journals or not, and have been the regular subscriber to one of the best American journals devoted to poultry only. Of course, as a result of this, there has been the expected consequence, I know a little more about our old friend the hen and the poultry industry than I did before such articles became so interesting, and have come to the conclusion that in the past the hen has been treated more as a foe than a friend, and has not been given "a ghost of a chance" to demonstrate her possibilities. I am also of the opinion that the poultry industry is but in its infancy, and that Canada is being awakened to the fact that she can bring many millions of John Bull's gold across the Atlantic, in exchange for our eggs and dressed poultry, and am pleased to note the efforts the Governments are making to introduce our products, and the methods they are employing to educate our farmers in producing the proper article.

Spring is almost with us again, and with spring will come the time to give "biddy" a rest from the work she has been faithfully carrying on during the cold winter months—if she is a profitable "biddy"—and to allow her to keep a nice big nestful of eggs warm for a few weeks. The time of incubation will soon be with us, and many will be investing in eggs or in birds to "mate up" with their own in order to improve their flock. Now, the question that the farmer should consider, and consider very carefully, is along what lines is he going to introduce his improvement.

Already the agricultural journals are presenting to their readers a great many poultry advertisements in which eggs and birds are offered. The poultry journals are simply full of them, some of the latter having as many as upward of five hundred distinct advertisements in them. I have taken the pains to look into these, and in about 95% of them you will find some such phrase as "Brown," "Buff" or "Barred to the skin"; "Thompson strain," or something of that nature. Then they will go on and give the number of prizes won at Toronto or Montreal, and at Chicago, and Boston. To finish up, they give us the scored points of the individual members of their "mated up" pens, at the head of one of which is "the cockerel, 'Perfection,' score 93½ at Toronto, 1900; this the son of 'Queenie,' score 92½ at Montreal, '99; this the daughter of 'Majesty,' score 95 at Chicago, '98." So they run, and we find that only about three or four per cent. of all the breeders ever think it at all important to mention anything about the laying quality of their stock. The majority of the poultrymen who are presenting glowing advertisements are dealing in feathers only. They do not mention to us whether "Queenie," score 92½, the mother of "Perfection," score 93½, ever laid more than one egg in her lifetime or not. What would be of far greater importance would be the egg record of the strain advertised. For instance, if we purchased eggs laid by a pullet that had begun work at a very early age, was the daughter of a hen that had laid two hundred or more eggs in a year, which in turn was the daughter of a hen that had nearly reached the two-hundred mark, we would be pretty sure of hatching some pullets that would inherit the laying qualities of the ancestors, and make most excellent layers themselves.

This is the kind of improvement the farmer should introduce into his flock. The desire of the average farmer is to produce all the eggs possible. It is not many of them that can spare the time or afford the money to dabble in feathers, and feathers only,—leave that to the "fancier." He has done, and is doing, a good work. We are sorry, however, that he does not take into consideration the "laying quality" a little more than he does, and combine it with his beautiful plumage and graceful carriage. A few "fanciers" have done this; and have produced, as a result of years of thinning and weeding out of poor layers, prolific-laying strains covered with prizewinning feathers. Nearly every breed is represented in this class, and no matter what breed a farmer may have, he should look to these men to supply him with eggs or stock whereby he wishes to improve his flock. Fair play demands it, as years have been spent in working up these "laying" strains, thereby making poultry more profitable. We should appreciate this fact, and patronize them accordingly. By all means raise pure-bred fowls, try to improve your flock each year, and improve it along the line of more prolific laying, and your hens will prove to be your best paying farm stock, and not an expense and nuisance they are with many farmers.

**A City Chap's Experience with Hens.**

It was on the occasion of the celebration of the fiftieth anniversary of the wedding of Giles and Hannah Baker that Sile Andrews told about the poultry experience of his city cousin, Lon Snow.

The "women folks" were visiting with sweet old Mrs. Baker in the south parlor, and the men were all assembled with Giles in the north parlor, before a good old-fashioned open fire, for it was a frosty November night.

The talk had fallen on the knack that some people have with hens, while others, try as they may, never seem to be able to do anything with them.

"I never bothered with 'em myself," said Giles. "Mother's had 'em an' got tired of 'em, and had 'em ag'in, but never seemed to me as if they was wuth their keep. When eggs are high they won't lay."

"That's the trouble 'Lon Snow had," said Sile Andrews, throwing the core of an apple he had been eating into the fire, "Never hear 'bout my cousin 'Lon?"

"I was glad to be able to say I had not, for it meant a new story from Mr. Andrews, and I knew from experience that he had what the critics call "good sense of selection."

He leaned forward and rested his chin on his hand and said:

"Well, 'Lon Snow was born an' brought up in the city, which was a misfortune to start with, an' besides that he hadn't no more sense of humor 'an a hen—"

"An' he was all-fired pig-headed, too," put in Sam Barlow.

"Well, I'm comin' to that. When he got 'bout forty year old the doctor told him he'd got to stop workin' in an office an' go into the country to live or he'd peg out in a short time. So he wrote to ask ef he could visit us fer a spell, an' I wrote back 'Come on, an' he come."

"When he got to the haouse he was the whites', mos' pindlin' lookin' man I ever see. Looked as if he'd slump into himself of the wind changed sudden. He moped araound the haouse a few days an' talked crops ter me at meal times an' in the evenin' until I wisht I'd never took up farmin'. Gosht, it was awful to hear his views. Finally he said that the idleness was killin' him an' he wanted to take up farmin'. I choked daown my feelin' an' said he warn't built fer heavy farmin', but mebbe he might do a little hen business. Then Mis' Andrews, she got talkin' to him. I kep' my maouth shet fer I knew he cauldnt l'arn from me, but Ma filled him up good on the proper food an' he nodded his head, very wise, 'sif he knew it all but was glad to have her freshen up his memory. He wanted to go right aout an' buy some hens that night. Thought a hundred would do fer a starter. But Ma tol' him that fifteen to twenty was all he could manage at the start an' he finally agreed. 'What sort'll you keep, Plymouth Rocks or Braown Legg'ns?' says she, an', I could see by the way he hesitated an' at last said, 'Braown Legg'ns,' very distinct, that he didn't know anything whatever 'bout hens.

"Nex' mornin' we went over to Deacon Foster's to buy the hens. He had purt' near five hundred walkin' 'raound his farm on Redtop. They did look mighty slick an' 'Lon was tickled to death with 'em. He asks the old deacon haow much he'd charge apiece and the deacon says, 'Seventy-five cents.' That's reasonable," said 'Lon, though he didn't know if it was or not. Then he looked 'raound with a critterkal eye an' he says:

"By the way, I only want the ones with fine feathers. I never cared fer the little sober ones."

"What do you mean?" said the deacon.

"I mean," says 'Lon with all the dignity that a city man could git on to him, "that I want the big variety, the ones with the large combs and the big tail feather; not those sober ones with no tails at all. I'm go'n' 'bout this thing the right way an' I might as well have good hens as poor ones."

"Well, the deacon, he stepped behind the barn door to conceal his feelin's, which was paowerful at the time, an' when he comes aout he was as sober lookin' as 'Lon. 'All right,' says he, 'but I'll tell you honest, it's the little ones 'at'll lay the most eggs."

"But 'Lon couldn't be changed. He was go'n' in fer looks, he said, an' anyhow he guessed he'd make 'em lay if anyone could. 'I don't daoubt it,' says the deacon with a cheerful smile, 'but ef you're go'n' to take the pick of the flock I'll hev to charge ye a dollar apiece.' 'Lon warn't no way small, an' he agreed to the terms an' arranged to come at night an' git 'em."

"I remember 'em," said Barlow. As purty a flock as I ever see with their high-steppin' ways. I used to go up an' tell your cousin that he ought to exhibit 'em at Merwinton Fair, an' he said he guessed he would. On'y fault he found with 'em was they was quar'lsome an' slow to get to layin'. I says: 'Ef the redness of the comb is any sign you oughter hev eggs purty soon."

"Well," resumed Sile, "he never suspected nothin', but went to feedin' 'em fer eggs accordin' as Ma had told him the fust night. She said it was a shame not to tell him what kind of hens they was, but I argied that it kep' him busy aout er doors an' that's what he needed. He didn' need eggs any more'n a hen needs teeth."

"Didn't he ever find out?" I asked, seeing that there was a move in the other room that suggested a breaking up of the gathering.

"Well, matters went on fer 'bout three or four weeks, an' then one mornin' in May, when eggs was

so plentiful that they was usin' 'em to stone cats with, he comes into the barn where I was sharpenin' my ax on the grin'stun an' he says: 'Funny my hens don't ever go near their nests. An' they're quar'lin' all the time.'

"Then I says: 'Lon,' says I, 'some folks never can l'arn anythin' arter they're growed up, an' you're one of 'em. You was dead set on gittin' that breed, although the deacon told ye the small ones was the best fer eggs. Naow the city's a good place ter live in fer a few things, but you don't l'arn everything ther'. Some country folks hev one rooster to a flock an' some don't hev any, but your city notion of hev'in' every one a rooster ain't conducive to eggs!'"

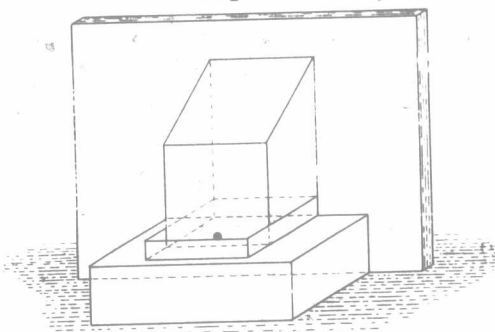
**Poultry-House Furnishings.**

To the Editor FARMER'S ADVOCATE:

SIR,—I send you sketches of some convenient poultry utensils.

Fig. 1 represents an automatic drinking-fountain, which will be found useful for chickens of any age or size. This fountain is composed of two parts, which we will designate as tank and pan. It is represented in sketch as sitting on a block of wood, close to a board fence or partition of some kind, ready for service. The dimensions of tank are 6 by 5 inches, and 12 inches high in rear, with sloping top of 45 degrees, or one-half pitch. The pan is 6 by 6 inches, and 1 inch high. The black dot in front of tank represents a small hole, 1/4 inch in diameter, the top of which should not exceed three-quarters of an inch from lower edge of tank, thus allowing the same depth of water in that part of

Fig 1



pan which extends out from tank in front. To fill the tank it is necessary to invert it, after which place the cover or pan on; then, holding the pan in place with one hand, and lifting the tank with the other hand, giving all a gentle upward movement, and at the same time turning the fountain over, carefully place it in position ready for use. A little practice will enable one to perform this movement without any perceptible waste. A fountain of the above size will hold a little over a gallon, and, if constructed from galvanized iron, may be made complete for about 25 cents, if a number were ordered.

Fig. 2 represents a feeding dish for half-grown chicks. I have two sizes. Small ones made from old tin pie dishes, and the larger (as shown) from worn-out milk pans, such as we sometimes find thrown over the garden wall and considered worthless. In constructing these little feed dishes, we simply procure a block of wood for each dish; cut them down to the proper diameter at the base to fit the dish in view. The height of the block or cone is of no great importance, say about 12 inches for a milk pan and a little less for a pie plate. The ring at top of cone (as shown) represents a wire handle. Fasten these dishes to cone with screws, so that they may be easily taken apart if required. Those who try them will find in them a very serviceable little vessel for feeding soft feed to growing chicks.

Fig 2

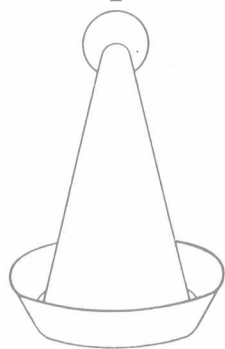


Fig 3

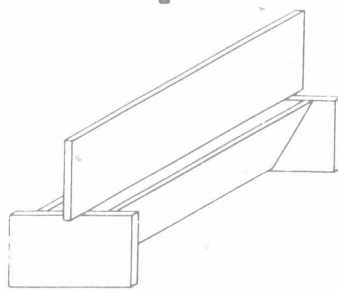


Fig. 3 represents an ordinary V-shaped wooden trough, with a board about 8 inches wide extending from end to end of same, as shown. Its purpose is merely to keep the fowl from getting into the trough when feeding, and it does this admirably. The board is held in position by two dowel-pins, one at each end of trough. These pins are made from 4-inch wire nails with heads off. The holes, of proper size, are first bored in each end of trough, then holes in the board to correspond, and pins put in to stay. After feeding, the board is removed and placed against a partition, out of the way, and trough turned up to keep dirt from entering the pin holes.

Simcoe Co., Ont.

A. T. GILBERT.

**Raising Chicks the Natural Way.**

Raising chicks with hens as incubators and mothers is the most common and popular method. Nothing proves this so thoroughly as the success of the hen that steals "her nest." She lays her clutch of eggs and then becomes possessed of the brooding instinct.

Early in the morning she leaves her nest and seeks food, hunting through the grass, all wet with dew, and returning with wet feathers, bringing the necessary moisture to her eggs, and during her absence giving them the necessary "cooling off" and airing which incubator men (whose best ideas are all learned from the mother hen) insist upon.

The best possible management of sitting hens is to follow the natural inclination. When possible, let them sit in nests of their own choosing, and after putting in the eggs, leave them severely alone. Last spring I set two hens at the same time, one a Plymouth Rock, and the other a common white hen. The Plymouth Rock would come out into the yard to eat every time I fed the rest of the flock; but as the old white hen would not get off her nest, I sometimes took a handful of grain and let her eat out of my hand. I soon found that she got out of the yard early in the morning and picked up what she needed, and went back to her nest with her wet plumage. She frequently staid off so long I thought her eggs would never hatch. She had thirteen eggs, and she brought out thirteen fine, healthy chicks; while the Plymouth Rock only had nine chicks out of her thirteen eggs.

From the time the hen is set, the battle against lice should be begun. Dust the nest thoroughly with insect powder, and as soon as the hen and brood are removed from the nest, dust the hen down to the skin as well. In hovering her chicks, she will transfer the powder to them, and thus kill any lice which may have taken hold on them. Provide the mother hen and brood with a good-sized coop, one which the chicks may occupy long after they are weaned. I use a box about three feet square, slatted in front to allow the chicks free passage, and tightly roofed. Clean the floor every few days, and sprinkle with clean sand. Keep the inside thoroughly whitewashed. With such a coop, and constant watching, the brood should do well. Especial care must be exercised in keeping the chicks dry until they are well feathered out. Young chicks which are allowed to range through the wet, dewy grass are subject to gapes. Have the front of the coop fitted with a board which may be used to confine the chicks to the dry coop during rainy periods and until the grass is dry in the morning. As soon as the chicks are well feathered, they are safe from dampness, and may be allowed freedom at all times.

For the first week, the feed should be warm, easily digested, and slightly stimulating. Stale bread soaked in milk and slightly seasoned with cayenne pepper is good. Always squeeze the feed as dry as possible. Sloppy food is injurious. Rolled oats are excellent for young chicks. Never feed corn meal unless it is thoroughly scalded. Corn meal wet in cold water swells in the crop and causes indigestion. The chicks are soon able to eat whole wheat, which is by far the best grain for them. A little common "Venetian red," which may be purchased at any drug or print store, may be added to the drinking water or mixed with the soft food with good results. It is cheap, and an excellent tonic for young and old fowls. The more good grass range the chicks enjoy, the better for their growth and health. When so provided, they pick up lots of animal food in the form of insects; but when confined, chopped meat should be provided. A variety of good, wholesome food should be furnished at all times. The exercise of common sense is necessary to success with fowls. Lice and gapes are the most destructive enemies of young chicks. Chicks raised on high land are less subject to gapes than those raised on low, wet lands.

Study nature in your poultry yards. Nature has her laws of health and growth; they must be learned and respected. FARMER'S WIFE.

**An Effective Hawk Trap.**

The poultry flock that is near a large grove or swamp, and not kept enclosed in yards or pens is, generally reduced during the summer by hawks, crows, etc. It is not an easy matter to capture these fellows with a shotgun, because they come around and secure their booty and get away with it in a very sly manner. A good means of catching them is to elevate a pole of considerable length in a field or near a fence, away from trees and not far from the buildings. This will form an attractive alighting point. After a few weeks the visiting hawks and crows that come around looking for spring chickens would consider this their reserved view point. On this pole should now be placed a common steel rat-trap, securely attached to the pole. When Mr. Hawk or Crow alights he will set off the trap and find himself captured. To leave him there would be cruel and is unnecessary. A shotgun will settle his pain; he can then be taken down and the trap re-set. One or two traps, well placed, will, during a season, catch most of the hawks and many crows within a radius of several miles, and thus save many chickens from a living death.

## Breeding and Care of Geese.

With proper management, there is no branch of poultry-keeping that pays better than the propagation of geese. While a person may be successful in the management of other fowls, when they undertake goose culture they are wholly at sea, and failure is the result. There should be almost as much difference in food, care and treatment given geese, hens and turkeys as between hogs, cattle and sheep. Unlike the hen or turkey, geese are not so much grain-eaters, but are grazers more like sheep, and an oversupply of grain will not answer. Having more the nature of sheep as grazers, it follows that in order to grow them profitably they must have free range and an abundance of grass. With this provided, they can be grown at small cost, and will return a larger cash dividend than any other class of poultry. They must never be confined to buildings, as a constant supply of pure cold fresh air is an absolute requirement. They can be yarded if kept constantly supplied with fresh green stuff, but even then they do not do so well as when on free grass range, and the cost of maintenance is largely increased. Should they be yarded, more than one yard must be provided, as the soil very soon becomes foul, and if confined to it disease is liable to follow. It is best to supply them with a swimming pool, as it gives them exercise and the eggs are generally more fertile, but it is by no means an absolute necessity. They should, however, always have a constant supply of clean water for drink. The goose is a long-lived bird, and is slow in acquiring full development. It therefore follows that the best results are obtained by breeding fowls of not less than two years old. They do not mate readily, and for that reason it is well to place the sexes together from six to eight months before breeding time in order that they may become well acquainted. After having mated, a strong attachment grows between the sexes, and instances are known when, after the female has been removed for any cause, the gander has refused to mate with another, and in some cases died, apparently from grief. As a rule, three or four females should be allowed to one male. We frequently find that when the eggs have failed to hatch, the goslings are dead in the shell. This usually results from mating immature fowls. By selecting birds as breeders two years old or more, with plenty of grass range, there is no reason why any one can not succeed in raising geese.

## Care and Management of Hens—The Breeding Season.

The rush of the breeding season is upon us now, and we must study to get the best results from our matings. Most farmers do not have any breeding pens. They let all the hens run together, sometimes seventy-five or one hundred, with half a dozen or more male birds with them. There is no sense in keeping so many males. It would be far better to have a pen large enough to accommodate ten or one dozen fowls, and put in this pen some of the best fowls.

There is a difference required in management, whether the intention is to raise layers or market birds. If layers, pick out the medium-sized, young, active birds which have red combs, those which are singing around most of the time and working from morning till night. Do not take one of the sluggish ones, as it is not likely to be a good layer. Having got ten or twelve of the best you have, of course you need a pure-bred cockerel of one of the heavy-laying breeds, but if you have not such, take the best cockerel you have and put him with them in the pen provided for them. Do not let any other male with these hens.

If you are going to breed for market poultry, pick out the largest, plumpest, and best-developed birds in your flock and mate them with a good cockerel. They should have yellow or white legs and skin.

If for general-purpose birds, good for laying and market purposes, select medium-sized specimens having red combs—the active, singing ones. The early-hatched pullets are generally the best layers, though not always. Sometimes they take long rests, and when such is the case they should not be allowed in the breeding pens. For the general flock, whose eggs it is not intended to use for hatching, it is far better to have no male bird with them, as infertile eggs will keep sound and good for a long time, while fertile ones are never safe to keep for any considerable time. S. H. W.

Huron Co., Ont.

In many sections of Western Ontario the snow had entirely disappeared from the fields a week or ten days ago, and warm showers, accompanied by thunder and lightning, have produced conditions promising an early season for spring seeding, while in the northern and north-western counties of the Province heavy snow-storms prevailed after the middle of March and large quantities of snow are yet in sight. The indications are that Manitoba will have a fairly early seeding season; indeed, it was expected that seeding would in some sections be in operation before the end of March, and it is confidently believed that from the heavy rains of last fall sufficient moisture has been stored in the land to ensure a good crop this year.

## VETERINARY.

## Warts.

A veterinarian contributes the following article on warts and excrescences to an English farm journal, *The Farmer and Stock-breeder*:

Although the tendency of modern scientific study has been all in the direction of what has not been inaptly termed "the infinitely little"—referring, of course, to the germ theory—it is doubtful if the minor ailments have received their proper share of attention. Those of which we propose to speak are often much more important than would at first sight appear. These are warts and excrescences. In themselves often no more than a subject of merriment among familiar friends, or affording opportunities of practising the more innocent forms of sorcery, these abnormal growths still have a mysterious birth, and not less marvelous method of disappearing in obedience to some charm or nocturnal incantation carried out at the "witching hour of night, when churchyards yawn" and—cats upon the tiles do fight, etc. It is absolutely useless to argue with even the least superstitious of men and women on the subject. They have seen or had warts themselves charmed away. In almost every community some individual exists who is believed to possess these miraculous powers, though, if the person in question is asked, he can offer no explanation, and, like the Irish "Whisperer" or the no less gifted Rarey, cannot impart the secret to others.

In the mystic side of the question, we might venture, at this privileged season of the year, to ask if any readers have known charms to act on animals, whose imaginations cannot well be affected by superstitions? As a veterinary surgeon I have met



FIG. I.

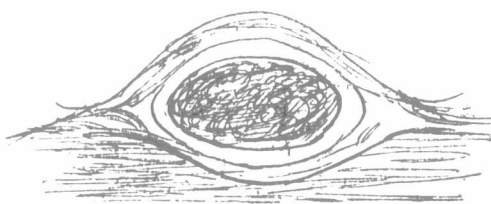


FIG. II.

many claimants to the gift in connection with cattle, but my services have often been called in after their charms have failed.

## WHAT A WART IS.

A scientific definition given in the "Encyclopaedia Britannica" is: "A papillary excrescence of the surface, most commonly of the skin, but in special circumstances also of the transitional and mucous membranes." Yes, that is the sort of wart numbered "1" in the figure above, in which I have attempted to delineate a central blood-vessel and very irregular branches. The central vessel is first pushed through from these circulating in the true skin, which must be distinguished from the epidermis or cuticle, which is constituted of layers of scales of material in a state of transition always, being produced and either worn away, as with the manual laborer, or falling off with time, as when the said laborer is confined to his bed and acquires a delicate white hand.

Under that insensitivelayer is the true skin, and it is highly endowed with blood-vessels, whose office it is to keep on producing what may be called natural gloves to bear the wear and tear of each day's work. Up to this point the high-power magnifier in the hands of the physiologist enables us to follow with scientific accuracy the soil in which warts grow, but when you ask the cause there is no satisfactory answer. All sorts of theories have been suggested, and that most commonly accepted by the medical profession is the repetition of some irritating agent or friction to a part continuously applied, although the individual himself may not be aware of it.

If this were so, then those that handle the spade and the broom, the plow and the hoe, would be most frequent subjects, instead of little girls at school. A famous ecclesiastic said, "There are matters we must leave." This is one of them. What we do know is that the said little blood-vessels project themselves through the skin, raising the epithelium, and with it piled up in heaps (it looks under the microscope exactly like a stack of house tiles that have been rather badly used) the vessel proceeds to grow out of the irregular bran-

ches seen in the sketch. The object of these details is to show the reader the necessity of particular treatment, which will be presently gone into. The immense "angle berries" sometimes seen on cattle are of this nature, and there seems to be practically no limit to the size they may grow. I have removed them when more than 1 lb. in weight, and have no doubt many of you have seen them of great size.

Strictly speaking, and from the purely pathological point of view, we have described all the true warts; but we are not hide-bound servants, and we call other excrescences by the name of warts, and sometimes want to know how to get rid of them. There are, for instance, what surgeons call encysted tumors (everything in the way of an enlargement is a tumor in surgical language).

In figure 2 will be seen a solid body inside a space which in the living subject is filled with a watery fluid, and outside that fluid the distended skin. Such warts are found upon the belly and thighs of both horses and dogs. They can easily be distinguished from ruptures, as they feel like nuts inside a bag of water, and can be moved with little pain to the animal.

## TO KILL WARTS.

The method of their growth having been explained, it will be easily understood that radical cure can only be effected by destroying their source of supply. Their tendency to recur is not owing, as popularly supposed, to infection from the blood running over the adjacent skin, but from the fact that any remedy which only cuts the blood-vessel of supply does not prevent it from sending out fresh branches to replace the old growth at or about the former situation. This is the main objection to the ligature, because it is commonly tied too tight, and severs instead of withers the wart. If it is decided to adopt that plan, a ligature should be chosen of rather stouter material than at first appears necessary, and it is better to tighten it in a few days than to put it on too tight at first. From fine to coarse twine the choice may be said to lie, but exceptionally large ones may need tarred cord or some of that thickness. All one has to do is to see that the whole of the growth is included in it, and not be afraid of losing a bit of skin. I am, of course, speaking of the lower animals, though the treatment is identical in man.

In the latter animal ligatures do not so generally commend themselves, as being for the moment painful, and as a rule not necessary. Besides, we can apply a remedy frequently; we haven't to be caught and twitched or otherwise constrained. A bottle of old-fashioned black ink will be good enough for us, if we will persevere with it. The iron and tannin will gradually wither up the vessel of supply if the wart is touched with the cork night and morning.

Many of the large angle berries in cattle are found to be strangling themselves with their own weight, and only need an energetic twist with the hand to break them off. There is nothing to be feared from hemorrhage, although they bleed very persistently at times. The vessel may be stopped by a touch of a red-hot iron or by the application of a liquid perchloride of iron.

There are many warts with a diffuse base instead of a neck to be tied, and these must be got rid of with one or other of the various caustics. Among these may be mentioned yellow ointment (a very old-fashioned but effectual remedy), bichloride of mercury, chloride of zinc, sulphate of copper, lunar caustic, vitriol, nitric acid, and other too numerous to mention. The secret of their use consists in preparing the wart for their application. It is very little good applying the strongest of them to a hard, dry surface, from which the liquid runs and the powder drops off almost immediately. The growths need a thorough soaking to open the piles of epithelium. All alkalies have this effect: they make them swell up, and like a sponge, prepare to take up fluid of any other kind.

With a bucket of hot water and plenty of soft soap or a packet of Hudson's extract in it, the wart-killer should proceed and soak the excrescences thoroughly, then rinse with clean warm water, and lastly apply the chosen agent. They can stand but very few such dressings as this, and one is often known to succeed.

It is a farmer's own fault if he sends a beast to market with unsightly warts that depreciate his value. He doesn't need a veterinary surgeon for the job, and the work of removing them will probably pay him a good deal better than many of the things he has to do.

The treatment of the encysted wart is the very simplest thing possible—nothing more than squeezing the skin tight over it, making a bold incision with a sharp knife the whole length of it, and another squeeze, and out it jumps. No after-treatment is needed.

## Satisfied.

The William Weld Co., Limited:

GENTLEMEN,—I have received the Bagster Bible, for getting two new subscribers for your valuable farm paper, the FARMER'S ADVOCATE, and must say that I was most agreeably surprised. I did not expect anything of such value. Please accept my thanks for same, and I will try to put your valuable farm journal in the home of more of my friends.

Harwich, Ont.

ROBERT L. JARVIS.

## ENTOMOLOGY

## The Cabbage Worm and Its Parasites.

The cabbage butterfly (*Pieris rapæ*) was extremely abundant here last summer, and I understand, in other parts of the Province also. The larvæ fed on cabbages, turnips, rape, radish, etc., and I even found some on horse-radish, but this plant appeared to disagree with them, as they died before maturity. Many gardens had no cabbage left fit for use, and sad havoc was committed on the turnip tops. The outermost parts of a patch were attacked first, and the caterpillars left nothing but the spindling stems. In small patches, of an acre or so, the whole crop was stripped. When the mature caterpillars left their food-plants, to find a place to change to the chrysalis stage, they were to be found everywhere. In our case, the turnip patch was situated just north of the house, and the caterpillars, which seemed to move principally to the south and east, when they encountered this obstacle, crawled up the walls: some to stop at various heights, but the majority to proceed to the eaves or garret, where in odd crevices they effected their transformations. Some of these crevices could be seen, packed to their full capacity with hundreds of the chrysalids. Under a fence rail of ordinary size, lying on the ground, I found about two hundred chrysalids and caterpillars in various stages of the metamorphosis. When the butterflies were most plentiful, hundreds, perhaps thousands, could be seen at any time fluttering leisurely across the fields—an inspiring spectacle to the unconcerned spectator, but inspiring in the farmer somewhat different emotions.

With such an immense number of chrysalids passing the winter, what might not be expected this coming season, were it not for another factor, namely, the parasitic enemies of that destructive pest. It is well known that it is subject to the attacks of a small fly (*Pteromalus puparum*), whose larvæ make their growth in the body of the caterpillar, carefully avoiding the vital organs till the last; so that the caterpillar becomes a chrysalis before succumbing to their attacks. Then, if a chrysalis is opened, it is found to be a mere shell, containing the full-grown larvæ of the parasite, more or less closely packed, according to their number. They increase very rapidly if there is a sufficiency of their proper food. Besides the cabbage worm, they live in the caterpillars of several other butterflies. As the cabbage worms were very abundant last year, they increased to such an extent as to almost completely destroy the autumn brood. Of the chrysalids which are now passing the winter, I have examined a large number, collected from all kinds of places, and have not found a single uninfested one, though it is likely there is an occasional one alive. If there are a few left to become butterflies and continue the species, the larvæ which their eggs produce will stand a very slim chance of maturing intact with all the myriads of their parasites—if they survive the winter all right—searching for a larger and habitation for their future offspring. Therefore, I expect that the cabbage butterfly will be scarce here this summer; how scarce, it would be difficult to say. In the scarcity of suitable food, the parasites will probably most of them die, and then cabbage butterflies from other localities will again have a chance. This case is an excellent illustration of the admirable way in which the balance of nature is maintained.

HERBERT GROH.

P. S.—Besides *Pteromalus puparum*, I observed two other parasites of *Pieris rapæ*, one in considerable numbers, and the other but rarely.—H. G.

## QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the Farmer's Advocate are answered in this department free.

2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest or which appear to be asked out of mere curiosity.

3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessarily for publication.

4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

## Veterinary.

## NON-OCCURRENCE OF ŒSTRUM IN COW AND HEIFER.

H. D., Northumberland Co., Ont.:—"I have a cow that had her first calf last spring and had a little trouble calving, but is in good condition now, but has not come in season yet or shown any signs. Can you tell me anything to give her so that she will get with calf?"

E. C. S. F., Que.:—"Have two heifers, three years old this spring, that came in last September. They have not been in heat since. Please state cause and remedy? They are giving milk at present and are not fed too heavily."

[The non-occurrence of Œstrum is due to an inactive or diseased condition of the ovaries, and it is probable nature will overcome this when the weather gets warmer and they get grass. It would be well to allow the bull to run with the heifers, as in some cases the periods occur but the animal does not show the usual symptoms, and hence the condition is not recognized by the attendant.

J. H. REED, V. S.]

## LUMP JAW IN CATTLE.

H. B., Lambton Co., Ont.:—"I have been troubled with lump jaw in my stock for several years, having one or two cases every year. The first case I had was some three years ago last fall, on a fine two-year-old steer. I did not notice it until it was pretty well advanced (a large swelling on or under jaw). I then treated it for about two months with a blister I got from a neighbor, but it got worse, and I finally shot the animal to have it out of the way. The disease is still with me. I have cured most of my cases with Fleming's Lump Jaw Cure, only losing two animals. What I would like to know is: What is the cause of lump jaw? What is the best way of getting rid of it?"

[1. A great deal has of late been written regarding lump jaw in cattle, and opinions differ as to the curability of the disease, and also as to whether or not an ordinary case renders the flesh unfit for human food. It is undoubtedly caused by a fungus or spore, which is taken into the system either with the animal's food or by receiving into the mouth the salivary discharge from an affected animal. In some localities the disease is much more common than in others, which points to the fact that the element necessary for its production exists on the herbage. It is also noticed that when an animal affected with the disease in an advanced stage is stabled and watered along with healthy animals, that the disease is liable to attack others. The fungi, entering the mouth of an animal, apparently locate in the region of the tongue or jaw, for which they have an affinity, and, multiplying rapidly, cause the disease either in the muscles or bones of the jaws, the throat or the tongue, as the case may be.

2. The best way to get rid of the disease is to isolate all affected animals and try to affect a cure. I must say that I have little faith in any of the advertised specific lump-jaw cures, but you seem to have had good results from Fleming's cure, and, as any person is warranted in continuing any treatment that has proved successful, I would advise you to continue it. I find that in the early stages the administration of iodide of potassium, internally, from 4 to 12 drs. daily, according to size of the animal, for 10 to 12 days, will often arrest the disease, or, if the tumor be formed in soft tissues, it can be dissected out; but when the bone becomes involved, the better way is to destroy the animal. By isolating all affected animals on the first symptoms, and feeding them for the block as soon as cured, or slaughtering if incurable, you should be able to get rid of the disease, unless it is caused by some local conditions which you cannot control.

J. H. REED, V. S.]

## LEUCORRHOEA IN MARE—WORTH ITS WEIGHT IN DOLLARS.

G. D. S., Grey Co., Ont.:—"Please find enclosed one dollar for renewal subscription to the FARMER'S ADVOCATE for 1901. We cannot do without it. It is worth its weight in dollars to us. I would like you to answer me a question or two in regard to a mare we have. She is nine years old or more, in good hearty condition as far as work and feeding is concerned; was fed oats and hay all winter, with a turnip sometimes; was worked hard all winter, and has since last fall been passing off a lot of thick, curdy matter, like sour buttermilk, discharged from her womb. I bred her last spring, but to no purpose. Please tell me the cause and treatment? I got some medicine from a vet. and syringe her, but all to no use."

[Your mare has an uterine disease called leucorrhœa, a chronic inflammation of the mucous membrane of the womb. It is very hard to treat, and it is probable the veterinarian in attendance is treating it properly. I would recommend you to flush the womb out well every second day with 1 part corrosive sublimate to 2000 parts water heated to about 100 degrees, and give internally, three times daily, 25 drops carbolic acid, either as a drench shaken up with ½ part cold water or mixed with her food. This treatment will certainly mitigate the symptoms and probably effect a cure. Do not breed her until all discharge ceases, as it will not only be useless, but dangerous for the stallion.

J. H. REED, V. S.]

## OPEN JOINT AND ECZEMA.

W. M., Victoria Co., Ont.:—"I have a mare that got kicked on the inside of the hock joint, pretty well to the back. The joint is badly swollen and running a thick, watery-looking discharge, which sometimes forms a glue on the leg. I have been treating with a vet., but it seems to get no better. It has been done about six weeks and is running just the same. What can be done to stop the discharge and take down the swelling?"

"2. I have a Clyde mare, four years old, that breaks out in a kind of rash all round her fetlocks. They have an oily appearance and very bad smell. Is there any help or cure?"

[Your mare has open joint, and requires treatment according to symptoms presented. It is very hard to check the discharge after it becomes chronic, as yours has, and as she is at present under the direct care of a veterinarian, I cannot prescribe, and there is no doubt she is receiving proper treatment.

2. Fleshy-legged Clydesdales are subject to the condition mentioned. You will probably be able to relieve the symptoms by giving a purgative of, say, 9 drs. aloes and 2 drs. ginger. After purgative ceases to act, give, three times daily, 3 ozs. Fowler's solution of arsenic in half pint water, as a drench.

Dress the affected parts twice daily with corrosive sublimate 1 part, water 600 parts.

J. H. REED, V. S.]

## PROGRESSIVE PARALYSIS IN COW—AFFECTION OF THE BRAIN IN SHEEP.

G. M. S., British Columbia:—"1. Ayrshire cow aged about seven years, last fall became slightly lame in the high hip joint, and since then has got steadily worse, has fallen off very much in flesh, and is in very poor condition. She seems to have lost power in hind parts, and walks with difficulty. Several times I had to assist her in getting up. She seems to get a little stronger in fine weather. Her appetite is good, which seems strange when she is so poor in flesh.

"2. I found one of the ewes in pasture field that could not stand when put on her feet, but would tumble about as if she had no power in her feet and legs. Would eat a little when food was put in front of her, but not freely. She is in good condition; her eyes are clear. She is fed on hay and what she picks up outside. Has been in this condition for three days.

"3. I have heard oats are good to feed to sheep to get them strong for lambing season, but they seem apt to swallow some too fast, and consequently very often one will jump about as if choking, but seem after a time to cough it up. I have tried mixing bran with them, but still some of them seem to get the choking fits. How ought oats to be given sheep to prevent their choking?"

[1. Your cow has progressive paralysis, and it is doubtful if treatment will help her. It may have been caused by a sprain or injury, or may be the result of faulty digestion. If from the latter cause, there may be hopes of recovery. I would advise you to give her a brisk purgative of say 2 lbs. of Epsom salts dissolved in 2 quarts warm water, and given as a drench. When the bowels have regained their normal state, give 2-dram doses powdered nux vomica three times daily, shaken up in half pint cold water and given as a drench.

2. Your sheep has an affection of the brain, possibly caused by indigestion. I would advise you to purge her by giving about ½ a pint raw linseed oil. The trouble may be caused by grub in the head, and if so she will not recover. If she should improve, do not expose her to wet or cold weather, and feed lightly for a few days.

3. Scatter the oats thinly over a broad surface in order to prevent the sheep getting too large mouthfuls. It is possible for a sheep to choke to death eating oats too greedily.

J. H. REED, V. S.]

## PARTIAL OPACITY OF CORNEA IN MARE—RUPTURE IN MARE.

T. A. S., Elgin Co., Ont.:—"1. I have a mare that has a thin, glassy-looking scum on her eyes, which nearly blinds her. She can see enough to follow a well-beaten sleigh track, or go to a water trough to drink, and find the way back to the stable and go to her own stall without guidance on a clear day. The cause was an attack of inflammation in her eyes, which she had last summer. Her owner at that time treated her with Compass Oil. Can anything be done to save her eyesight?"

"2. My neighbor has a mare, 7 years old, with a rupture on her side about the size of a ten-quart pail. He has diminished the lump about one-half by using liniment on it. Can anything be done for her in the way of an operation, such as opening the outer skin and returning the intestine into its proper place and sewing the abdominal cavity up, then clamping the outside? Would she be fit to breed as she is?"

[1. What appears to be a scum over the eye is due to a deposit of lymph between the layers of the external coat of the eye, the result of inflammation. The condition has become chronic, and it is doubtful if much good can be done. Apply the following lotion to the eyeball with a feather or dropper, twice daily, and have patience, and you may succeed in causing absorption of the exudate: Nitrate of silver, 5 grs.; distilled water, 1 oz. Put a few drops into the eye morning and evening, and shield the eye from wind and sun by a white cloth tied to the blind of the bridle.

2. It is doubtful whether treatment for the rupture in your neighbor's mare would be successful. An operation such as you suggest is the only thing to do, and there is great danger of complications following the operation. None but an expert should attempt to operate. As to breeding, many ruptured mares breed; but if parturition should be difficult, the rupture might enlarge and cause further trouble and probably death.

J. H. REED, V. S.]

## CALF WITH A COUGH.

G. S., Wellington Co.:—"I have two calves about two months old, that have a short cough, are dry in hair and look dull. One of them discharges at the nostrils. What is the cause, and what is the remedy?"

[It may be your calves are suffering from ordinary catarrh. The fact that one of them has a discharge from the nostrils favors this supposition. In that case the cough should be moist. If it be an ordinary cold, good care, good, easily-digested food, and comfortable quarters will effect a cure. If the calves have pulmonary tuberculosis, which is indicated by the dry, short cough, dry hair, and dull appearance, practically nothing can be done, and it would be better to destroy them. It cannot positively be stated whether or not they are tubercular without testing them with tuberculin.

J. H. REED, V. S.]



## PROBABLY HEAVES—ABORTION IN COWS.

A. J. M., Victoria Co., Ont.:—"Would you kindly advise me, through your valuable paper: 1. What is the matter with and what would be the proper treatment of a horse? He commenced last summer to breathe heavy if driven fast or after going up a hill with a load, as if his collar was short. But he seems to get worse and frequently coughs, and even after drinking he is very likely to cough; and now if driving fast for any distance he may be heard breathing several rods away.

"2. We had two cows last spring that lost their calves, or, rather, they had to be taken from them dead. We heard of two others in the neighborhood, and also two or three the year before. They seem to be noticeably large for some time before, as though they were going to have twins, and, perhaps, on going into the stable in the morning, one would think by their looks they had calved, and look all round for the calf, but, on examination, would find that they had passed an unusual quantity of liquid—enough to flood the gutter—and that still the calf had not come, and in some of these cases the cow would seem quite contented for a while, and in others would strain hard all the time until the calf would be taken away. In most cases the calf would be wrong-end first and look as if deformed or crooked and out of shape. Some of the cows referred to were in first-class condition. If you could tell us the cause of this trouble, or some prevention, you would very much oblige?"

[1. From symptoms given, I would say that your horse has heaves, and little can be done except careful feeding. Good, clean wheat straw is in such cases preferable to hay. If feeding hay, be sure it is of good quality and feed in limited quantities. Do not allow him to overload the stomach. Dampen all his food with lime water mixed with about  $\frac{1}{2}$  its bulk of raw linseed oil. Do not allow much water after feeding if he is going to work. Such treatment as this will relieve the symptoms, but the disease can not be cured.

2. Abortion in cows is caused in many diverse ways. Sometimes it is infectious. Improper feeding or food of poor quality predispose to the accident. So, also, does poorly-ventilated stables, sudden changes from heat to cold, slips, fighting each other, injuries of any kind, etc., etc. The extra large appearance of the abdomen referred to is caused by an abnormal quantity of fluid in the uterus. In some cows this occurs and cannot be controlled. It may in some cases also be caused by food of poor quality, or by a diseased condition of the genital organs. Cows with tubercular disease of these organs are predisposed to abort. Some cows acquire the habit of aborting at a certain period of gestation. If a cow shows symptoms of the accident, place her in a comfortable, darkened box stall, where everything is quiet, and give her about 3 ozs. laudanum mixed with a pint of water; repeat the dose if you think in necessary in about 4 hours, and keep her quiet until the symptoms disappear. If abortion should take place, remove her from other pregnant animals, remove the after-birth if it has not already been expelled, inject the womb with 1 part carbolic acid to 100 parts warm water, and give her 20 drops carbolic acid in 1 pint cold water three times daily until all discharge ceases. Cleanse and thoroughly disinfect the stall in which abortion has taken place by thoroughly washing with a strong solution of crude carbolic acid, and whitewashing. Be sure to remove all escaped matter from other pregnant animals, and wash off the vulva of the aborted cow and inject into the vagina, once daily, a little of a solution of bichloride of mercury, 1 part to 1,000 of water; wash the vulva with the same. It is also good practice to treat all pregnant cows that may have come in contact with the aborted one in the same way for a couple of weeks. These precautions are necessary in many cases to prevent the accident becoming common. As to the malpresentation mentioned and the deformity of the calf, these are conditions that cannot be controlled. J. H. REED, V. S.]

## CONTRACTED HOOF.

E. F., Grey Co., Ont.:—"Please give me the description of a contracted hoof, and can it be cured; and if so, explain how? I have a horse, and the hoof of a front foot seems to be smaller than the other foot, and the heel is drawn in together, and when standing, throws it slightly forward, and is somewhat over in the knee.

"2. Will you also tell me how the colt lies in the mare, and if they turn before foaled?"

[1. Contraction of the hoof is not of itself a disease, but the result of disease. When a hoof becomes affected with any form of inflammation, the secreting powers of the coronary band become impaired, consequently a normal quantity of horn is not formed, the hoof becomes smaller than its fellow, and the hoof also becomes drier than normal. When disease exists in a foot for sufficient time to cause the above symptoms, a perfect cure seldom results from treatment, but the symptoms can be helped and the growth of horn encouraged by keeping the foot moist, by poulticing or standing in water, or, better still, by repeatedly blistering the coronet. The heel should be kept pared down as much as possible, without exposing the sensitive parts. The apparent weakness of the knee is the result of the horse endeavoring to keep weight off the foot.

2. The fetus may be in any conceivable position in the womb, and does not turn shortly before delivery. Usually the fore feet and nose are presented. This is the normal position. J. H. REED, V. S.]

## ABORTION IN MARE—CONCUSSION OF THE BRAIN IN HORSE.

F. W. V., Perth Co., Ont.:—"I have a mare six year old. She has lost two colts a month before her time. I work her on the horse power about two hours a day, about once or twice a week. I feed her on oats, hay and a little straw. She gets boiled oats often at nights, with at times a little salt and saltpetre, and she is now three months from foaling. Is there anything I can do to prevent her losing it. She foals about June, and works every day through seeding.

"2. I had a four-year-old horse that was working at light work. I had been feeding him good hay and oats (about two gallons a day). He came in from work at six o'clock and was fed some hay; in about an hour I gave him one pail of water and one gallon of whole oats. At half-past nine, gave him some hay and bedding and left him eating hay. I found him dead the next morning at six. He had the floor torn up in his stall and his head skinned and badly swollen. I thought it was colic and turned to inflammation. What would be the cause, and, if such occur again, what would be the treatment?"

[1. Your mare has acquired the habit of aborting, as some females do. Feed on easily-digested food, as good clean hay in moderate quantities, a liberal supply of bran, with a limited supply of oats of good quality, and give two or three carrots daily. The water must also be of first-class quality. Do not work her on the horse power or treadmill. Regular exercise or light ordinary farm work will be beneficial, but do not ask her to perform heavy or tiresome work. About the usual time of abortion, keep her very quiet in a partially-darkened box stall well ventilated. Avoid all excitement, feed very light and watch her closely. If she exhibit any tendency to abort, give her about 2½ ozs. laudanum in half pint water as a drench. You can repeat the dose every two and a half hours as long as the symptoms appear to demand it. This treatment will probably avert the accident, and if she gets over her accustomed period of abortion, it is probable she will carry her foal to full term.

2. It is possible your four-year-old got cast in his stall and died from concussion of the brain, caused by him pounding his head against the stall in his efforts to get up; or he may have died from acute indigestion with rupture of the stomach or diaphragm; or from inflammation of the bowels; or rupture of a blood vessel; in fact, there are many conditions that would cause death, and a post-mortem examination is the only means of telling the cause of death where no ante-mortem symptoms are known. You ask what would be the treatment if such should occur again? The removal of the carcass is the only treatment we can suggest for an animal found dead in the stable. If observed before death, of course, he should be treated according to the symptoms presented. If it were, as you suppose, colic, the best thing you could do would be to give the following drench and send for a veterinarian: 2 ozs. each of laudanum and sweet spirits of nitre, and 1 oz. fluid extract of belladonna. The reason I say send for a veterinarian is that acute diseases that cause death so suddenly require skillful treatment promptly. No fault can be found with the feeding, and diseases of this nature frequently occur without any apparent cause, merely from a weak condition of the digestive organs that cannot be suspected and that probably is only temporary. J. H. REED, V. S.]

## LAME MARE, ETC.

J. MCKINLEY:—"1. A mare, 9 years old, was very lame last summer, but got nearly all right. When trotting slow, she shows a little lameness, and when she stops after driving, she paws and often rests the foot when standing in the stable. She stands on a ground floor. Could you give any reasons for it or any cure?"

"2. And on the other front foot she has two soft lumps, one on each side, just above fetlock joint. Could you give any cure for them?"

"3. A horse, 13 years old, has like fish scales from fetlock joint half way up to his knee, behind his leg, in the long hair. Could you give cure?"

[1. The symptoms you give are not sufficiently definite to enable a person to form an idea as to where your mare is lame. The fact that she paws and rests the foot when standing indicate lameness in fore foot, while the fact that you are told that she has hock-joint lameness, of course locates it in the hind limb. If in fore limb, it is probably in the foot, and I would advise repeated blistering around the coronet, the same as was recommended for the lame pony, in March 15th issue of the ADVOCATE. If in the hock, you had better have the joint fired by a veterinarian.

2. The soft lumps above fetlocks are bursal enlargements, commonly called windgalls. They are not likely to injure her, but long rest and repeated blistering will probably reduce them. Reduction can also be caused by the free and frequent application of cold water and bandaging.

3. Hairy and fleshy legged horses are predisposed to the scaly condition described. Benefit can be derived by dressing the skin once daily with one part carbolic acid to 70 parts of sweet oil. The hair must be parted and the oil well rubbed into the skin. After a few applications, the scales peel off, and as they reappear, you must treat again. J. H. REED, V. S.]

## SYMPTOMS OF PNEUMONIA IN HORSE—BOTS.

FARMER:—"1. What are the symptoms of a horse with pneumonia without a cough? Would it have great looseness of the bowels?"

"2. Can bots get so numerous in a horse that they will kill it, and what are the symptoms of bots in a horse? Do bots attach themselves to the stomach of a horse before it dies, or are they floating in the stomach?"

[1. A horse suffering from pneumonia will in the early stages have a full, strong, frequent pulse, increased temperature, mucous membranes injected, breathing labored, appetite impaired or entirely suspended; will stand continuously with nose protruded and nostrils dilated. Usually there is a cough, and instead of diarrhea, there is a tendency to constipation. As the disease advances, the pulse becomes weaker and more frequent; the other symptoms increase: the breath becomes fetid, etc.

2. In rare cases, where bots are very numerous, they let go of the stomach in large numbers, form into a ball and stop up the pylorus (the passage into the intestine) and kill the animal. Horses do not suffer from bots except in cases as stated above, when the animal will present the symptoms of intestinal obstruction from any cause. Bots are attached to the lining membrane of the stomach by their tails, and as long as they remain so, no inconvenience is manifested by the horse. The popular idea that they eat through the stomach and cause death is entirely unfounded. In most cases, as they mature they let go their hold in small numbers, pass off in the feces, burrow in the ground, and mature into the gadfly, which is ready to deposit its eggs on the legs and jaws of the horse, when by falling into the feed box from the jaws, or being licked off the legs, the eggs gain the stomach, become attached to the mucous membrane, and develop into bots, to be passed off in the feces in the spring, etc., etc. We often hear of a case where bots have killed a horse, and the person who relates the fact will endeavor to prove its truth by stating that when the animal was opened, there was a big hole in the stomach that was caused by the bots eating through, and that they had escaped into the abdominal cavity. The facts of the case are entirely different. The horse had suffered from acute indigestion, with the formation of gases in the stomach, which caused rupture, and consequently an escape into the abdominal cavity of a portion of its contents, along with which any bots that had let go of the stomach but were still in the organ. As I have stated, bots do not cause sickness or death, as is generally supposed. J. H. REED, V. S.]

## MORE SICK PIGS.

A. A., Welland Co., Ont.:—"What is the matter with my pigs? Last spring and last fall my sow bred pigs. Last spring she had twelve, and when they were about three weeks old they got sick. She had a litter of fifteen again the eighth of February, and they got the same sickness and only four are left. They breathe hard. Their nose and ears get blue and cold. I cut one's ear and it would not bleed. Let me know what is the cause of it?"

[Your pigs die from digestive derangement. By seeing that the sow gets plenty of exercise and easily-digested food, both during pregnancy and after delivery, you will avoid the sickness mentioned. Little can be done for the young pigs when they become affected as you describe, and you must observe preventive measures. Give the sick ones sufficient raw linseed oil or Epsom salts to purge them; the quantity of either will be two ounces or more, according to size. It will also be well to purge the sow, and give the sow and young pigs, as soon as they will eat, a little of the following every day in their food: equal parts Epsom salts, sulphur and powdered charcoal. Feed easily-digested food, keep in dry, warm premises, and allow plenty exercise. When giving a pig liquid medicine do not pour it down the throat or it will strangle. To avoid this, pull out the loose skin of the cheek and pour the medicine in there carefully. He will then stop squealing and swallow it. J. H. REED, V. S.]

## LUMP ON HEIFER'S ANKLE.

P. C., Middlesex Co., Ont.:—"I have a heifer that has a lump on the outside of her leg, just on the ankle, about the size of a goose egg. It has been on all winter and was about the size of a hen's egg when I first saw it. It is soft and spongy. Can you tell me what to do with it?"

[The soft, spongy condition of the lump, and its gradual increase in size, indicate it to be an abscess, either serous or purulent. Treatment consists in carefully opening it at the lowest part and allowing the escape of its contents, and then injecting it daily with one part carbolic acid to seventy parts water until the cavity fills and the skin heals. In opening be careful to not cut too deeply and penetrate into the joint. J. H. REED, V. S.]

## PARALYSIS IN SOW.

T. E. H., Victoria Co., Ont.:—"Subscriber wishes to know about brood sow, two years old, that raised two litters of pigs. After raising the second litter, she lost power of hind quarters. She drags herself around by front feet; eats heartily, and seems all right every other way. What can be done with her? If I fatten, would the pork be fit for table use? She is gaining in flesh now."

[Paralysis, either partial or complete, is difficult to treat in any animal, and especially in a pig. I would, therefore, not advise treatment, but feed for the butcher, as the flesh will be good for human food. It is possible nature will effect an improvement in the sow's condition; but even so, it will be liable to recur; therefore, it will be better to fatten her. J. H. REED, V. S.]

## Miscellaneous.

## SQUASH BUG (ANASA TRISTIS)—GROWING LARGE MELONS—RINGWORM ON CALVES.

W. T., Norfolk Co., Ont.:—"1. Would you kindly give me, through your valuable journal, a remedy for squash bugs? They are a large, dark gray bug; lay their eggs on the under side of squash and pumpkin vines. I have tried for seven years to grow pumpkins, and last summer tried squashes in the garden. When the vines were commencing to blossom, those bugs appeared. They seemed to bite the vine near the ground, and in a few days the vine would turn yellow and die. These bugs destroyed all my pumpkin and squash vines in the garden, then went to the cucumber and melon vines, completely destroying all my plants. Large melons nearly ripe were covered with bugs, and would all wither up. I tried sprinkling with dry ashes, also tried coal-oil emulsion, also air-slacked lime and crude carbolic acid, also Paris green and water, salt and sulphur, all with no success. I also gathered the bugs and eggs, but more kept coming by the thousands. What is the nature of these bugs, and do you think my garden will be infested with them this summer?"

"2. Can you tell me if there is anything I can add to the soil or vine to enlarge the size of water and musk melons? Our village gardener grew watermelons that weighed over twenty pounds, on not as rich soil as my garden. He claimed he used artificial fertilizer."

"3. Kindly give me a remedy for small black grubs in the ground, as they were very troublesome in my garden, destroying cabbage, tomatoes, cucumber and melon vines. I tried salt and ashes in the ground, but it did no good."

"4. Our calves are affected with a scaly surface around the eyes, which also appears on other parts of body. The hair drops off, and they also fall away in flesh. What is the disease, and can you give me a remedy, and is it contagious? I have tried greasing the spots with lard, carbolic acid and sulphur, also gave them sulphur and salts in their feed, but do not see any improvement in them."

"1. The squash bug winters over in sheltered corners, in outhouses and other places. It makes its appearance rather late in the spring, and the eggs are not laid much before July. During the course of its development, the insect moults five times, and about thirty-two days is occupied in this development. It is doubtful if this pest will ever be subdued, or even controlled, by ordinary insecticide treatment. As a rule, a spray or liquid strong enough to kill the insect will also kill the vines, so that more effective work can be done by clean culture, hand picking, and traps. The melon and squash patches should be thoroughly cleaned up as soon as the fruit is gathered, and no rubbish should be left about to serve as hiding-places. In spring, careful hand picking of the bugs and eggs as soon as they appear, and during the summer the placing of boards and chips among the vines to decoy the bugs, when they may be readily killed, will do much to render the insect comparatively harmless. I place little faith in repellants, such as tar, carbolic acid, or turpentine. Again, probably most people have blamed the squash bug for more harm than he is really guilty of. It is just possible that the cucumber beetles are responsible for much of the damage done to the vines, but as they are small, and the squash bugs large, the latter get all the blame. It is not, perhaps, well known that when the squash bug punctures the vines to suck the sap, it also injects a drop of poison, so that more harm is done by the poisoning of the tissues than by the loss of sap. In summary, it may be emphasized that in the case of the squash bug, "an ounce of prevention is worth a pound of cure." If they once become numerous, it is almost impossible to get rid of them."

W. LOCHHEAD.  
O. A. C., Guelph. Professor, Biological Dept.

2. Very large melons, squash, etc., are grown in loamy soil well enriched with rotted yard manure mixed with a small proportion of hen manure. This should be well incorporated with the soil before the plants or seeds are set. Set melon plants or seeds in beds about five or six feet apart. When the plants are well started, remove all in each hill but the one strongest plant. Cultivate the ground frequently, and water, if necessary, with weakened manure water from the barnyard. When the vines have grown sufficiently to commence to blossom, remove all but three or four on each vine, and peg the vines down to the ground at several intervals. At these points of connection, the vines will throw down rootlets, which will act as feeders to the few melons on the vine. When the melons are well formed, remove all but one or two, and nip off the end of the vine. Keep the soil stirred, without disturbing the new rootlets, and water occasionally with manure water. Four-hundred-pound squash are raised in this way.

3. We presume cutworms are referred to. They are very difficult to combat. The best treatment we know of is to start the plants in boxes, and wrap the roots, with earth attached, in a single layer of paper before planting. By the time the roots have burst the paper, the worms will seldom do the plants harm. This method we have known to preserve cabbage and tomato plants when no other seemed of any avail.

4. The calves have ringworm. It is contagious. The scurf spots should be washed with warm soft water and soap, brushed free of scurf, and rubbed with sweet or linseed oil, three parts well mixed with carbolic acid one part. This will blister the parts touched, so prevent it from getting into the eyes. A second application may be necessary.]

## WATERING HORSES—INFLAMED UDDER—TOP-DRESSING CLOVER.

ENQUIRER, B. C.:—"1. Is a horse liable to be foundered in summer time, say, through being watered with water of moderate temperature when coming in hot from work on the mower? Is it at all a general practice, or considered safer, to allow horses to cool off before watering when heated at farm work, as is done in winter?"

"2. What would you apply to a cow's udder that is so tender that for weeks after calving she can scarcely bear to be milked?"

"3. I have part of a field seeded down last spring to alfalfa. It made a good growth of six feet ten inches, but not being able to fence it off, it was pastured with the rest of the field last fall, the result being that white clover, which flourishes wherever it can get room, here took almost complete possession of the plot. Do you suppose that by applying a light coating of manure or straw the clover would be smothered and the alfalfa push through and survive next spring?"

[We believe there is comparatively little danger of founder by allowing a horse a moderate quantity of water soon after unhitching from the mower or other ordinary farm work. As a rule, horses have to walk some distance from work to the watering place, and then careful horsemen prevent them from taking long, continuous, gorging drafts of cold water. It is always safer to allow a horse to cool before watering, as not only founder, but colic, may be prevented in that way.]

2. The tenderness of the cow's udder referred to is due to inflammation caused by the change taking place at calving time in the lacteal apparatus. The treatment should consist in giving a purgative of a pound and a half of Epsom salts, bathing the udder long and often with hot water in which the hand can be borne, giving warm bran mashes and warm drinks, and keeping the cow warm and away from drafts.

3. A covering that would smother the white clover would, in our judgment, destroy the alfalfa likewise. It is always a mistake to pasture alfalfa the first autumn, because many of the plants are liable to be pulled out of the ground. A light top-dressing of short manure will stimulate the alfalfa, and thus increase its chances of holding its own and ultimately overgrowing the smaller white variety.]

## SALT FOR STOCK.

J. H. K., Leeds Co., Ont.:—"I would be pleased to have some advice, through the columns of the ADVOCATE, from some leading farmers as to which kind of salt, the fine or the coarse, they consider the best for stock?"

[While our almost constant contact with stock-farmers leads us to the conclusion that salt is regarded as salt by them, whether fine or coarse, we will willingly grant space to a discussion of this subject. In practice, we find the coarser grades more commonly used than the finer, for the reason that they are cheaper, as they are all equally salt and about equally as easily dissolved in the mouths of the animals. Were rock salt as cheap as the granular sorts, it would probably become universally used, since it can be placed in the mangers without becoming mixed with the food. It is also better for summer use, because when exposed to the weather it is not readily dissolved and wasted by rain. Just here we would point to a mistake made by some stockmen in salting their animals. Believing that salt has a beneficial effect upon the health of the animals, it is mixed with their feed, so that they are compelled to take, perhaps, considerably more than their systems desire or require. The effect of this is to stimulate the action of the kidneys and other organs, and thus cause a serious waste of nourishment to the animals. This, therefore, is an unnecessary tax upon the animal, and, therefore, upon its owner. Nor does the injury end here, because a further effect is to cause excessive consumption of water, which is itself injurious, and when the animals have to drink from a cold creek, the warming of the extra water in their bodies demands food that should go to the building up of tissue or milk. The rational manner of salting stock is to allow them access to a supply at all times, so that they can take just what their systems demand, which is the only correct guide.]

## GRANARY IN BASEMENT.

J. H. C., Wellington Co.:—"Do you think it a suitable place for a granary in the basement of a barn? The grain could be run into the several bins by means of a grain chute. My cellar is to be concrete, and a partial cellar stable. Would the interior be too damp or warm for the grain? Would it injure the grain to come in contact with the concrete walls or on the cement bottom?"

[We have known two or three basement granaries to give satisfaction, but the advantage at threshing time of saving a man or a man and a boy was more than overcome by the inconvenience in getting the grain out again. To fan grain in a basement granary is a cramped, unpleasant job, and to load it onto a waggon to haul away is equally inconvenient. It is well enough to have a feed grain or chop storage in the basement, as it can be readily filled from the grinder or fanning mill on the barn floor above. Provided there is good drainage away from the walls and beneath the floor of a cement granary, and the floor built a few inches above the adjoining floor of the stable, the grain should keep well resting against cement surfaces.]

## MARKINGS OF LIGHT BRAHMAS.

SUBSCRIBER, Elgin Co., Ont.:—"We are very much pleased with the ADVOCATE. I would like to know what the proper markings of Light Brahma fowls should be, and the names of some breeders. Are they a good kind of poultry? I would like to know if I could get a score card?"

[The Light Brahma is among the most popular of the heavy meat-producing breeds of poultry, and is a fair layer. The markings are difficult to describe understandingly. In the male, the plumage on the neck, except the hackle, is white. The hackle feathers are white, with a black strip beginning near the juncture with the head, extending down each feather; lower third, at least, of hackle solid glossy black stripe extending one-third or more of the length of each feather and tapering to a point, with a white edge around the lower third and extremity. The saddle feathers of the male have surface color white and under color either white, bluish white, or slate. The cape formed by the feathers at the base of the hackle and the top of the wings are black and white. The breast plumage has surface color white and under color at juncture with the body white, bluish white, or slate. The bows of the wings are white, except their fronts, which may be partly black and should be covered by the breast feathers. The primaries should be black or nearly black. The secondaries have upper web black, except the three or four top feathers which may be black or white; lower web white, with or without black along the shaft of the feather. The tail should be well filled underneath with white or black-and-white curling feathers, and in color black. The sickles should be a glossy greenish-black; the coverts glossy greenish-black, and lesser coverts glossy greenish-black edged with white. The thighs are well covered with soft feathers, the surface of which is white, the under color white or bluish-white. The shanks are well covered on the outside with feathers, white, more or less mottled with black. The outer and middle toes are feathered with white or white mottled with black.]

The markings of the hen should be as follows: The web of the neck feathers beginning near the juncture with the head and reaching well over the shoulders, rich black, edged with white, the black running nearly parallel with the edge of the feathers. The surface color of the body plumage is white, under color white or bluish-white. The cape formed by the feathers at the base of the hackle and the top of the wings are white or black and white. The breast feathers are white on the surface and white or bluish-white underneath. The body plumage has surface color white, except under the wings, where it may be white or bluish-white. The bows of the wings are white, primaries black and white, and secondaries, upper web black or black-and-white, except the three or four top feathers, which are white or nearly so. The lower web is white, with or without black along the shaft of the feathers. The tail feathers are black, except the two highest main tail feathers, which may be edged with white. The tail coverts are black, edged with white. The feathers on legs and toes are same as in the male. A full standard of perfection and complete description of all the recognized varieties of fowls, adopted by the American Poultry Association, and edited by B. N. Pierce, can be had through this office at the regular price of one dollar. Watch our advertising columns for breeders of this sort of fowls.]

## GROWING FLAX—SEEDING LAND—WEIGHT OF CLYDE STALLION.

J. F. H., Simcoe Co., Ont.:—"1. How would flax do on light soil, and how much is necessary to sow to the acre?"

"2. I saw in your paper that a man claimed to have success in procuring a good catch of clover on light soil by sowing rye in the fall, plowing it down the following summer, then sowing buckwheat and plowing it down, then sowing fall wheat and seeding down with clover the next spring. Would you kindly tell me what you think of that plan?"

"3. What is the average weight of the Clyde stallions in the Old Country? There is a Scotch neighbor of mine states that the stallions that are imported out here are only plugs."

"4. Do you think barley chop is good to feed to cows giving milk?"

[Flax is not a crop for sandy land. It does best on strong, fertile land, an old sod well worked up being preferred. About forty pounds of seed per acre is a good seeding, but a somewhat less quantity should be sown where the soil is rich.]

2. Probably the most common cause of failure to get a catch of clover at the present day is lack of humus in the soil. The recommendation to plow down a crop of rye and a crop of buckwheat in preparation for fall wheat is commendable both for the wheat and clover, as it would clean and enrich the land and render it favorable to retain moisture.]

3. A mature Clydesdale stallion that weighs a ton is probably above the average in Scotland, but many of the best ones weigh over that amount, reaching 2,400 pounds in some instances. Size, however, is not all that a horse requires to put him out of the class of plugs, as there are plugs amongst the big horses; but we do not believe many of that class are imported from Scotland to Canada.]

4. Barley mixed with twice its bulk of oats and about the same quantity of bran answers well as a grain food for milking cows. Fed alone, barley is somewhat constipating, and is, therefore, not the best feed for cows, except they are getting a too laxative food, such as an excess of roots or green crop of some sort.]

## SOILING CATTLE AND SHEEP—WATERING CATTLE.

H. B., Bruce Co., Ont.:—"1. Do you think that soiling can be worked profitably on small farms? Would 30 to 35 acres keep from 15 to 20 head of cattle the whole year round, or would cattle do as well if fed in the stables all summer? As I am not in a dairying section, I would prefer beef breeds."

"2. How would sheep do fed in the house through the summer?"

"3. Do you think it is a good plan to water breeding cattle twice a day, and at what times of the day would you water them?"

[1. The only objection to soiling cattle is the extra work involved in cutting and carrying the fodder to the animals, cleaning the stables, etc. Where satisfactory help can be obtained there is much in its favor, especially in districts subject to drought, and particularly since the horn fly has become so prevalent. In fact, some of our most advanced dairymen do not consider they could dairy profitably by any other method. These men make great use of the silo, feeding corn silage most of the year as a portion of the ration. We have heard of 90 head of dairy cows being supported on 100 acres of land by purchasing a few hundred bushels of grain and a few tons of bran. It is well to allow stock the run of a field during the nights in warm weather. Besides corn, a succession of crops should be provided, viz., fall rye, clover, oats and peas, and roots. The writer pastured a bunch of steers last season, and, despite the fact that they had abundance of pasture, water and some grain once a day, they did not gain in weight during August and September, while the horn flies were at their worst. It would have paid well to have soiled them inside away from the flies.]

2. Sheep do not thrive as well in confinement as do cattle, although practically all the most successful show flocks are summered inside during the day. This would not be profitable with a breeding flock, because the extra gains received would cost too much in expensive feed. Sheep can, however, be cheaply handled on little space by growing a succession of crops in small plots, using lines of hurdles or wire netting to confine the sheep while pasturing off the plots that are ready. Prof. Thos. Shaw, Minnesota Exp. Station, has done wonders in feeding sheep in this way on a small area of poor soil. He used such crops as winter rye, clover, vetches, rape, cabbages, corn, and several other crops. In some cases two or more crops were grown and consumed on the same land in one season. Sheep relish frequent changes of pasture and thrive well upon them when the changes are not too violent.

3. When cattle are getting a liberal quantity of roots, or other succulent food, they need little water, and watering once a day, about noon, is sufficient; but where roots are not fed to any appreciable extent, watering morning and evening, about 8 a. m. and 5 p. m., is advantageous. We contend, however, the proper method is to have fresh water before the animals all the time, that they may follow the dictates of their own thirst in their drinking.]

## RE-SEEDING PASTURE PLOTS—REGISTRATION OF PIGS, ETC.

J. P. P., Essex Co., Ont.:—"I have several small plots around the house that I use for calves and young pigs. I want to plow one up this spring and re-seed it. What kind of grass seed would you advise me to sow, and what quantity per acre?"

"How can I kill the grass in a cherry orchard, as the trees are too low to plow around? I would like to re-seed it."

"I have started to raise some pure-bred pigs. How old will they be before they will not be eligible for registry, and how much does it cost for each pedigree? How much does it cost to join the Swine Breeders' Association?"

[A grass plot may be re-seeded by plowing the sod as early as the land is dry enough to work without poaching, harrowing well and sowing the grass seed alone, or with a very thin seeding of oats or vetches, say one bushel of oats or one-half bushel of vetches per acre, and a mixture of 6 lbs. red clover, 2 lbs. alsike and 6 lbs. timothy.]

We cannot suggest any other method of killing the grass in an orchard where trees are too low for plowing, than by spading.

There is no limitation of age for registering pigs. The fee for registration and certificate is 50 cents for each pedigree to members, to non-members double fees. The membership fee is \$2 annually, which entitles the member to the printed volume of the record for the year or years for which he pays his membership fee. Mr. Henry Wade, Parliament Buildings, Toronto, is the Registrar, who will supply blank forms, with instructions for registry.]

## FOR SMUT IN OATS.

E. M.:—"Please say in your answers column, whether or not you consider 'formalin' a better treatment than hot water for oat smut. If you are not fully convinced that formalin is a better treatment, kindly give minute directions for the hot-water treatment?"

[It is a much simpler matter and quite as effective to treat oats for smut with formalin as with hot water. Tests conducted at Brandon (Man.) Experimental Farm proved formalin an effective treatment. Oats steeped for five minutes in formalin, 4½ ounces to 10 gallons of water, gave in crop from that seed 233 good heads and 3 heads of smutty grain. The crop from seed steeped one hour in the same strength of formalin was all free from smut. Sprinkling the oats with formalin, 9 ounces to 10 gallons of water, proved effective in destroying the smut.]

## PLAN FOR COW AND CALF STABLE.

A SUBSCRIBER, Lanark Co.:—"I have a building 22 feet by 60 feet, cornering a barn, and with root-house at the end of the building. It is used for a cow, calf, and horse stable, in three separate compartments. I propose removing the partition and rearranging the whole space for a cow and calf stable, and would be favored much if some reader would furnish me, through the ADVOCATE, with some suitable plan for the given space."

[A building 22 feet wide is awkward to deal with for the desired purpose. In any case we would recommend using one or both ends for calf boxes. If two stalls 12 by 11 feet are sufficient for calves, take 12 feet from the end farthest from the root-house. If more calf room is needed, one box can be made at the other end, leaving a passage and feed room beside it. The disposition of the remaining space would depend on the number of cows desired to be housed. With high ceiling and a good system of ventilation, it would be well to arrange for two rows of cows standing tail to tail, with heads to the wall. This would allow seven feet for each row of cows, and eight feet for the passage between. This would not admit of feed passages before the cows, but if the feed is cut, the inconvenience of feeding would not be excessive. By this plan, if only two box stalls are needed, 23 cows could be housed, 2 cows in a stall, each seven feet wide. For ordinary-sized cows this would allow fair room for carrying up the feed. If only 14 cows are to be housed, it would be well to have one row, which would leave 7 feet for feed passage and 8 feet behind the cows. Another plan would be to make four box stalls, two at either end, and two rows of cows across the stable. This would house only about 12 cows, which would stand facing each other on either side of a wide feed passage. This would leave ample space behind the cows. With box stalls at one end only, three rows of cows could easily be arranged for. Our columns are open for a discussion of this subject.]

## PEAS, WHEAT, CLOVER.

J. R., Simcoe Co., Ont.:—"1. When harvesting my peas, I intend, when hauling them in, to cut them up with a cutting box, separating the grain from the straw, and storing it under cover. Will the straw keep, or will it become heated and musty, rendering it unfit for feed."

"2. Is it advisable to sow Wild Goose wheat on black muck and sand, and is there any fertilizer I could use to make the straw hard?"

"3. I have a field of common Red clover, off which I got a crop of hay last year, and also cut it for seed. Would it yield a crop of hay this year?"

[1. Unless the crop was exceptionally dry, so dry that the peas would shell very readily, and there were no weeds or other green stuff mixed with it, we would expect the straw treated, as intended, to heat and must to a greater or less extent. We have not seen this method tried, but have frequently noticed that the fine chaffy stuff in a pea-straw stack, where the carriers dropped the straw, became musted even when kept quite dry after threshing.]

2. Black muck with sand is not favorable land for wheat, and generally produces a weak straw crop that yields poorly and is difficult to harvest. An application of salt would tend to strengthen the straw by liberating potash for the crop to feed upon. From 300 to 400 pounds per acre would be a fair application.

3. Red clover is a biennial plant that produces seed the second year of its growth and then dies. If during the second year it is kept cut or pastured so that seed is not produced, the root does not die, but lives on unless it is winter-killed or drowned out. The effort and nature of the plant is to perpetuate itself, and having done this, it has fulfilled its mission and dies.]

## FERTILIZER FOR ROOT CROP.

W. E. WOODWORTH, Que.:—"What phosphate or other fertilizer, and what amount per acre, should I use for a root crop, corn and potatoes? I applied 20 two-horse loads of stable manure per acre, on good land, and plowed it under. Is it best to plant roots on sod? Is nitrate of soda or muriate of potash better than any of the other fertilizers, and what would such cost per 100 pounds?"

[Having applied 20 loads of stable manure per acre, good results should be obtained without the use of any fertilizers. Not knowing the condition of your land, its requirements, etc., a definite answer as to what fertilizer and how much of the fertilizer for any particular crop might not secure for you the best results. In addition to farmyard manure, corn is, as a rule, greatly benefited by the application of superphosphate, say 200 pounds per acre, sown broadcast just before planting. Potatoes cannot receive a more suitable fertilizer, in addition to the farmyard manure, than hardwood ashes, unleached. Two to three tons per acre will give good results. Mangels are, as a rule, greatly benefited by the application of land salt: 300 pounds per acre. Turnips will be greatly improved by the same fertilizer, in the same amount, as for corn above. Sod land, plowed in the latter part of August and thoroughly cultivated during early autumn, then manured and ridged late in the fall, gives excellent results with roots. Nitrate of soda and muriate of potash are special and expensive manures, and should not be used except under exactly right conditions of soil and crop. They cost in the neighborhood of \$40 per ton.]

A. E. SHUTTLEWORTH,  
Chemist, O. A. College.]

## CEDAR FOR BASEMENT WALLS.

R. W. W., Ontario Co., Ont.:—"I want to raise a barn and put stables underneath it. What do you think about using cedar in place of stone for the walls? Is it as good? I find that I can get the cedar much cheaper than stone, but would like some more information about cedar."

[No hint is given as to how it is proposed to use the cedar. The only plan that appeals to us as being practicable is to build a stone foundation to come not less than one foot above the surface of the ground. This will keep all the woodwork high and dry. On the stone foundation set cedar posts and studding, and board up outside with two thicknesses of cedar lumber, each about an inch and a half thick, with heavy tar paper between. The inside layer of lumber may be put on horizontally and the outer one perpendicular. Probably two layers of tar paper will answer better than one, and will not cost much more. Pine lumber would answer as well, but if the cedar is sound and cheaper, will make a durable wall unless destroyed by breakage.]

## REMEDY FOR RINGWORM ON CATTLE.

MR. JOSEPH WIGGINS, Peel Co., Ont., writes:—"Enclosed find one dollar, being my subscription to the FARMER'S ADVOCATE for another year. This will make my thirty-second year, and I am not tired of your paper yet. It is a welcome visitor in my house, and I could not think of doing without it now. In the February 1st issue of the ADVOCATE, someone enquired the best remedy for ringworm in cattle. I will tell you the best remedy I ever knew. It is simple, cheap, and good, as it never fails. It is within the reach of every ordinary farmer. Take goose oil and sulphur, make a nice soft salve, and anoint the parts affected. It never fails to do its work. One application will generally do the work; if not, make another application in a few days, when the rough scales have dropped off."

## FARMING ON HEAVY CLAY.

D. J. McC., Frontenac Co., Ont.:—"I would be pleased to receive some information, through the columns of your paper, for the growing of potatoes, roots and field beans on heavy clay soil."

[The conditions governing the growing of potatoes, roots and beans on heavy clay soil do not differ from those necessary on lighter land, but they are more difficult to secure. First of all, the clay soil must be well underdrained, and then it must not be worked while wet, else it will bake so hard that a mellow condition cannot be obtained. Another accompaniment must be an abundance of humus. This can be acquired by application of fresh yard manure and the plowing down of green crops, such as buckwheat, rape, clover, etc. We shall continue in the future, as in the past, to publish occasional articles on the growing of these crops, which D. J. McC. will observe if he reads his paper carefully.]

## MARKETS.

## FARM GOSSIP.

## Oxford County.

The early part of the winter was very mild here, but we have had it cold and stormy lately. Cattle have done very well. I never saw cattle eat straw better, and I believe the secret is, not to give them too much; give only what they will eat clean. Have not fed any hay yet. Had six or eight loads of oats which we could not thresh when we had the machine in the fall. Part of these we have been running through an old cylinder, and part we have run through the cutting box, with the fanning mill attached, to take the oats out. The latter plan takes at least a third more power, and of course should be steady speed; but as it is wind power we have, we cannot always get a steady enough wind, but the cylinder is much easier run, and makes a good job, and the cattle and horses eat up the straw greedily. We have still a quantity of well-saved cornstalks. Of course, these get very dry after this month, but we mix the cut stalks and cut oat straw with pulped roots, and apply water when mixing, and a handful or two of salt, and then allow to lie a day or two, and the cattle eat it up clean when a handful or two of chop is shaken over the feed. We have been hauling out the manure as it was made, and spreading on the ground intended for roots. After this date we will put it in heaps. There has been a great amount of discussion on this subject. We think those who do not approve of the plan have plowed down too deep. It should be plowed very shallow, or, better still, only well cultivated, if the manure is not too coarse and long.

Our cheese and butter factories have not started yet. It has been generally decided not to make any cheese until the beginning of May, or even later. But our farmers are hard to keep together. A few won't send milk to make into butter; they think they can make it just as well at home, whereas the real fact of the case is that the separator will take enough additional cream out of the milk to nearly pay for the making, and then the creamery butter generally commands a higher price than the homemade article.

Live hogs have been keeping up well in price, although the market does not seem so lively at present. I am a little amused at the sympathy expressed in some quarters for the poor packing-house people, who, these writers claim, are losing money. Don't waste any money in their buildings and plant if they were losing money? No danger of that. They are perfectly able to take care of themselves; and if they should have to run their business for a time without much margin of profit, it will only be a sort of an offset to the years of the past, when they piled up such enormous profits.

Fall wheat generally looks well, but the trying time is coming. It would be a great blessing if the Hessian fly would get frozen out, even if the wheat would not be quite so good.

Perhaps one of the most difficult problems for the farmer to solve at the present time is the hired-help question. It would seem as if the hired man would soon come to be an extinct species. We fancy there will have to be a radical change in the mode of hiring help. The farmer should hire help by the year, and then use the man and himself right, have regular hours, and be content and satisfied with a fair day's work for a fair day's or rather a fair year's wages.

All the seed grain should be cleaned up and the harness well repaired and oiled, and everything put in good shape for the spring work, before spring comes. D. L.

Experimental Union Field Tests for 1901.

The members of the Ontario Agricultural and Experimental Union are pleased to state that for 1901 they are again prepared to distribute into every township of Ontario material for experiments with fertilizers, fodder crops, roots, grains, grasses and clovers. Upwards of three thousand Ontario farmers conducted the co-operative experiments upon their own farms last year.

LIST OF EXPERIMENTS FOR 1901.

- 1. Three varieties of oats.
2. Three varieties of six-rowed barley.
3. Two varieties of hullless barley.
4. Spelt and two varieties of spring wheat.
5. Two varieties of buckwheat.
6. Three varieties of field peas for Northern Ontario.
7. Two varieties of bug-proof field peas.
8. Cow peas and two varieties of Soja or Japanese beans.
9. Three varieties of husking corn.
10. Three varieties of mangels.
11. Three varieties of sugar beets for stock feeding.
12. Three varieties of Swedish turnips.
13. Kohlrabi and two varieties of fall turnips.
14. Parsnips and two varieties of carrots.
15. Three varieties of fodder or silage corn.
16. Three varieties of millet.
17. Three varieties of sorghum.
18. Grass peas and two varieties of vetches.
19. Dwarf Essex rape and two varieties of kale.
20. Three varieties of clover.
21. Sainfoin, Lucerne and Burnet.
22. Five varieties of grasses.
23. Three varieties of field beans.
24. Three varieties of sweet corn.
25. Fertilizers with corn.
26. Fertilizers with mangels.
27. Growing potatoes on the level and in hills.
28. Planting potatoes the same day and five days after being cut.
29. Planting cut potatoes which have and which have not been coated over with land plaster.
30. Planting corn in rows and in squares (an excellent variety of early corn will be used).

Material for either number twenty-five or number twenty-six experiment will be sent by express, and for each of the others it will be forwarded by mail. Each person in Ontario who wishes to conduct an experiment, and is willing to use great care and accuracy in the work and report the results of the test as soon as possible after harvest, should select the exact experiment desired, and apply for the same at an early date. The material will be forwarded in the order in which the applications are received until the supply is exhausted. It might be well for each applicant to make a second choice for fear the first could not be granted.

C. A. ZAVITZ, Agricultural College.

Guelph, March 16th, 1901

United States Sugar Beet Crop.

The American beet-sugar factories having finished their year's run, the Sugar Trade Journal gives the results of 1900-1 as below, in tons of 2,000 lbs.:

Table with 3 columns: State, Beets Received, Sugar Produced. Rows include New York, Illinois, Ohio, Michigan, Minnesota, Nebraska, Colorado, Utah, Oregon, Washington, California, and a Total row.

The factory in New Mexico did not work during the past season. Six new factories are contracted to be built this year, and the old factory at Menominee Falls, Wis., which has long been idle, is now being rebuilt. The long drought in California is broken at last, and in view of the heavy and long-continued rain which has lately fallen in that State, a large crop is assured for this year.

In the census year 1899 there were thirty-one beet-sugar factories in the United States, distributed among ten States and one Territory, representing an invested capital of \$20,938,519, and producing 71,427 long tons of beet sugar, valued at \$7,323,857. This small product for the capital invested was due largely to the fact that the census year was a disastrous one for the crop. California had eight factories, with a total capital of \$10,139,790; Michigan, nine, with a capital of \$4,013,743; other States, fourteen, with a capital of \$6,804,966. Of the thirty-one factories, twenty-nine were controlled by incorporated companies and two by individuals. In addition to the factories operated in the census year, six were under construction. The capital invested in new factories is \$3,800,000, making a total of \$24,738,519 for the industry in the year 1900.

Prince Edward Island.

The 20th of March, and still severe winter weather. Great depth of snow. No sign of bare ground anywhere. Have not had so much snow here since the winter of 1882. Trains were blocked on the railroad most of last week. This close, severe weather is telling on the price of hay and straw. Hay is scarce, at \$12.00 per ton, and straw brings \$5.00 per ton readily. Fat cattle are getting scarce, and are much sought after for shipment to Sydney and other maritime cities. Seven dollars per hundred, dead weight, is about the price. Hogs are scarce, and worth \$6.25, alive, for best bacon. A great amount of carcass pork has been shipped this winter to the neighboring Provinces. The make of butter here will not be as large as last winter, but the price is better. It sells readily wholesale at 22c. to 23c. Milk cows are selling for big prices at the country auctions. This shows that farmers have faith in the dairy business.

The Dairy Association held its annual meeting a short time ago. From the secretary's report we learn that the amount of milk made into cheese in 1890 was 59,361,000 lbs., an increase of 2,704,694 lbs. over the previous year. The cheese manufactured in 1900 amounted to 4,379,403 lbs., an increase over the previous year of 633,935 lbs. The gross value of cheese made in 1900 was \$376,060.48, an increase of \$64,792.41 over 1899. The gross value of butter made in 1900 was \$122,152.32, a decrease from the previous year of \$16,904.51. The net increase on both cheese and butter in 1900 was \$47,887.90. Altogether there were 48 factories and skimming stations in operation last year.

Our Local Government is importing a Thoroughbred horse from England, and they have lately landed two bulls, bought at the Ottawa stock sales, for the Government Stock Farm. One of these, from the herd of the Hon. John Dryden, is said to be a very superior animal.

Oats are worth about 30c.; wheat for milling, 70c.; for seed, 80c. to \$1.00; potatoes, 20c.; timothy seed, \$2.50. March 20th, 1901.

New Dressed Meat Company in Toronto.

The Harris Abattoir Company, Toronto, with a capital of \$1,000,000, has been incorporated, with the following directors: William Harris, proprietor of the William Harris Abattoir; William Davies, President of the William Davies Company; Joseph Flavell, Managing Director of the William Davies Company; William Harris, sales agent; James Harris, buyer, and Edward Adie, Secretary to the William Davies Company, all of Toronto. The Company will carry on a general abattoir, and wholesale jobbing business in cattle, hogs, live stock, fowl, game, poultry, and other animals, and for that purpose acquire the good will, plant, and business now being carried on in the City of Toronto by William Harris in his own name.

Quebec Up-to-Date in Maple Sugar Making.

It is with delight we receive each issue of the ADVOCATE. Its pages are full of instruction and interest, and generally of advanced thought. We people of the Province of Quebec have always looked up to Ontario for advanced ideas, and they in turn, we suppose, consider us far behind them in advancement; but allow me to just say here that we Quebecers cannot but smile when we read "Farmer's Wife" on sugarmaking, when she speaks of "antiquated" methods. Here the galvanizing-iron evaporators and the metal spout and hook have long since been consigned to the scrap heap, and the bright tin evaporators, and the tin spile, which answers for hook as well, and only requiring a 5-16 inch bit, reducing the injury to the tree to a minimum, is in common use, and the thermometer is used as common as in a cheese factory, by the best makers. Evaporators of large size have to be used here, as we have a large flow of sap from old-growth trees, and sugars of 1,000 to 5,000 trees are quite common in these Eastern townships. It is hard to predict what sort of a sugar season we may have this year. The snow is four feet deep in many places, and the weather continues cold and stormy. There is no frost in the ground, and if April is not too hot we may get a good flow of sap.

I might state, for the benefit of Subscriber, of Middlesex, that I know of an old and successful sheep breeder who always fed potatoes to his ewes, both before and after lambing, and he seldom ever lost a lamb. Wishing the ADVOCATE every success, I remain, A QUEBECKER, Shefford Co., March 22.

Kent County, Ont.

March has been a month of cold, chilly winds and rain, with very few fine days. The snow has entirely disappeared, but went so gradually as to avoid the usual floods. Frost is almost out of the ground, and what are usually known as roads are nothing but mud streaks. Every indication points to the fact that an early spring is upon us. Our maple-sugar makers have tapped their trees and secured one or two good runs of sap. Stock of all kinds have wintered splendidly. Plenty of feed and a steady winter has been the combination accountable for such results.

Horses are in strong demand, at from \$100 to \$175. Milch cows are wanted, at \$35 to \$50 apiece. Hogs, dressed, are \$6.75 to \$7.00 per cwt.; hogs, alive, are \$6.00 per cwt. Local grain market is as follows: Wheat firm, at 65c. per bush.; corn, 38c. to 40c. per bush.; beans dull, at \$1.10 to \$1.25; red clover, \$5.00 to \$6.00; timothy, \$1.00 to \$1.75; hay, at \$7.00 to \$8.50 per ton; potatoes slow, 25c. to 40c. per bush. Our binder-twine factory is an assured fact. Offices have been opened in the city, and the first call has been made upon the shareholders.

W. A. MCG.

One for the Windmill.

To the Editor FARMER'S ADVOCATE: SIR,—In reply to W. McL., in recent issue of the ADVOCATE, in regard to the good and bad points of tread powers, I would say I have used a three-horse tread for about four years, and did away with it a year ago for a fifteen-foot Brantford windmill, which I consider a much handier farm power. However, it depends a little on what the power is wanted for. If for filling a silo or running a cream separator, I would prefer the tread, as there might not be wind when he wanted to fill his silo, and it would give steadier power for his separator.

As regards the width of platform, that would depend on the power wanted; the wider the platform the more horses could be used and the more power would be got. I consider a three-horse power a very handy machine to move around in a barn; besides, it takes up quite a bit of room. For cutting in feed, pulping roots, chopping grain, pumping water, etc., I consider the windmill a way ahead of the tread power. Perhaps the manufacturers charge high for the wind machinery, but the elements find you the power, while with any other machine you have to find the power. A. G. DARROCH, Wellington Co., Ont.

An Ontario Committee on Agriculture.

At the suggestion of Mr. Little, M. P. P. (Cardwell), the Ontario Legislature has appointed a Committee on Agriculture and Colonization. The Minister of Agriculture will advise with them, and witnesses will be called to give evidence on such topics as the development of New Ontario, the dressed-meat trade, best-sugar enterprise, remount stations, San José scale, tuberculin test, etc. Mr. Kidd, M. P. P., in discussing the proposal, intimated that the counsel of such a committee, properly considered, might have prevented a lot of federal and provincial bungling with the tuberculin test, which had done a vast amount of damage to the country. The following compose the Committee: Hon. Mr. Dryden, Hon. Mr. Davis, Messrs. Barber, Breithaupt, Brown, Burdett, Caldwell, Carpenter, Charlton, Dickenson, Douglas, Farwell, Guibord, Hill, Hislop, Holmes, Leys, Loughey, Lumsden, Malcolm, Mutrie, McKee, Pardo, Pattullo, Richardson, Smith, Truax, Taylor, Allen, Brower, Beatty (Leeds), Carnegie, Crawford, Dempsey, Duff, Eilber, Fallis, Fox, Jessop, Kidd, Little, Macdiarmid, Monteith, McLaughlin, Reid (Durham), Reid (Addington), Robson, Tucker, Whitney.

Coming for Canadian Remounts.

A cable message from Great Britain states that Major Dent has been appointed Imperial Remount Officer in Canada, with the rank of Lieutenant-Colonel, and has sailed on the Teutonic to purchase more remounts for the army, especially in the Northwest. Major Hon. Ormsby-Gore, of the 11th Hussars, accompanies him as assistant officer.

Chicago Markets.

Chicago, March 26.—Estimated receipts were: Cattle, 3,500; hogs, 16,000; sheep, 13,000. Beef Cattle.—Yesterday's cattle prices started strong, and kept getting stronger right up to the close. It was an all-day market, with orders unfilled at the close. The best cattle here were some 1,375 to 1,757 lb. steers, at \$5.75 to \$5.87. There were orders for strictly prime cattle that buyers were unable to fill at any price. The cheaper grades of cattle sold well, and the lighter weights are meeting with active competition. Such cattle as were being sacrificed so recklessly a short time ago are now being sought for. Plain, fat, heavy cattle sold at \$5.00 to \$5.35, and inferior to fair, light and medium cattle sold at \$3.80 to \$4.60.

Butcher Stock.—At first, choice offerings were pretty freely taken, later market being rather slow, with a tendency to lower prices. Cows and heifers of good flesh and quality sold readily at \$3.40 to \$3.75; those suitable for export at \$3.90 to \$4.15, though it takes good ones to bring that price; common, \$2.40 to \$3.25; cutters, \$2.50 to \$3.10; canners of the better class, at \$2.00 to \$2.60; common stuff, slow sale, at \$1.50 to \$1.85.

Bulls were in fair demand, at \$3.75 to \$4.25 for exporters, the very best going at \$4.50; bolognas and common feeders at \$2.25 to \$3.00; fair to good, \$3.10 to \$3.50.

Veal Calves were 25 cents lower, owing to liberal receipts and slow demand. The best at \$5.50 to \$5.75; common and heavy, \$3.50 to \$4.25; some scrubs as low as \$3.00. Stock calves are still in some demand, for those of quality, at \$4.00 to \$4.50, choice ones landing as high as \$5.00, while the medium grades sell mostly at \$3.50 to \$3.80.

Sheep and Lambs.—Receipts were moderate and the demand fair. The market was steady to firm. Shorn stock was in good demand, and woolled stock ruled comparatively slow. The market for export sheep and yearlings are bound to be good for a long time, as the British home supplies are light and the South American embargo makes a big difference. Some Colorado-fed American embryos are being bought at \$5.50; shorn lambs, \$4.00 to \$5.25, mostly \$5.00 to \$5.15; yearlings, \$4.75 to \$5.10; export shorn wethers, 128 lbs., \$1.80; export woolled wethers, \$4.85 to \$5.00; ewes, \$3.50 to \$4.75.

Hogs.—Receipts were lighter than looked for, and the quality was not good, though there were some few very choice hogs.

The mixed packing hogs cost mainly about \$6.00 to \$6.02, with inferior to fair mixed at \$5.90 to \$5.95. The heavy-hog market was fairly active, and prices were mostly higher than previous day. Prices ranged from \$5.90 to \$6.05 per cwt. The light-hog market was fairly active and prices were mostly higher. The regular light-hog buyers were bidding about \$5.92 to \$5.95, but lightweights sold, mixed, at about \$6.00. The market was highest in the middle, and a few common light mixed hogs were left late.

Toronto Markets.

Receipts of live stock were large—800 carloads all told—composed of 1,436 cattle, 800 hogs, 200 sheep, and 20 calves. The quality of fat cattle was much better than for some time, especially in the butcher classes. Trade was fair all round. The run of sheep and lambs was light, and prices were firmer. About 15 milch cows, generally of medium quality, sold at \$30 to \$45 each. The general run of calves sold at unchanged prices. Four extra veal calves fed for the eastern market brought \$28.75 each. The run of hogs was light, and on this account prices advanced to \$6.50 per cwt. for selects, and \$6 per cwt. for lights and fats. There was a large number of outside dealers on the market, purchasing supplies for outside points.

Export Cattle.—Choice lots of export cattle are worth from \$4.60 to \$4.80 per cwt., while lights are worth \$4 to \$4.50.

Bulls.—Heavy export bulls sold at \$3.85 to \$4.25 per cwt., while light export bulls sold at \$3.40 to \$3.60.

Butchers' Cattle.—Choice picked lots of butchers' cattle, equal in quality to the best exporters, weighing 1,000 to 1,100 lbs. each, sold at \$4.25 to \$4.50. Loads of good butchers' cattle are worth \$3.50 to \$3.80, and medium butchers', mixed cows, heifers and steers, \$3.25 to \$3.40 per cwt. Common butchers' cows, \$2.75 to \$3.10; while inferior, rough cows and bulls sold at \$2.50 to \$2.75.

Feeders.—Heavy steers, weighing from 1,100 to 1,200 lbs. each, of good breeding qualities, sold at \$3.90 to \$4.25 per cwt., while those of poorer quality, but same weight, sold at \$3.60 to \$3.80 per cwt. Steers weighing from 900 to 1,000 lbs. each sold at \$3.25 to \$3.50 per cwt.

Stockers.—Yearling steers, 500 to 800 lbs. each, sold at \$3 to \$3.30, and off colors and those of inferior quality at \$2.50 to \$2.75 per cwt.

Milch Cows.—Fifteen milch cows and springers were sold at \$30 to \$45.

Calves.—Thirty-five calves were sold at from \$3 to \$10.

Sheep.—Deliveries, 240; prices steady, \$3 to \$3.60 for ewes and \$2.50 to \$3.25 per cwt. for bucks.

Yearling Lambs, grain-fed, sold at \$4.75 to \$5.10 per cwt.; barnyards sold at \$3.75 to \$4.25 per cwt.

Hogs.—Best select bacon hogs, not less than 160 nor more than 200 lbs. each, unfed and unwatered, off cars, sold at \$6.50; lights, \$6, and fat, \$6 per cwt.

W. H. Dean bought five loads shipping cattle, 1,150 to 1,350 lbs. each, at \$4.35 to \$5 per cwt., and one load feeders, at \$3.75 to \$4.25 per cwt.; the bulk of them at about \$4 per cwt.

Dunn Bros. bought some short-keep feeders at \$4 to \$4.50 per cwt.

T. Halligan bought one load heifers and steers mixed, 1,020 lbs. each, at \$3.80 per cwt.

William McClelland bought 140 butchers' cattle at prices ranging from \$3.70 to \$4 per cwt., the latter price for eight of picked quality, and the bulk being bought at about \$4 per cwt.

John Scott sold two loads mixed butchers' cattle and shippers, averaging 1,130 lbs. each, at \$4.25 per cwt.

Lunness & Halligan bought three loads export cattle, 1,250 to 1,300 lbs. each, at \$4.70 to \$4.85 per cwt.; some bulls for feeding purposes at \$3.25 to \$3.50 per cwt., and a few exporters at \$4 per cwt.

H. Maybee & Co. bought one load mixed butchers' cattle, 1,000 lbs. each, at \$3.70 per cwt.

James Harris bought for the Harris Abattoir Co. 230 cattle, mixed butchers' and shippers, at \$3.65 to \$4.40 per cwt.; also 8 spring lambs, at \$6.00 each.

Wesley Dunn bought 180 yearling lambs at \$5.00 per cwt.; 35 sheep at \$3.40 per cwt.; and six calves at \$6.50 per cwt.

Alexander Levack bought 25 good choice butchers' cattle, 1,025 lbs. each, at \$3.90 to \$4.30 per cwt.

Cattlemen from the West, on the G. T. R., were complaining of the shipping facilities on that road. Cattle loaded at Hamburg at noon on Monday did not reach the market till 9 a. m. Tuesday.

Table with 3 columns: Commodity, Price 1, Price 2. Rows include Export cattle, choice; Export cattle, light; Export bulls, choice; Export bulls, light; Butchers' cattle, picked lots; Butchers' good; Butchers' medium, mixed; Butchers' inferior; Feeders, heavy; Feeders, light; Feeding, bulls; Stockers; Milch cows; Calves; Sheep, ewes, per cwt.; Sheep, bucks, per cwt.; Sheep, butchers'; Lambs, spring, each; Lambs, barnyard, per cwt.; Lambs, per cwt., grain-fed; Hogs, choice, not less than 160 and up to 200 lbs.; Hogs, light, under 100 lbs.; Hogs, fats; Hogs, sows; Wheat, white, bush; Wheat, red, bush; Wheat, goose, bush; Peas, bush; Rye, bush; Beans, bush; Barley, bush; Oats, bush; Buckwheat, bush; Alsike, choice, No. 1; Alsike, good, No. 2; Red clover, bush; Timothy, per bush; Hay, per ton; Straw, sheaf, per ton; Straw, loose, per ton; Potatoes, per bag; Apples, per bbl; Turnips, per bag; Onions, per bag; Chickens, per pair; Turkeys, per lb; Butter, lb. rolls; Eggs, new laid, per doz.

March 26th, 1901.

Buffalo Markets.

East Buffalo, March 26.—Cattle.—Steady; calves in light supply; slow; quotable at \$6.50 to \$6.75.

Sheep and Lambs.—Offerings light; fair demand; choice to extra light lambs, \$5.75 to \$5.90; good to choice, \$5.50 to \$5.75. Sheep, choice to extra, \$5 to \$5.25.

Hogs.—Supply light, only 18 loads; market opened somewhat slow, but on the close the feeling was a little stronger; heavy, \$6.10 to \$6.20; mixed, \$6.10 to \$6.15; Yorkers, \$5.25 to \$5.60; stags, \$4.25 to \$4.75.

British Cattle Markets.

London, March 25.—United States cattle, 64d.; sheep, 74d. Liverpool, March 25.—Canadian cattle, 64d.; trade firm.



### President Lincoln's Favorite Poem.

SAID TO HAVE BEEN COMPOSED BY WILLIAM KNOX, A YOUNG SCOTCHMAN.

Oh, why should the spirit of mortal be proud?  
Like a swift-fleeting meteor, a fast-flying cloud,  
Like a flash of the lightning, a sweep of the wave,  
Man passes from life to his rest in the grave.

The leaves of the oak and the willow shall fade,  
Be scattered around, and together be laid;  
And the young and the old, and the low and the high,  
Shall moulder to dust and together shall lie.

The maid on whose face, in whose smiles, in whose eye,  
Shone beauty and pleasure—her triumphs are by;  
And the memory of those that loved her and praised,  
Are alike from the minds of the living erased.

Our youthful companions, so tenderly loved,  
Are from our affections forever removed;  
Death numbers them now with the things that are pass'd,  
They've fled like the snow-flake that whirled in the blast.

The child that a mother delighted to rear,  
The mother that nourished that infant with care,  
The husband that infant and mother had blessed,  
Each—all are away to their dwelling of rest.

The hand of the king that the sceptre had borne,  
The brow of the priest that the mitre had worn,  
The eye of the sage, and the heart of the brave,  
Are hidden and lost in the womb of the grave.

The warrior who waded through blood for a name,  
The sailor that dared every danger for fame,  
The statesman that wielded a country's doom,  
Have all passed away, and are hid in the tomb.

The peasant whose trade was to sow and to reap,  
The herdsman that climbed with his goats to the steep,  
The beggar that wandered in search of his bread,  
They have faded away like the grass that we tread.

The saints that enjoyed the communion of heaven,  
The sinner that dared to remain unforgiven,  
The wise and the foolish, the guilty and just,  
Have quietly mingled their bones in the dust.

So the multitude goes, like the flower and the weed  
That withers away, to let others succeed;  
So the multitude comes, even those we behold,  
To repeat every tale that hath often been told.

For we are the same that our fathers have been,  
We see the same sights that our fathers have seen,  
We drink the same stream, and we feel the same sun,  
And we run the same course that our fathers have run.

The thoughts we are thinking our fathers would think,  
From the death we are shrinking they too would shrink,  
To the life we are clinging they too would cling,  
But it speeds from the earth like a bird on the wing.

They loved—but their history we cannot unfold;  
They scorned—but the heart of the haughty is cold;  
They grieved—but no wail from their slumbers may come;  
They joyed—but the voice of their triumph is dumb.

They died—aye they died! and we who are now,  
Who walk on the grass that grows over their brow,  
Who make in their dwelling a transient abode,  
Meet the changes they met on their pilgrimage-road.

For hope and despondency, pleasure and pain,  
Are mingled together like sunshine and rain;  
And the smile and the tear, and the song, and the dirge,  
They follow each other like surge upon surge.

'Tis the wink of an eye, 'tis the draught of a breath,  
From the blossom of health to the paleness of death—  
From the gilded saloon to the bier and the shroud,  
Oh, why should the spirit of mortal be proud?

### Queen Alexandra.

SHE IS ALTOGETHER CHARMING AND A WOMAN OF STRONG INDIVIDUALITY.

Queen Alexandra is very domestic.

She has charming taste in dress.

She regularly visits the various hospitals in which she is interested, and at Sandringham all the poor around are in her especial care.

When she visits the kennels she wears a white apron with the pockets bulging out with bread. Someone remarked to her that his dogs would not eat bread, to which she replied gayly: "Then I am afraid they cannot be very well trained."

It has been said that she is the only Princess who has never been known, when she held a drawing room, to leave it until it came to a natural end.

As Princess she was never stringent in her rules of etiquette. "Won't you sit down?" she would say at the very first symptoms of fatigue.

She is very religious, but though strict regarding her own actions, is to others charitable and broad-minded.

She is an indefatigable letter-writer.

As a girl she made her own hats.

She was responsible for the "Princess gown."

She skates gracefully and rides well.

Favorite gifts with her are jewels, a piano, and at Christmas time a signed photograph of herself in a silver or handsome leather frame, and to some particular friends a piece of her birthday cake invariably comes in a little box tied up with white ribbons.

She loves music and holds the degree of "doctor of music."

Her jewels are superb, but she wears few except on state occasions.

Dr. Molar—Now the tooth is out, Mrs. Maloney. If the cavity commences to bleed, you must stand and hold your arms straight up over your head, like this.

Mrs. Maloney—Howly Saints! Ay, Oi shand loike that, how will Oi ever get me in-r-r-ning done?

### Ingle Nook Chats.

MY DEAR GUESTS,—

April, replete with the glorious songs of the springtime, is with us once again, and many of you will be eager to learn the result of our seventh contest. As I wish to leave room for a large number of the good conundrums sent in, I shall at once proceed to allay your curiosity. A great many failed to mention their age in the class in which they competed, so I decided to leave all in one class and select the three best lists, and, strangely, these have all been sent by children of 12 years of age.

I allowed a certain number of marks for each conundrum, and by this test I award the prizes to the following contributors:

Miss Teresa McCrea, Springtown, Ont.; Master Verne Rowell, Bryanston, Ont.; and Miss Janet Waterman, Fraserville, Ont.

It was difficult to choose from among so many, but many who sent some excellent conundrums, sent also some very poor ones, thus lowering their aggregate of marks. An occasional one bordered on the vulgar, but they were exceptions. I have selected some of the best items from non-winning lists, and will, as space permits, publish them, with the names of the sender attached. Contributions were received from the following: Agnes C. Calder, F. Chas. McKenzie [you did not enclose answers], Randle G. Cole, Harvey E. Potter, A. L. McDiarmid, Lilly Rogers, Ethel Jose, Janet Waterman, Christina McFarlane, Col. M. Blyth, Mary Adeline Potter, "Scotch Lassie," Olive Holland, Jennie Matchet, Maggie Iverson, Bessie Bray, F. A. Newman, Austin Bunn, Florence O'Brien, Eunice Dunlop, Maggie Kincella, Harold B. Lyon, Abbie Kincella, Nola E. Lyon, Nelly Laverigne, Teresa McCrea, "Eureka," Violet Metcalfe, John McKeircher, Annie C. Gibson, Eva V. Stephens, Jessie Cochrane, "Morag." Now, as far as this contest is concerned, we may say, as the cook did when she put the egg in the coffee, "That settles it."

David S. and others—It is not possible for me to let contributors know (except through the medium of the Nook) whether or not I receive their communications. If addressed as directed below, they are almost certain to reach me safely.

Mrs. J. H. T.—So glad to hear from a "house-mother." I know about how much time there is for literary pursuits. I'm housekeeper, too, although I do not use the same prefix as you. "Morag"—Are "a cozy room, piles of books and a jolly girl friend" beyond the pale of realization in the country when "the days that are dark and dreary" come? I do not think so—at least, not in a general way; but if the latter be not available in human form, why not select, for the time being, one of the splendid creations you may find among your pile of books? Now, little (I) girl, don't you believe that either "fame" or riches can make one certainly happy; 'twere better to be able to say in Shakespeare's words:

"My crown is in my heart, not on my head;  
Not deck'd with diamonds and Indian stones,  
Nor to be seen: My crown is called Content—  
A crown it is that seldom kings enjoy."

Iain—What an unusual name! Do I use the right initial or should it be "J"? Your writing looks strangely familiar. I never supposed our Nook contained so many poets, but I have over sixty contributions already, and still they come. Dear old Queen Victoria, her very name stirs all Canadian hearts.

Just a word of greeting to my numerous new guests. About forty have arrived since our last meeting, each and all welcome to the accommodatingly expansive circle of our ain Ingle. Come soon again and often. Almost all of you can make a fair showing on Contest IX., announced last issue (Mar. 15th), and there's a whole month yet in which to do it. An interesting competition will be announced in April 15th issue. Look for it. Address all matter for this column to

Ingle Nook Chats, Pakenham, Ont.

THE HOSTESS.

### CONUNDRUM CONTEST.

BY TERESA M'CREA (AGE 12), SPRINGTOWN, ONT.

1. What is the difference between a Boer and a Boxer?

2. What is the shape of a kiss? It is elliptical (a lip-tickle).

3. Why cannot a fisherman be generous? Because his business is too selfish (to sell fish).

4. If a British soldier and a Boer were locked in a car, which would get out first? The man with the khaki (the man with the car key).

Why does Paul Kruger wear rubbers? To keep DeWet from defeat (the wet from the feet).

BY "EUREKA," BRYANSTON, ONT.

1. How would the aspect of the Eastern world be changed if a negro were to drop a platter of turkey? Greece would fall, Turkey would be overthrown, China would be broken to fragments, and Africa humiliated.

2. Why was Noah a good financier? Because he floated a limited company while the rest of the world was in liquidation.

3. Why was Job always cold? Because he had poor comforts.

4. With what malady may a girl who is deeply in love with a fellow named William be said to be afflicted? Biliousness.

5. When were the first sweetmeats made? When Noah preserved pears (pairs) in the ark.

BY JANET WATERMAN, FRASERVILLE, ONT.

1. Why does a miller wear a white hat? To keep his head white.

2. What is the difference between a rooster, a Yankee, an old maid, and a glue pot? The rooster says, cock-a-doodle-doo; a Yankee says, "Yankee-doodle"; an old maid says, any dude'll do; but what about the glue pot, you say? Oh, that is where you get stuck.

3. If a pig wished to build a house, how would he go about it? Tie a knot in his tail and call it a pig's tie (pig sty).

4. Can you tell me why

A hypocrite's eye  
Can better desecry  
Than you or I,  
On how many toes pussy-cat goes?

A man used to deceit  
Can best counterfeit (count her feet),  
And so, I suppose,  
He can best count her toes.

5. Why need people not be hungry in Egypt? Because of the sand which is there (sandwiches).

### The Conjurer.

Into the world from far away,  
Where the year is always turned to May,  
And the wind sounds soft as a lark aloft,  
A conjurer came once on a day.

Many a mystic spell he knew  
Where with to turn gray skies to blue,  
To make dull hours grow bright as flowers,  
And tasks that are old turn light as new.

A touch of his magic wand, and lo!  
From empty hands sweet favors flow,  
And pleasures bloom in lives of gloom  
Where naught but sorrow seemed to grow.

Out of the stormy sky above  
He brings white Peace like a heavenly dove,  
His might is sure and his art is true,  
And his name—the conjurer's name—is Love.

### What We Do in Early Spring.

It is well worth while to endure the rigors of a winter in a northern climate, when one can have the glorious compensation of seeing and feeling the glory of a returning spring, and surely these lengthening days herald her approach. The winds may come directly from the north-east, moaning so weirdly and wintry through the bare branches of the trees, but we can patiently wait, for we know they too but herald the return of the birds. The soft winds will soon come up from the south, completing the minstrelsy in the woods, with its gull orchestra of leaves; and with this trust in nature, we breathe thankfulness for the good fortune that places us on a farm, to welcome the birds, flowers and all Nature as she appears in beauty with the fuller spring.

I think about early spring hang more garlands of anticipation than about any other months of the year. We make our plans for spring cleaning, romance upon the possibility of new muslin curtains and fresh chair-coverings, and the coming styles in shirt-waist sleeves; we wonder how many of our chicks will be ready for broilers by the middle of April, and convert them into dollars in anticipation; we speculate upon a market for early potatoes, and hundreds of money-making schemes possess us in March, for we must make money some way. It never occurs to our fathers and brothers that we require pocket-money; that we should aspire to an idea so extravagant is highly condemned by them. I suppose there are really good, patient, long-suffering girls who will work, without a murmur, "for love," but most of us prefer something more tangible for our labors; and if at the end of summer we have saved sufficient to go on a trip somewhere, what a gratifying sensation to know we have made it all ourselves. I want to tell you about some beautiful Jerseys of which a girl friend of mine is the proud possessor. It was on her birthday, ten years ago, a little heifer calf arrived on the farm. This her father gave her as a birthday gift. She will tell you with pride into what a beautiful cow little Flora developed, and won as a yearling many prizes at various shows, and now she stands surrounded by four fine daughters, each with a promise of a creditable career before her. It is very interesting to go to the stable to see them being milked: such a hearty welcome they give their mistress; and as she goes to each one, it will rub its head against her arm, and lick her hand. "Do you wonder I love them?" she said to me. "They know they are mine, and won't give a drop of milk to the men." I did not wonder one bit that she loved them, and the more she makes is surprising. She has her own special butter print, and gets the highest creamery price for every pound. Another girl I know owns sheep. She started with one, and the first year made 100% on her money invested. What these girls have succeeded in accomplishing, surely we might at least make an attempt at, and if we go about it in an earnest, businesslike way, our fathers, I know, will not only be willing, but pleased to start us and help us along. I trust you will not think I am wandering from my proper sphere. Someone has said, "A woman's work in a home is to secure its order, comfort and loveliness," so in closing I shall take the privilege of suggesting what I think a good idea for our bedroom floors. Stain the edges, and have a wool rug, or ordinary carpet, for the center, as it is such hard work moving dressing-tables, etc., and sweeping out the corners. The following stain makes a very pretty imitation of rosewood: Boil one-half pound logwood in three pints of water, till it is of a very dark red; add half ounce of salt of tartar. Stain the wood with liquor while it is boiling hot, using an ordinary paint-brush; give it three coats. Then polish, when quite dry, with the following: To two tablespoonfuls of boiled linseed oil add one of turpentine and one of vinegar; rubbing, until perfectly smooth, with a flannel cloth.

ONE OF THE GIRLS.

### Traveling Notes.

New York, 22nd March.—Off again. A friend of mine, named Jane, now married and living in the Northwest, once remarked that she believed my ancestors must all have been tramps, which accounted for what she was pleased to call my hereditary restlessness. I am not going to dispute her opinion, nor am I in the mood to contradict her. I will only say that I hope my ancestors derived as much pleasure and satisfaction out of their tramping proclivities as I generally do. Indeed, some of them certainly must have done so, as one or more of our musty old family records show; but if I become too retrospective, I shall never get started upon my journey. This time I do not go alone; Fan is going with me. Fan is one of the nicest girls from one of the nicest villages in Canada. She has said good-by to her quiet country home, to Vic, which takes her with such speed along the lanes and round the corners; good-by to the old cows, to the ducks and the chickens, and all those other animals which or who require to be fed three times a day to keep them good-tempered. We are off to England to see our numerous relations and as much as ever we can of the dear old mother country. In the meantime we are spending a few days in New York, that busy, hustling, immense center of American activity, with its high buildings, stately residences, wonderful bridges, its beautiful Central Park and open squares—such boons in a crowded city. We are struck with the perfect cleanliness of the streets and the courtesy of the people we meet, and perhaps more especially with the admirable police service, the officers of which appear to be everywhere, and spare no trouble in making things easy for wanderers in unknown thoroughfares. We have had a peep at the noisy Stock Exchange, with its atmosphere of intense excitement; and by way of contrast, and for the sweet benediction it would bring us, we attended the midday service at old Trinity, lasting just half an hour, and crowded to the doors, not only with women, but actually with men, who were, in spite of business claims in the midst of a busy day, largely in the majority.

Automobiles are more general here than bicycles, there being no ice, no snow, not even rain, to interfere with their progress. But tempting as it is to do so, I must not linger in New York. The readers of the ADVOCATE shall from time to time get Notes of Travel from me, from one or other of the many places we hope to visit in the Old World. Tomorrow we sail, and alas! I expect to . . . but I won't say what I expect: "Sufficient unto the day is the evil thereof."

It is Fan's first voyage, and I predict that she will walk the deck, eat about six meals a day, go skylarking all over the boat, and probably study astronomy with one of the officers in the evening, whilst I am occupied in other ways below stairs. For the present, then, good-by!

MOLLIE.

# Valuable Premiums!

These very liberal premiums are given our subscribers for sending us  
**NEW SUBSCRIBERS,**  
accompanied with the cash.

No subscription must be taken at a less rate than  
**\$1.00 PER YEAR.**

EVERY farmer who reads the FARMER'S ADVOCATE is benefited many times the subscription price. No better time than now to get new names.

## "Post" Fountain Pen

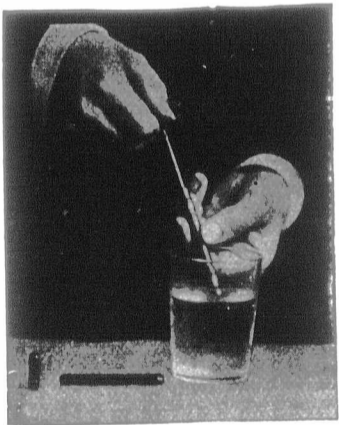
SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute to the greatest invention in fountain-pen construction of the age.

THE PRICE OF THE POST IS **\$3.00.** IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

**A Great Offer:** We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.

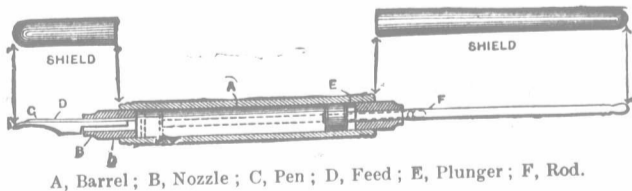


General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting:  
"The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner.  
"I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

*Lew Wallace.*

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.

THE only self-filling and self-cleaning pen manufactured in the world. To fill the pen, put the nib in ink and draw the piston rod up. To clean, put the nib in water and draw the piston rod backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.



The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.  
Mr. Sankey sends the following characteristic letter:  
"I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

*Irab. Sankey.*

ADDRESS—

The **Wm. Weld Co., Ltd., London, Ont.**

# Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means trashy goods, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

### Gents' Watches.

No.	Description	New Subscribers.
No. 1.	Yankee Nickel Watch	2
No. 2.	Trump Nickel Watch	4
No. 3.	Trump Gun Metal Watch	5
No. 4.	No. 14 Silver Watch	8
No. 5.	7 Jeweled Gent's Elgin in 3 oz. Nickel Case	10
No. 6.	7 Jeweled Gent's Elgin in Gun Metal Case	11
No. 7.	7 Jeweled Gent's Elgin in Sterling Silver Case	14
No. 8.	7 Jeweled Gent's Elgin in 20-year Filled Case	18
No. 9.	7 Jeweled Gent's Elgin in 25-year Filled Case	21
No. 10.	15 Jeweled Gent's Elgin in 3 oz. Nickel Case	15
No. 11.	15 Jeweled Gent's Elgin in Gun Metal Case	15
No. 12.	15 Jeweled Gent's Elgin in Sterling Silver Case	18
No. 13.	15 Jeweled Gent's Elgin in 20-year Filled Case	21
No. 14.	15 Jeweled Gent's Elgin in 25-year Filled Case	25

### Ladies' Watches.

No.	Description	New Subscribers.
No. 15.	Gun Metal Swiss Chatelaine	4
No. 16.	Sterling Silver Swiss Chatelaine	6
No. 17.	Nickel American O. F., large size	5
No. 18.	Gun Metal American O. F., large size	5
No. 19.	Nickel, small size	9
No. 20.	Gun Metal, small size	10
No. 21.	Sterling Silver, small size	10
No. 22.	7 Jeweled Elgin in 20-year Filled Hunting Case	20
No. 23.	7 Jeweled Elgin in 25-year Filled Hunting Case	22
No. 24.	15 Jeweled Elgin in 20-year Filled Hunting Case	23
No. 25.	15 Jeweled Elgin in 25-year Filled Hunting Case	25

### Description of Watches.

The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows:

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.

No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

No. 7. Same movement with Sterling Silver O. F. screw back and bezel case.

No. 8. Same movement in 20-year guaranteed Gold Filled O. F. screw back and bezel case.

No. 9. Same movement in 25-year guaranteed Gold Filled O. F. screw back and bezel case.

Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

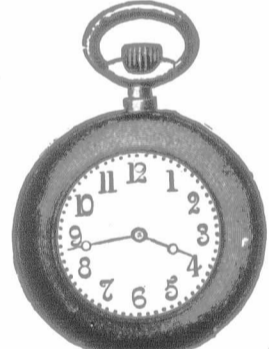
Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

When making your choice of Watch as premium, be sure to mention its number as given in premium list, also whether Lady's or Gent's.

**THE WILLIAM WELD CO., LTD., LONDON, ONT.**



# Clearing sale of Shorthorns.

R. & A. HERMISTON, EGREMENT TP., GREY CO.,  
3 1/2 miles from Mount Forest,  
WILL SELL BY PUBLIC AUCTION

THURSDAY, APRIL 11th,  
Commencing 1 o'clock,  
40 HEAD PURE-BRED SHORTHORNS.

Comprising 15 cows with calves at foot, 2 two-year-old heifers, 7 yearlings, 4 bull calves; also the well-known sire, Royal Bruce =3049=, The herd is bred from Royal Bruce, whose dam was sired by Indian Chief =11108= (imp.), and County Member =22966=, by Royal Member =17107= (64741) (imp.). There will also be sold 30 HEAD OF SHORTHORN GRADES.  
TERMS: 12 months' credit, or 6% off for cash. THOMAS INGRAM, Auctioneer.

# The National Centrifugal Farm Cream Separator



AN ACTUAL NECESSITY FOR PROFITABLE DAIRYING  
WHEN MAKING BUTTER ON THE FARM OR  
WHEN SENDING CREAM TO THE  
CREAMERY OR CITY TRADE.

IT combines all important improvements and points of merit that are of real practical service to the everyday operator on the farm. Most simple in its construction. Anti-friction ball bearings; convenient and easy to operate by the children. Skims the cleanest; makes the sweetest cream; no numerous parts to give trouble and delay when washing every time it is used; only two pieces inside of the bowl. Strong, durable, made of the finest material, so as to give the most lasting service, and most beautiful in design and finish.

MANUFACTURED BY  
THE  
**Raymond Mfg. Co.**  
of Guelph,  
GUELPH, ONT. LIMITED.

"NATIONAL" NO. 1 HAND POWER.  
Capacity, 330 to 350 lbs. per hour.

If not introduced in your locality, ask for testimonials, etc., from

THE **Creamery Supply Co.**  
General Agents for Ontario.  
GUELPH, ONT.

### GOSSIP.

Dunham, Fletcher & Coleman, Wayne, Du Page Co., Ill., write us on March 22, 1901: "We would be pleased to have you make notice of the arrival at Oaklawn Farm, Wayne, Illinois, February 1st, of our first importation from France for 1901. This consisted of 35 Percheron stallions, all of choice breeding and great individual merit. A safe trip across the Atlantic and a 30 hours' run by express from New York, in express palace stock cars, landed them at Wayne without much fatigue, and now, fully rested, they are in prime condition for the coming breeding season. In connection we would remark that, although we have a continuous brisk trade, showing a strong demand for breeding stallions of extra quality, yet our frequent large importations have so provided us that we are well supplied, and our present stock on hand, both in numbers and quality, is positively unrivalled."

### A DISPERSION SALE OF SHORTHORNS.

As advertised elsewhere in this issue, Messrs. R. & A. Hermiston, Mount Forest, Ont., will hold a clearing sale of Shorthorn cattle on April 11th. The sale includes 40 head of registered Shorthorns and 30 head of grade Shorthorns. The registered cattle are of good standard families, and high-class bulls have been used in the herd, among them being the present head of the herd, Royal Bruce =3049=, by Silver King, a son of imp. Indian Chief, out of imp. Sunrise, a grand Scotch-bred cow imported by Arthur Johnston, and sold for a big price to Mr. Gerlaugh, of Ohio. Royal Bruce is of the favorite Kinellar Claret tribe. He was preceded in the herd by County Member, by Mr. Cargill's imported Royal Member, one of the best bulls imported for many years, and out of a Kinellar Mina cow by imp. Indian Chief, and her dam by the Craick-shank bull, imp. Duke of Lavender. The sale will be held at the farm, 3 1/2 miles from the town of Mount Forest, a first-class station on the Teeswater branch of the C. P. R., and on the Durham and Palmerston branch of the G. T. R., 12 miles from Palmerston.

### GOSSIP.

Registered Jersey yearlings and calves are advertised by P. H. Lawson, Nilestown, near London, Ont., bred from heavy-milking cows, and sired by a pure St. Lambert bull, son of a cow that has made 20 lbs. 12 ozs. butter in seven days. Write him for prices.

PERMANENT SITE FOR THE ROYAL SHOW.  
The Special Show Committee of the Royal Agricultural Society, appointed to select a site in the neighborhood of London for a permanent showyard, have reported that the only one that complied with the Society's requirements was one at Twyford Abbey, between Wilsden Junction and Ealing, about seven miles from the Marble Arch. The Committee were unanimously of opinion that this site was admirably adapted as a permanent showyard for the Society. A sub-committee of members of the Special Committee resident in or near London was appointed by the Council, with power to enter into negotiations with any purchaser of the site as to the terms on which the Society could rent about one hundred acres of the site for the purposes of a permanent showyard.

TUBERCULIN-TESTING VETERINARIANS.  
The Dominion Minister of Agriculture, Hon. Sydney Fisher, has appointed Dr. J. G. Rutherford, ex-M.P., of Portage la Prairie, Manitoba, an experienced veterinarian, to administer the tuberculin test in Great Britain to cattle imported to Canada for breeding purposes, and, as indicated in Mr. Fisher's manifesto, published in our last issue, this officer's certificate will be accepted by the United States Department for cattle going through to the United States, without further test here or at the frontier. The Minister has also appointed Dr. William Stubbs, of Caledon, ex-M. P. for Cardwell Co., Ont., to be stationed at Toronto for the purpose of testing cattle for export. Mr. Stubbs is also a qualified veterinary surgeon. At the present date no official announcement has been made of the appointment of other officers at other points for the purpose, though we judge it is probable that others will be appointed in the near future.

### GOSSIP.

A GOOD SALE OF JERSEYS.

The dispersion sale of the small herd of registered Jersey cattle, property of Mr. R. Reid, Berlin, Ont., which took place March 15th, was very successful, the cattle being of a good class and in good condition. Bidders were present from Toronto, London, Chatham, St. Thomas, Brampton, Norval, etc., besides a large attendance of local farmers and business men. The bidding was spirited, and the cows of milking age, especially, were in great demand, and several of them brought from \$115 to \$245 each, the latter price being paid by Mr. Robert Davies, of Toronto, for the four-year-old fawn-and-white cow, Duchess of Berlin, by Lord Harry 3rd, dam Fama Pogis of Grimsby, who has a record of 20 lbs. 10 ozs. of butter in seven days. Lucy of Glen Rouge, with a record of 42 lbs. milk per day, testing 6.9 per cent. butter-fat, was taken by Mr. Davies at \$115, and the same buyer gave \$180 for Sweet Fairy, a four-year-old cow that was forced dry about two weeks before calving in January, 1901, and is now giving 18 quarts daily, testing 6.7 per cent., on winter feed. Mr. Reid writes the FARMER'S ADVOCATE: "There were eight females in the sale hard to duplicate in Canada for quality. Mr. Geo. Davies came up from Toronto unexpectedly the day before the sale, and saw the cows milked. He saw 'Duchess of Berlin' give 11 quarts of milk at one milking, and 'Sweet Fairy' 10 quarts, and none less than 7 quarts. He quietly telephoned the results to his father, who came up at once and bid keenly until he secured six head. Had another breeder been present like Mr. Davies, I would have been at least \$2,000 richer, as he values 'Duchess' at \$1,000. Her udder is about perfect in shape and quality, and she has a large frame and good constitution to back it up. She gave 21 quarts of milk in 24 hours the day before the sale, and had only commenced to feed well after calving. We did not have time to test her milk for butter-fat. 'Sweet Fairy' gave 20 quarts, testing 6.6 per cent.—a phenomenal cow, and only four years old. I bred, developed, and personally saw these cows cared for myself in order to enter them in a public test when at their prime, and feel now as if I had lost a member of my family. After loading them on the car I felt as if I had been to a funeral. However, they have gone to a good home, where they will be well cared for, and I feel confident they will not disgrace their ancestors nor early training. I will rest this summer, and perhaps in the fall start to lay pipe to form the nucleus for another herd. My chances of getting a farm near town now are good. I will not lease a farm again, as cattle fed as I fed mine, and land worked *thoughtfully*, increases its value and I get very little benefit. If rented as in the old land, for a long term of years, then a man has a chance. Following is the sale list:

- |   |     |
|---|-----|
| Lucy of Glen Rouge, 7 years; Robt. Davies.                | 155 |
| Toronto   |     |
| Bashy Rose, 5 years; Robt. Davies.                        | 115 |
| Sweet Fairy, 4 years; Robt. Davies.                       | 180 |
| Miss Bobs, 2 years; Robt. Davies.                         | 180 |
| Duchess of Berlin, 4 years; Robt. Davies.                 | 215 |
| Princess Bonnie Bird, 3 years; H. G. Clark.               |     |
| Norval  | 80  |
| Lilly's St. Lambert, 3 years; B. H. Bull & Son, Brampton. | 50  |
| Luta of St. Lambert, 2 years; John McGugan, Rodney.       | 40  |
| Princess Luta, 3 years; A. Lehman, Elmira.                | 75  |
| Favorite Girl of Berlin, 1 year; John McGugan.            | 50  |
| No. 18, heifer, 1 year; H. G. Clark.                      | 75  |
| No. 24, heifer, 1 year; Robt. Davies.                     | 55  |
| No. 22, Flossy, 3 years; John McGugan.                    | 45  |
| Heifer, 1 year; Geo. Wanlass, Berlin.                     | 45  |
| Heifer calf, 4 months; Thompson Porter.                   | 30  |
| ML Dennis.  | 30  |
| Heifer calf, 4 months; Geo. Bremner, Berlin.              | 30  |
| Heifer calf, 3 months; T. Porter.                         | 30  |
| Bull  |     |
| Famous Pogis of Berlin, 2 years; H. Smith.                | 47  |
| Mannheim  |     |

Garden Fruit.—Do you want Currants, Gooseberries, Grapes, Strawberries, Asparagus, or Rhubarb Roots, Flowering Shrubs, Roses, Climbers or Perennial Flowering Plants? Choice strains, finest stocks. Favorable prices. Send name for catalogue. Mailed free. THE STEELE, BRIGGS SEED CO., Lim'd, Toronto, Canada's Greatest Seed House.

Freeman's Fertilizer, advertised in this paper by Mr. Chas. A. McDonald, Mabou, Cape Breton, should receive the attention of farmers. Mr. McDonald informs us that this fertilizer leads in the Government tests, and that he has cut down the price to a point which practically wipes out profit to the manufacturer in order to induce more farmers to give it a trial, feeling sure it will be to him as bread cast upon the waters, which will return to him later in the form of increasing orders from those who have tried it and found it reliable. Write him for prices and further information.

Massey-Harris Prize Competitions.—In 1900, the Massey-Harris Company gave, at Toronto, London, and Ottawa Exhibitions, \$1,000 in cash prizes for competitions in stock judging, natural history, photography, poultry, horses, architecture, and grain. The competitions were entered into with considerable earnestness, and quite keen rivalry existed in several of the events. The results were sufficiently encouraging to satisfy the Massey-Harris Company that their donation was well placed, so that they have repeated the grant of \$1,000, to be distributed in many respects in a similar manner. The prize lists of these shows will give full information as to competitions, etc.

Compressed Sprayer.—Elsewhere in this issue will be noticed the advertisement of Rippley's Compressed Air Sprayer, which is being used by many of the leading breeders for applying lice-killer, whitewashing poultry houses, fences, etc. Since it can be used for so many other purposes than spraying, it is a convenient article at all times. It is made of substantial material, and will last for years. It is fitted with a positive acting safety valve. As will be seen by their advertisement, it is sold at very low prices, under a guarantee to be as represented or money refunded. A "Spraying Calendar" is furnished with each sprayer. Send your orders either direct to Rippley Hardware Co., Grafton, Ill., or to 8 Park Place, New York City, or 31 Merchants' Row, Boston, or London, Ont. Please mention this paper in writing them.

### HORSEMEN!—THE ONLY GENUINE IS

# GOMBAULT'S CAUSTIC BALSAM.

None genuine without the signature of  
The Lawrence-Williams Co.  
Sole Importers & Proprietors for the } CLEVELAND, O.  
U.S. & CANADAS.

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPPERSEDES ALL CAUTERY or FIRING. Impossible to produce scar or blemish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

800-ACRE  
**FARM**  
FOR SALE.  
4 MILES FROM MOOSOMIN,  
N.-W. T.

AS I am leaving the West, owing to unforeseen circumstances, I offer my farm, herd of Shorthorn cattle, Berkshire pigs, and horses for sale. The farm is situated in one of the best grain districts in the West, and produced 5,000 b. of hard in 1899. 450 acres under cultivation: 250 acres ready for wheat, including 75 a. breaking and 75 a. summer-fallow; 275 a. fenced. Land nearly new, worked only seven years. The buildings are permanent and substantial, and are nearly new, and have been planned and built with great care, the object being to make it a comfortable home. Bank barn, 51 x 70; stone foundation with frame top. House stone, with brick trimmings, 34 ft. square—less 106, 6 x 14. Double air space. No damp or cold. Heated with furnace. Cellar full size. Cistern with pump in kitchen. Two good wells with pump, and ice well. Frame granary and drive shed. 30 to 40 acres of bluffs. Part of stock and implements and seed grain will be sold with the farm if desired. Possession given either this spring or next fall. Price reasonable. Terms easy.

R. J. PHIN,  
MOOSOMIN, N.-W. T.

For Perfect Fruit

## SPRAY YOUR ORCHARDS

WITH THE

# Spramotor

Intelligent and timely Spraying will make your orchard profitable. The Spramotor is the result of careful experiment and is kept right up to date. Met the world in open competition on the invitation of the Ontario Government and won the award.—This should mean something to you. The Spramotor has never been defeated.—All castings solid brass, cylinders made from drawn brass tubes. All parts interchangeable. Saves fifty per cent. in labor. Most economical because solution goes farthest and most effective because it throws anything from a misty spray to a solid stream. Will also whitewash or paint your buildings. Free treatise for your address.

**THE SPRAMOTOR CO.,**  
LONDON, ONT.

Barred Plymouth Rock eggs and cockerels are offered in this issue by F. J. Quinn.

**GOSSIP.**

C. S. Barclay & Son, West Liberty, Iowa, on March 14th and 15th, sold at auction 90 head of Shorthorns, at an average of \$286, the 73 females averaging \$308. Two cows sold for \$1,000 and \$1,110, and only one animal sold below \$100, and 15 brought over \$500 each. Twenty-seven Scotch females made an average of \$525, and 10 Scotch bulls an average of \$225.

**Save Your Crop.**—The constantly increasing demand for Steele, Briggs' Seeds is the strongest evidence of their unvarying high quality. They are sold by merchants who supply reliable seed. Ask for Steele, Briggs' Seeds; you cannot afford to risk your crop by using poor seed. Send for Canada's leading catalogue, mailed free.—**THE STEELE BRIGGS SEED CO.,** Ltd., Toronto, Canada's Greatest Seed House.

Eggs for hatching, from the Snelgrove Barred Plymouth Rock yards of Mr. W. J. Campbell, Snelgrove, Ont., a member of the Canadian Barred Rock Club, are advertised in this issue. Mr. Campbell has scored a real success in breeding Barred Rocks true to type and strong, vigorous birds, and customers supplied by him with eggs for hatching, in the last three years, have had uniformly good satisfaction.

Major H. F. Dent has shipped to the order of Messrs. Clime & Telfer, of Montreal, three more Thoroughbred stallions. They are:—Halfax, bay horse, by Alloway, out of Lady Gwendoline; Dracula, chestnut horse, by Prism, out of Lavender, by Morocco; Stoneleigh, brown horse, by Petros, out of Lottie Gordon, by Gordon. Major Dent is coming to Canada to purchase remounts for the army in South Africa.

H. K. Fairbairn, Rose Cottage, Thedford, Ont., breeder of Shorthorn cattle, writes:—"Our stock is coming through the winter very well. We have four bull calves and some heifers, of which two bulls are out of the winners at the Provincial Dairy Show held in London in 1899. We have a very promising red bull calf, six months old, out of a granddaughter of Prince Albert, silver-medal bull, in 1885, at the London Provincial, and son of Bampton Hero. Two of the heifers are granddaughters of the cow that won the third prize in the dressed-carcass class held at Guelph last December. Our cows are all in calf to Royal Prince, a worthy son of Royal Sailor (imp.). The above mentioned calves are also by Royal Prince. The cow that won the red ribbon in 1898, at the dairy test at Brantford, is in fine form, and will be heard from at the Dairy Show at Guelph next fall, we think. She is a descendant of Royal Albert, he by Albert Victor (imp.), of the importations of Mr. Arthur Johnson, of Greenwood, Ont. We price anything we have at any time to all inquirers. Trains met on notice at Thedford Station, main line G. T. R."

**TORONTO HORSE SHOW.**

There are many farmers who take a special pride in a good horse who would much enjoy a day or two at the Canadian Horse Show, to be held in Toronto, April 24th to 27th, inclusive. They would also learn something that will be of value to them in the breeding and fitting of their horses in order to get big prices for them. Those who are not especially horsey in their tastes will find much to enjoy in the elaborate military tournament to be held in conjunction with the Show, and not only that, but many of the "swell set" will be out in their best silk and feathers. Those who contemplate exhibiting should see to it that their entries are made in good time, April 11th being the closing date. See the advertisement in this issue.

**CANADIAN DAIRY COWS FOR THE PAN-AMERICAN MILKING TEST.**

It has been given out that the Dominion Government, through its special Live Stock Commissioner to the Pan-American Exposition, Mr. E. B. Elderkin, Amherst, N. S., will make a selection of five cows of each of the following breeds to be entered in the six-months milking test in connection with the above show, the test to commence May 1st. Mr. Elderkin, who is a breeder of Jerseys, will, it is understood, personally select the cows of that breed, and the following gentlemen will select the representatives of the other breeds named below: Shorthorns, H. Smith, Hay, Ont.; Ayrshires, W. W. Ballantyne, Stratford; Holstein-Friesians, G. W. Clemons, St. George; French-Canadians, R. Ness, Howick, and Dr. Couture, Quebec.

**ALEX. HUME & CO.'S AYRSHIRES.**

The well and widely known firm of breeders of high-class Ayrshire cattle, Alex. Hume & Co., Menie, Ont., in renewing their advertisement write that their herd has come through the winter in good shape, and is doing satisfactory dairy work. The fourteen-months bull offered for sale is of choice breeding and excellent quality and color. The young females, which are of different ages, are a nice lot, and our crop of calves, sired by our imported bull, Caspian of St. Anne's, are coming strong and of good quality, and being from heavy-milking dams, are very promising for usefulness. Parties requiring dairy stock will do well to note the advertisement and write the firm for prices and particulars.

**A GREAT SALE OF SHORTHORNS.**

The dispersion auction sale, at South Omaha, Neb., on March 12th and 13th, of eighty-one head of high-class Shorthorns, property of Messrs. Thos. Westrope & Son, Harlan, Iowa, at an average of \$154.85, scores as the second best sale of Shorthorns for the number in the last twenty-five years, the record sale for this period being made by Mr. W. D. Flatt, of Hamilton, Ont., at Chicago in August last, where fifty-nine head made an average of over \$800. At the Westrope sale the highest price for any cow of any breed now living was paid for Sweet Violet 2nd, a red five-year-old, sired by Lavender King 3rd, and bought by Col. G. M. Casey, Shawnee Mound, Mo., for \$3,705. Geo. E. Ward, Hawarden, Iowa, who bid \$3,700 for Sweet Violet, paid \$1,500, the second highest price, for Lavender Princess, a roan five-year-old by the same sire. The third highest price for a female was \$1,010, paid by Bigler & Sons, Iowa, for the red four-year-old Golden Abbotsburn, by the World's Fair champion, Young Abbotsburn. The highest price for a bull was \$1,100, for Young Abbotsburn 2nd, a roan four-year-old, sired by Young Abbotsburn, bought by T. J. Ryan & Son, Irwin, Iowa. Four other bulls brought \$730 to \$760. The lowest price in the whole sale was \$130.

**Chicago Sheep Shearing Machine** 1901 Model Stewart's Pat.



Price \$15

Guaranteed to shear any kind of wool that grows. All gears cut from the solid metal and hardened.

BOOK ON SHEARING just published. Finely illustrated, with valuable hints for fast and easy shearing by R. M. Marquis, champion of the world, will be sent free to any sheep owner on application. Address:

**CHICAGO FLEXIBLE SHAFT CO.,** 158-160 Huron Street, Chicago, Ills.

**STALLIONS FOR SALE.**

1 Imported Shire stallion, aged; he is a big horse and a fine looker. 1 Imported Yorkshire Coach, just in his prime; he is a great show horse—has never been beaten in a show-ring. Both horses are money-makers, and will be sold at a bargain for the buyer. Thornbury Station, G. T. R.

WM. FULFORD, Heathcote P. O.

**FOR SALE:**

**Clydesdales and Shorthorns.**

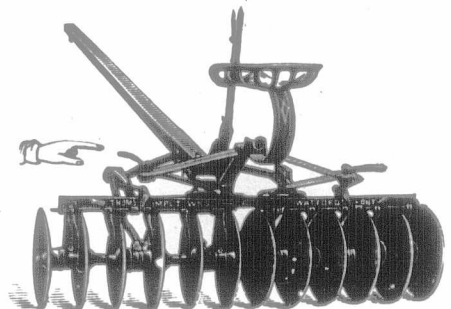
Young stallions and fillies bred from imported sires and dams. Also a choice bunch of Shorthorns, of both sexes and all ages, including a few extra choice young red and roan heifers and bulls.

ONTARIO COUNTY. JOHN BRIGHT, Myrtle, Ontario.

**New Century Disc Harrow**

RIGHT UP TO DATE.

REVERSIBLE IN OR OUT THROW. ALL LATEST IMPROVEMENTS.



**Buggy Spring Construction for Comfort.**

If no agents near you handling our Disc Harrows, write for prices. We are prepared to quote a special price to introduce our goods where not readily known. A pleasure to answer correspondence.

**Thom's Implement Works**

WATFORD, ONTARIO.

Originators and manufacturers of up-to-date farm machinery.

**BRAMPTON JERSEY HERD.**

For sale: 2 yearling bulls; 8 bull calves, sired by Brampton's Monarch (imp.), and out of first-class cows. A number of cows and heifers in calf. Also some unregistered cows and heifers, fresh-calved and springers—grand family cows.

B. H. BULL & SON, BRAMPTON, ONT.



**Hatch Chickens**

IN TORONTO Incubators.

One farm, near Toronto, now using 48 of our machines. For catalogue and prices, address

T. A. WILLIITS, 514 Dundas St., Toronto, Ontario

**Aberdeen-Angus.**

We have for sale a carload of young bulls, quite a number of them out of imported dams. Prices reasonable. Write or come and see them.

JAMES BOWMAM, Elm Park, Guelph.

**JERSEYS.**

Registered Jersey yearlings and calves, heifers and bulls. Some pure St. Lamberts from heavy-milking cows, and sired by the pure St. Lambert bull, John Bull of Grovesend, by Nell's John Bull, dam a 20 lbs. 12 ozs. cow, by King of St. Lambert. Write for prices.

P. H. LAWSON, Nilestown, Ont.

**The Fence That's Guaranteed.**

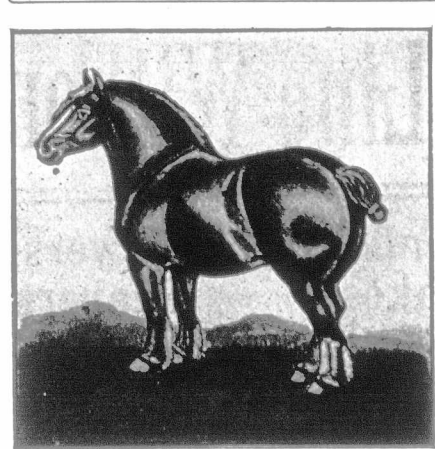
**AMERICAN Field & Hog Fence.**

Made on right principles, of Best Steel, best galvanizing, serves every purpose of fencing and is practically everlasting.

Now Is the Time to Put It Up. Sold by agents in 15,000 towns. If no agent in your town write to the makers.

Stays 12 inches or 6 inches apart.

**AMERICAN STEEL & WIRE CO.,** Chicago or New York.



**LATELY IMPORTED A FRESH LOT OF**

**Glydesdale Stallions,**

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

**ROBERT GRAHAM,** Ringwood P. O., Ont. Stouffville Station, G. T. R., and telegraph office.

**SEVENTH ANNUAL Canadian Horse Show**

UNDER THE JOINT AUSPICES OF

The Canadian Horse Breeders' Association and The Toronto Hunt, Ltd.,

IN CONJUNCTION WITH THE

**MILITARY TOURNAMENT**

THE ARMOURIES, TORONTO, CANADA,

OR WEDNESDAY, THURSDAY, FRIDAY AND SATURDAY,

April 24th, 25th, 26th, 27th, 1901.

Entries close on Thursday, April 11th, 1901, and should be addressed to HENRY WADE, Parliament Buildings, Toronto.

**OAKLAWN FARM**

AS ALWAYS, VASTLY IN THE LEAD.

**PERCHERONS, FRENCH COACHERS, SHIRES.**



ON HAND, HOME-BRED AND IMPORTED 270 STALLIONS, 235 MARES.

The greatest collection of stallions ever brought together. Our two large, recent importations for this year included the Principal Prize Winners at the **WORLD'S EXPOSITION, PARIS,** and at the Government Shows at Amiens and Montague, and the 'Tops, first choice, purchased from the leading studs of France and England. The superiority of the Oaklawn Percherons was also shown at the

**INTERNATIONAL LIVE-STOCK EXPOSITION**

at Chicago, December, 1900, pronounced by press and public the greatest live stock exhibition ever seen, where Oaklawn's Exhibit was awarded **Three 1st Prizes, three 2d Prizes, three 3d Prizes, two 4th Prizes and two 5th Prizes in the three stallion classes; Championship, stallion, any age; Championship, mare, any age; 1st and 2d Prizes for collection; \$100 Gold Medal, best group, five stallions; \$100 Gold Medal, best group, three mares.** Catalog on application. Prices reasonable.

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

**4 Imp. Clydesdale Stallions**

From such well-known sires as Sir Everard (5353), Prince Roberts 7135, Prince Alexander 8899.

**2 Imp. Shorthorn Bulls.** 4 Bulls Imp. in Dams. 2 Canadian bred Bulls. 21 Imp. Cows and Heifers. 7 Canadian-bred Cows and Heifers.

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

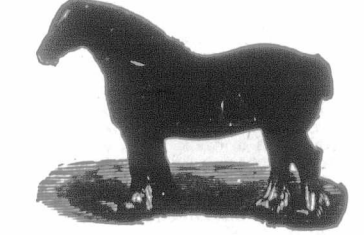
Mr. A. P. Westervelt, Toronto, the genial secretary of Live Stock Associations, has enlisted in the grand army of benedict. The Guelph *Messenger* announces his marriage, recently, to Miss Ida Anshley, of that city. The *Advocate* tenderers congratulations.

**THORNCLIFFE**

**Stock Farm**

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages,

"LYON MAOGREGOR."



**Stallions and Colts**

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats. Terms reasonable. A visit to Thorncliffe will well repay you.

**ROBT. DAVIES,** om Thorncliffe Stock Farm, TORONTO.

**FOR SALE.**

**CLYDESDALE** stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—including the great sweepstakes winner, The Marquis (1182), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

**THOS. GOOD,** Richmond P. O., Ont. R. R. Station, Stittsville, C.P.R.

**GOSSIP.**

J. & W. Russell, Richmond Hill, Ont., in ordering a change in their advertisement of Shorthorn bulls for sale, set forth the prize-winning record of their herd at Toronto Exhibition last year. Their farm is on the electric railway, only some 15 miles north of Toronto, and the cars stop at their gate.



# NOXON'S:

## A Line Without an Equal on the Globe

**Binders**  
**Rakes**  
**Disc Harrows**  
**Spring-Tooth**

**Mowers**  
**Reapers**  
**Harrows**

**Drag Harrows**  
**Cultivators**  
**Seeders**  
**Hoosier Drills**  
**Pulpers.**

Write for catalogue A, and calendar F.

## The Noxon Co., Ltd., Ingersoll, Ont.

**GOSSIP.**  
**THE NICHOLSON-TAYLOR SHORTHORN SALE A SUCCESS.**

The auction sale, on March 20th, of drafts from the Shorthorn herds of R. & S. Nicholson, Sylvan, and W. H. Taylor, M. P. P., Parkhill, Ont., notwithstanding a wet day, was a grand success, a large attendance of buyers being present from many sections of the Dominion and the United States. Capt. T. E. Robson, M. P. P., as auctioneer, did splendid work in that capacity, and won golden opinions by his tact and courtesy. The bidding was brisk from start to finish, and the prices should be satisfactory, as we believe they were, to the sellers, while buyers felt that they had secured good value for their money. Mr. James O'Hara, Lanesfield, Minnesota, was the largest buyer, and Mr. S. G. Little, a Toronto merchant who has established a stock farm at Hagerman, in East York, was one of the principal buyers, taking three of the highest-priced animals, among them the excellent roan yearling bull, Bobs, by Royal Standard, and of the Kinellar Mina family, at \$200. Messrs. Nicholson, in a note to this office, write: "It is but justice to say that it was through the medium and influence of the FARMER'S ADVOCATE that three-fourths of the buyers were brought to the sale, as was learned by personal enquiry, fully that proportion stating that they had seen the advertisement in the Advocate." We give below a list of the sales, with buyers and prices:

*Females.*

Vacuna 30th, 6 years; S. G. Little, Toronto.	\$165
Vacuna 52nd, 2 years; Jas. O'Hara, Lanesford, Minn.	175
Queen Alexandria, 2 years; F. H. Neale, Lucan	80
Vacuna 46th, 3 years; Jas. O'Hara	160
Vacuna 42nd, 3 years; Alex. Love, Eagle	125
Leonore of Sylvan 20th, 2 years; Alex. Love	190
Leonore of Sylvan 21st; J. E. Perkins, Petrolia	120
Wilhelmina, 5 years; Geo. Bentley, Granton	130
Loyal Standard, 1 year; Thos. Steadman, Wyoming	105
Vacuna 35th, 5 years; Jas. McMahan, Wyoming	153
Vacuna 31st, 6 years; Peter Mitchell, Coldstream	80
Princess Venus, 2 years; Jas. O'Hara	85
Vacuna 55th, 2 years; Jas. O'Hara	115
Wilhelmina 2nd, 2 years; Jas. Campbell, St. Thomas	155
Warrior's Rose 2nd, 1 year; Harry Siddell, Denfield	75
Parkhill Duchess 2nd, 1 year; Jas. O'Hara	70
Vacuna 54th, 2 years; Jas. O'Hara	100
Maid of Sylvan 26th, 1 year; Capt. T. E. Robson, Iderton	75
Vacuna 56th, 1 year; S. G. Little	120

*Bulls.*

Bobs, 1 year; S. G. Little	\$200
Royal Arthur, 1 year; Alex. Love	155
Guardsman's Conqueror, 11 months; F. H. Neale	70
Royal Roberts, 1 year; Ferguson Bros., St. Thomas	100
Guardsman's King, 1 year; R. Haskett, Parkhill	90
Crown Jewel 28th, white, 1 year; Peter Mitchell	205
Gen. Tung Siang, 10 months; Richard Laird, Thedford	90
Standard's Heir, 1 year; Wm. Wilson, Brampton	135
Royal John, 1 year; John McLeod, Parkhill	85

**Local Dealers.**—The best merchants sell Steele, Briggs' Seeds because they are always fresh and good. Should your dealer not sell them, send your order direct to us and get the best seeds known. Our handsome Catalogue mailed free. Send your name and mention this paper.—THE STEELE, BRIGGS SEED CO., LIM'TD, TORONTO, Canada's Greatest Seed House.

**Milk Statement Envelopes.**—In this issue appears the advertisement of the J. E. Crealy Dairy Co., London, Ont., who are putting on the market an improved style of milk ticket, in the form of statement envelopes for the use of cheese factories and creameries. It consists of a heavy manilla corn envelope, 3 1/2 by 6 1/2 inches in size, on the front of which is a blank form for a detailed statement of the amount of milk or cream sent to the factory each day by the patron. Provision is also made for the recording of the total milk or cream for the month, its value by cwt., or as shown by the Babcock or oil test, value of butter or cheese furnished the patrons, cost of drawing and amount of balance enclosed. A detachable portion of the envelope is in the form of a receipt, to be signed by the patron and returned to the treasurer. The old-style pass books were the cause of much annoyance and loss of time at the busy weigh stand, and furnished but a scanty record of the patron's business with the factory. Where the returns, either as a cheque or the cash, are sent out with the milk drawers, the greater safety and convenience of these envelopes is quite apparent, and doubtless they will come into quite general use for the purpose for which they have been designed. Read the advertisement and send for a sample envelope.

**Garden Seeds.**—Steele, Briggs' Seeds are used by growers who succeed. It is no economy to risk a crop by using "Cheap" Bargain Seeds. Good seeds have a value—they are costly at any price, unless of reliable quality. Leading merchants sell Steele, Briggs' good seeds. Ask for them; can be ordered direct. Send for Catalogue, see what it offers, mailed free.—THE STEELE, BRIGGS SEED CO., LIM'TD, TORONTO, Canada's Greatest Seed House.

Our attention has been called to what is acknowledged to have been an unnecessary criticism, in our report of the stock sale at Guelph last month, of the highest-priced Shorthorn female sold, which was a handsome heifer of excellent quality, and possessed of many good points and as few faults as the majority of the best in any herd, and was brought out in capital condition, in pleasing contrast to most of the stuff offered, and creditable to her breeder, who, we are informed, has succeeded, by good breeding and feeding, in building up one of the best small herds in the Province.

Among the many Barred Plymouth Rock breeders of Ontario, the poultry yards of Mr. A. E. Sherrington, Fruit Experimental Station, Walkerton, Ont., is worthy of mention. Mr. Sherrington procured his foundation stock, some four years ago, from Messrs. Felch & Son, of Massachusetts, and has continued breeding from this strain up to the present. Mr. Sherrington has two breeding pens of 40 females, all selected for their large size, correct markings, and good laying qualities. These are mated to males bred from A. C. Hawkins, of Massachusetts, and noted prizewinning flock of Mr. Geo. W. Miller, of London, Ont. Mr. Sherrington gives his stock the free run of his orchard, as he is convinced this is the only way to produce healthy, vigorous stock. He keeps no other breed of fowl but B. P. R., as he considers them, without doubt, the best breed for the home and British market.

**Flowering Plants.**—A rare collection of Plants, Bulbs, Roses and Shrubs are offered in Steele, Briggs' great catalogue. All orders promptly sent. Safe arrival by mail guaranteed. Send name for catalogue, mailed free. Mention this paper.—THE STEELE, BRIGGS SEED CO., LIM'TD, TORONTO, Canada's Greatest Seed House.

**BARRED PLYMOUTH ROCKS.**  
Eggs \$2.00 per setting. A few good breeding cockerels for sale. om  
F. J. Quinn, 420 Grosvenor St. London.

**The Mason & Risch Pianos.**  
Established in 1870.  
Finest tone, best work and material. Prices moderate and terms reasonable.  
Every instrument fully warranted.  
ILLUSTRATED CATALOGUE FREE.  
**MASON & RISCH PIANO CO., Ltd.,**  
211 Dundas St., London.

**British Columbia.**

Anyone thinking of farming in British Columbia should write for descriptive pamphlet of farms for sale in the Lower Fraser Valley—the garden spot of the Province.

We have compiled the largest and most complete list of farms, orchards, cattle-grazing and garden lands, and fishermen's allotments, in the Province. It has been very carefully selected, and we have a personal knowledge of every property described. Prices range from \$3.00 per acre to \$250.00 per acre, and in extent from 1 acre to 1,000 acres.

In the Lower Fraser Valley, and on the coast lands around Vancouver, we rarely have more than a month of frost and snow at outside, and the thermometer has only sunk to zero twice in ten years.

WRITE  
**HOPE, GRAVELLY & CO.,**  
536 Hastings St. VANCOUVER, B. C.

**BEAVER LINE.**

ROYAL MAIL STEAMERS.

Regular Weekly Service between St. John, N. B., and Liverpool, calling at Halifax, N. S., and Queenstown, both ways, to land and embark Passengers and Mails.

From Liverpool, Tuesday	From St. John, Friday	From Halifax, Saturday
Mar. 19	Mar. 26	Mar. 26
Mar. 26	Apr. 2	Apr. 12
Apr. 2	Apr. 9	Apr. 19
Apr. 9	Apr. 16	Apr. 26
Apr. 16	Apr. 23	Apr. 23
Apr. 23	Apr. 30	Apr. 30
Apr. 30	May 7	May 7
May 7	May 14	May 14
May 14	May 21	May 21
May 21	May 28	May 28
May 28	June 4	June 4
June 4	June 11	June 11
June 11	June 18	June 18
June 18	June 25	June 25
June 25	July 2	July 2
July 2	July 9	July 9
July 9	July 16	July 16
July 16	July 23	July 23
July 23	July 30	July 30
July 30	Aug 6	Aug 6
Aug 6	Aug 13	Aug 13
Aug 13	Aug 20	Aug 20
Aug 20	Aug 27	Aug 27
Aug 27	Sept 3	Sept 3
Sept 3	Sept 10	Sept 10
Sept 10	Sept 17	Sept 17
Sept 17	Sept 24	Sept 24
Sept 24	Oct 1	Oct 1
Oct 1	Oct 8	Oct 8
Oct 8	Oct 15	Oct 15
Oct 15	Oct 22	Oct 22
Oct 22	Oct 29	Oct 29
Oct 29	Nov 5	Nov 5
Nov 5	Nov 12	Nov 12
Nov 12	Nov 19	Nov 19
Nov 19	Nov 26	Nov 26
Nov 26	Dec 3	Dec 3
Dec 3	Dec 10	Dec 10
Dec 10	Dec 17	Dec 17
Dec 17	Dec 24	Dec 24
Dec 24	Jan 1	Jan 1
Jan 1	Jan 8	Jan 8
Jan 8	Jan 15	Jan 15
Jan 15	Jan 22	Jan 22
Jan 22	Jan 29	Jan 29
Jan 29	Feb 5	Feb 5
Feb 5	Feb 12	Feb 12
Feb 12	Feb 19	Feb 19
Feb 19	Feb 26	Feb 26
Feb 26	Mar 5	Mar 5
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Nov 5	Nov 12	Nov 12
Nov 12	Nov 19	Nov 19
Nov 19	Nov 26	Nov 26
Nov 26	Dec 3	Dec 3
Dec 3	Dec 10	Dec 10
Dec 10	Dec 17	Dec 17
Dec 17	Dec 24	Dec 24
Dec 24	Jan 1	Jan 1
Jan 1	Jan 8	Jan 8
Jan 8	Jan 15	Jan 15
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Jan 29	Feb 5	Feb 5
Feb 5	Feb 12	Feb 12
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Feb 19	Feb 26	Feb 26
Feb 26	Mar 5	Mar 5
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Mar 26	Apr 2	Apr 2
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Apr 9	Apr 16	Apr 16
Apr 16	Apr 23	Apr 23
Apr 23	Apr 30	Apr 30
Apr 30	May 7	May 7
May 7	May 14	May 14
May 14	May 21	May 21
May 21	May 28	May 28
May 28	Jun 4	Jun 4
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Jun 11	Jun 18	Jun 18
Jun 18	Jun 25	Jun 25
Jun 25	Jul 2	Jul 2
Jul 2	Jul 9	Jul 9
Jul 9	Jul 16	Jul 16
Jul 16	Jul 23	Jul 23
Jul 23	Jul 30	Jul 30
Jul 30	Aug 6	Aug 6
Aug 6	Aug 13	Aug 13
Aug 13	Aug 20	Aug 20
Aug 20	Aug 27	Aug 27
Aug 27	Sep 3	Sep 3
Sep 3	Sep 10	Sep 10
Sep 10	Sep 17	Sep 17
Sep 17	Sep 24	Sep 24
Sep 24	Oct 1	Oct 1
Oct 1	Oct 8	Oct 8
Oct 8	Oct 15	Oct 15
Oct 15	Oct 22	Oct 22
Oct 22	Oct 29	Oct 29
Oct 29	Nov 5	Nov 5
Nov 5	Nov 12	Nov 12
Nov 12	Nov 19	Nov 19
Nov 19	Nov 26	Nov 26
Nov 26	Dec 3	Dec 3
Dec 3	Dec 10	Dec 10
Dec 10	Dec 17	Dec 17
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Dec 24	Jan 1	Jan 1
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Feb 26	Mar 5	Mar 5
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Mar 19	Mar 26	Mar 26
Mar 26	Apr 2	Apr 2
Apr 2	Apr 9	Apr 9
Apr 9	Apr 16	Apr 16
Apr 16	Apr 23	Apr 23
Apr 23	Apr 30	Apr 30
Apr 30	May 7	May 7
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May 28	Jun 4	Jun 4
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Jun 11	Jun 18	Jun 18
Jun 18	Jun 25	Jun 25
Jun 25	Jul 2	Jul 2
Jul 2	Jul 9	Jul 9
Jul 9	Jul 16	Jul 16
Jul 16	Jul 23	Jul 23
Jul 23	Jul 30	Jul 30
Jul 30	Aug 6	Aug 6
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Aug 20	Aug 27	Aug 27
Aug 27	Sep 3	Sep 3
Sep 3	Sep 10	Sep 10
Sep 10	Sep 17	Sep 17
Sep 17	Sep 24	Sep 24
Sep 24	Oct 1	Oct 1
Oct 1	Oct 8	Oct 8
Oct 8	Oct 15	Oct 15
Oct 15	Oct 22	Oct 22
Oct 22	Oct 29	Oct 29
Oct 29	Nov 5	Nov 5
Nov 5	Nov 12	Nov 12
Nov 12	Nov 19	Nov 19
Nov 19	Nov 26	Nov 26
Nov 26	Dec 3	Dec 3
Dec 3	Dec 10	Dec 10
Dec 10	Dec 17	Dec 17
Dec 17	Dec 24	Dec 24
Dec 24	Jan 1	Jan 1
Jan 1	Jan 8	Jan 8
Jan 8	Jan 15	Jan 15
Jan 15	Jan 22	Jan 22
Jan 22	Jan 29	Jan 29
Jan 29	Feb 5	Feb 5
Feb 5	Feb 12	Feb 12
Feb 12	Feb 19	Feb 19
Feb 19	Feb 26	Feb 26
Feb 26	Mar 5	Mar 5
Mar 5	Mar 12	Mar 12
Mar 12	Mar 19	Mar 19
Mar 19	Mar 26	Mar 26
Mar 26	Apr 2	Apr 2
Apr 2	Apr 9	Apr 9
Apr 9	Apr 16	Apr 16
Apr 16	Apr 23	Apr 23
Apr 23	Apr 30	Apr 30
Apr 30	May 7	May 7
May 7	May 14	May 14
May 14	May 21	May 21
May 21	May 28	May 28
May 28	Jun 4	Jun 4
Jun 4	Jun 11	Jun 11
Jun 11	Jun 18	Jun 18
Jun 18	Jun 25	Jun 2

### The Florist Finds Nitrate of Soda

indispensable in forcing a rapid development of his flowers and promoting a vigorous growth.

### Best Results Are Obtained

when Nitrate of Soda is applied as a top dressing after the plants begin to grow. Nitrate of Soda can be used with advantage as a supplemental fertilizer with either stable manure or chemical fertilizers. No florist should be without it. Send for our free pamphlets and list of dealers. **John A. Myers, 12 P. John St., New York City.**



### BULL-STRONG!

...PIG-TIGHT...

An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitzelman Woven Wire Coiled Spring Fence, and the value would have gone a long way towards paying cost of the fence. With the Duplex Machine any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking. **C. G. DAVIS & CO., Box C-116, Freeman, Ont.**

## Shire Horses.

The subscribers offer for sale a number of choice-bred

### BROOD MARES, FILLIES AND STALLIONS.

Distance about four miles from either Welland or Fenwick. Will meet parties wishing to inspect the stock at either of these places.

**Morris, Stone & Wellington**  
FONTHILL P. O., ONT. om

## Mr. HOGATE,

Of the Hogate Importing Co.,

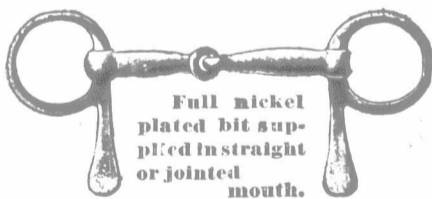
Sailed for England last Saturday, where he intends to purchase another lot of

### CLYDESDALE AND ENGLISH SHIRE HORSES

For the spring trade. They will land at Woodstock about the 20th March, and all who want stock of this kind should not fail to see them, as they will be one of the finest lots ever seen in Canada. Call or write to

**E. R. HOGATE,**  
WOODSTOCK, - ONTARIO.

### IT PAYS TO CARE FOR YOUR HORSE.



Full nickel  
plated bit sup-  
plied in straight  
or jointed  
mouth.

### NATIONAL GALL CURE

Is the only speedy and sure cure for GALLS, SORE BACK AND SHOULDERS, CORNS, SCRATCHES, MUD SCALDS, ETC.

National Gall Cure is wonderful in its effect, no other preparation in the world can equal it, and it does its work while the horse is working.

For sore teats on cows it gives immediate and certain cure.

### OUR SPECIAL OFFER.

On receipt of 50 cents we will send two full sized boxes of National Gall Cure, which are sold at 25 cents each, and a full nickel plated bit as shown in above illustration for 50 cents.

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.

### ENGLISH EMBROCCATION CO'Y.

337 D. ST. PAUL ST., MONTREAL.

### Clydesdales and Ayrshires

Imported and home-bred. Also Dorset Horned sheep, and the leading varieties of poultry. om

**ROBERT NESS & SONS, Howick, Que.**

PLEASE MENTION FARMER'S ADVOCATE,

### GOSSIP.

Registered Aberdeen-Angus cattle are advertised in this paper by James Sharp, Rockside, Ont.

Poultry-raising is a live question among farmers, and some city people too, in these days. Those who wish to introduce fresh blood and improve their poultry stock by the purchase of eggs for hatching should read the advertisements in our columns. W. W. Everitt, Chatham, Ont., in this issue advertises eggs of several useful breeds of fowls for sale, as well as eggs and a few pairs of Toulouse geese.

Jas. McArthur, Goble's, Ont., in ordering a change in his advertisement, writes: "Our Shorthorns are coming through the winter in splendid shape. I sold the bull Bobs 3434 to Mr. G. F. Clump, Paris, Ont. I have three more, 10 months old, by imp. Sirius. There is great demand for Yorkshires. I sold everything but one boar 5 months old. We are getting lots of suckers for the spring trade. The ADVOCATE is a splendid paper to advertise in. It sends back lots of good customers."

E. B. Hindman & Sons, Grafton, Ont., who advertise in this number a richly-bred Jersey bull calf, write us: "We consider your paper the best advertising medium in Canada." And add: "The calf we are advertising is the best, of his age, we ever had. His sire is Nero of Glen Rouge 50241, A. J. C. C. Both sire and dam of Nero are owned by Miller & Sibley, Pennsylvania. The dam of the calf is by Perfect Combination, thus, you will see, his breeding is perfect. Anyone purchasing this calf will secure a prize."

Messrs. R. Reid & Co., breeders of Ayrshire cattle, Large English Berkshire and Tamworth swine, Hintonburg, Ont., near Ottawa, in renewing their yearly advertisement, write: "Our stock, both cattle and hogs, are wintering well. We are sold out of bulls fit for service, but have five calves from three weeks to four months old, sired by our stock bull, Duke of York 2nd (imp.) 2301, first-prize yearling, Toronto, 1898; his dam, Clara 3rd of Balnowear (imp.) 3381, a Royal and Highland Society winner, who has a record of 62 lbs. a day. They are a very promising lot. Our herd now numbers about 40 head. We have 18 cows and 8 two-year-olds coming in this spring. Lady Maggie 6013 and Silva 904, both winners of honors several times, are just fresh, and are large-sized cows, with good teats. Our Berkshire and Tamworth sows are coming in with fine strong litters. We have a good selection of both Berks and Tams nearly ready to ship. Our Tamworth stock boars are: Amber King 976, winner of first at Ottawa Exhibition, 1898, under 6 months, 1899 as a yearling, 1900 as aged; Amber Prince 1905, winner first, 1899, under 6 months, 1900 as yearling, same fair. We are using Montague 1809 on our young sows. They are all good, long, smooth pigs of real bacon type. Our sows are an extra good lot, several of them having won in strong competition, our herd of Tams having won first herd prize at Ottawa both 1899-1900. We have a fine selection of Berkshire sows, including Spanish Queen 6353, winner first at Ottawa last fall. We are using a boar bred by Snell & Lyons, and the stock boar on Experimental Farm, so can furnish pairs not akin. Maple Cliff Farm joins the Experimental Farm at Ottawa."

### A P. E. ISLAND DISPERSION SALE.

Elsewhere in this issue appears the advertisement of a dispersion auction sale, fixed for May 1st, of high-class Shorthorn cattle and Clydesdale horses belonging to Messrs. F. G. Boyver, Georgetown, P. E. I., and Franklin Boyver, Charlottetown, P. E. I. Mr. F. G. Boyver's Shorthorns are well known to be richly bred, most of them being members of favorite Scotch families, and his herd has been very successful in prizewinning at Provincial exhibitions, having won the first herd prize and championship for best bull of the breed, any age, at St. John and Halifax more than once. The Clydesdales are said to be a real good class, and should attract attention at this time when good horses are so much in demand. Parties interested will do well to read the advertisement and send for the catalogue.

### NOTICES.

**Mr. R. J. Phin, of Moosomin, N.-W. T.,** offers an 800-acre farm for sale. This farm is highly cultivated, has excellent buildings, and no doubt will satisfy anyone desiring an extensive farm, with a good, substantial home. All desiring to purchase a farm should correspond with Mr. Phin regarding terms of sale, etc.

**Good Seeds.**—Steele, Briggs' Seeds are the best that Canadian gardeners can buy. They are fresh. They give the best results possible to buyers. Leading merchants sell them. If your dealer cannot supply you, order direct from us. Safe arrival by mail guaranteed. Send your name for our seed book. Mention this paper.—**THE STEELE, BRIGGS SEED CO.,** Lim'td, TORONTO, Canada's Greatest Seed House.

**Cement Harder than Stone.**—The work of tearing down some of the abutment walls at lock No. 25, new canal, is now going on. The Government is doing this by day work. Mr. Geo. Seals, of Niagara Falls, is the foreman in charge. These walls were built during the construction of the canal, about 25 years ago, with Battle's Thorold Cement, and during the week dynamite had to be used to separate the stone. Workmen employed there say the cement has actually set harder than the stone.—*Welland Telegraph.*

**Queenston Cement Going.**—Mr. Isaac Usher, of Queenston, Ont., during a recent call at our office, wished us to say to our readers that those who want Queenston hydraulic cement this season should order early, as the demand is far in excess of any other year at this season. Already several thousand barrels of stored cement has been shipped out, and orders are increasing daily. The output for this season will be 500 barrels per day, but Mr. Usher estimates that 800 barrels per day would all be taken this year.

**What You Get.**—When you buy Steele, Briggs' Seeds from your dealer, you get the best seeds obtainable. They are not shop-worn seeds of uncertain age and vitality, but of reliable growth and rare quality. Ask for Steele, Briggs' Seeds, avoid substitutes. Direct orders promptly sent, safe arrival by mail guaranteed. Our instructive seed book mailed free. Send your name.—**THE STEELE, BRIGGS SEED CO.,** Lim'td, TORONTO, Canada's Greatest Seed House.

## Important Maritime Live Stock Dispersion Auction

At Charlottetown, P. E. I., MAY 1st, 1901.

Dominion registered SCOTCH SHORTHORNS, of Cruickshank *Duchess of Gloster* and *Mayflower* tribes, Campbell *Minas*, Shepherd *Rosemarys*, topped by imported Cruickshank bulls, *Indian Chief* and *Duke of Lavender*, and *Watts' Challenge*. Six bulls fit for service, and fourteen females, property of F. G. Boyver; also Clydesdale stallions ready for service, and fillies of breeding age. Imported *Myrotos*, dam or grandam sired by *McGregor* (1887), and bred by Andrew Mitchell, Barcheskie, Scotland, their sires high-class, imported stallions, all registered; owned by F. Boyver. Write for catalogues to

FRED G. BOYVER, Georgetown, P. E. I.  
FRANKLIN BOYVER, Charlottetown, P. E. I.

ROBERT BEAVISTO,  
Auctioneer,  
CHARLOTTETOWN.

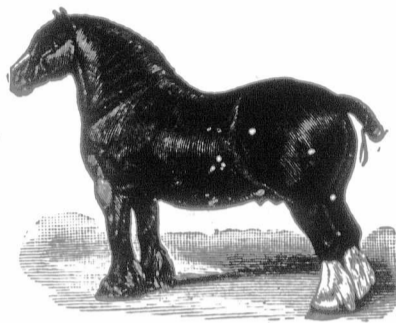
## CLYDESDALE STALLIONS FOR SALE.

Fourth consignment will arrive about February 15th, 1901.

A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high-class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St.,  
LONDON, ONT. om



GRAHAM BROS., CLAREMONT,  
ONT.

PIONEER IMPORTERS AND BREEDERS OF

Clydesdales and Hackneys.

THE HOME AND HEADQUARTERS OF THE WINNERS.  
The oldest, largest and most complete collection of Clydesdales in America. Established in 1871, and has been the champion stud ever since.

27 FIRST AND 9 SECOND PREMIUMS,  
INCLUDING 7 GRAND SWEEPSTAKES.

At the recent leading Canadian shows—Toronto and Ottawa—being three times the number won by all competitors. Our animals are of immense size, good quality and action. Prices moderate. Terms to suit customers. Visitors cordially invited. Correspondence solicited. om

CLAREMONT IS 25 MILES EAST  
OF TORONTO, ON THE C. P. R.

## The Horses that made Janesville Famous.

For twenty years past Janesville has been associated with all that was high-class in the line of horses, and the name of "GALBRAITH" is familiar as a household word to every horse breeder of any note on this continent. The undersigned respectfully invites an inspection of his present stock of

### CLYDESDALES,

which are believed to be fully equal to the best ever maintained during the palmy days of the business. Ample size, superior breeding, great individuality, moderate prices, and the best of guarantees, are among the inducements offered buyers. An assortment of Percherons, Shires, Suffolks and Hackneys also on hand. The only place where the best of all the breeds can be compared alongside each other. Prominent prizewinners at the recent International Live Stock Show at Chicago. Send for catalogue. om

Branch barn at Woodstock, Ont., in charge of S. P. Thompson, agent. Call and see the horses there.

ALEX. GALBRAITH, JANESVILLE, WISCONSIN.



## Milk Statements,

giving factory patrons a detailed account of the amount of milk or cream delivered each day of the month, are being rapidly adopted by a large majority of the factories. Serve every purpose of the old-style pass books, save time at the factory, and enable the patron to preserve a record of the season's milk in the best possible form.

Our

### Statement Envelopes

answer the purpose better than anything yet published; large size, heavy, tough paper, specially gummed; statement on the outside; cheque or cash put inside. Try them once and you'll never be without them. 30c. per hundred; name of factory printed on each envelope, if ordered in lots of 1,000.

The J. E. GREALY DAIRY CO., Ltd.,

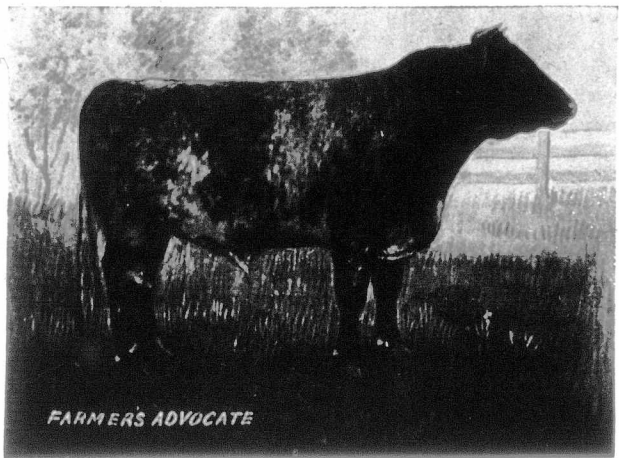
LONDON, ONT.

FOR SALE:

## 7 Shorthorn Bulls

OUR HERD was awarded, at Toronto Exhibition, 1900: first prize for best herd of 1 bull and 4 females; first for breeder's herd of 4 females; first for cow in 4-year-old class; first for cow 3 years old; first for 2-year-old heifers; also gold medal for best female, any age. The herd has produced such bulls as *Bunker*; *Lord Stanley*, 5 times first and a sweepstakes winner in Chicago, 1893; *Moneyfuff Lad*, 3 years sweepstakes bull in Toronto; and *Topsman*, first prize and sweepstakes gold medal in Toronto. Farm on Metropolitan Electric Railway, 15 miles north of Toronto and 3 miles from Richmond Hill and Thornhill stations on Northern branch of G. T. R. om

J. & W. RUSSELL, Richmond Hill, Ont.



FARMER'S ADVOCATE

IMP. FASHION'S FAVORITE.

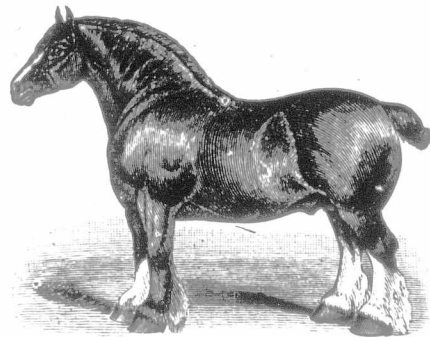
**FOR SALE**  
**Three Beautifully - bred**  
**Clydesdale Stallions**

Royal Erskine (imp.) [2529] (10431)

Brown; foaled May 3, 1896. Bred by Chas. Smith, Jr., Inchcrosie, Huntly, Scotland.

Dam Roseabella (1921)	Sire Prince of Erskine (9647)	Breeder of Sire.
2 Rose of Inchcrosie (7823)	Lord Montrose (7973)	W. S. Park.
3 Susie of Inchcrosie (7824)	Johnny (414)	J. McGibbon.
	Black Samson (62)	Wm. Kater.
		A. K. Leitch.

ROYAL ERSKINE is a grand young horse, and won Second at both Toronto and London in 1899 against strong competition, when in very thin condition, being just off the ship. PRINCE OF ERSKINE (9647), by Prince of Albion; dam Halton Beauty (5687), by the great Darley (222). LORD MONTROSE (7973), by Knight Errant (4883); dam Lady Jane (6424), by Model Prince (1255). JOHNNY (414), alias Nonsuch, alias Young Emperor, alias Rantin Johnny, was a prize-winner at the Highland Society's Show at Glasgow in 1875.



**Balmedie Cameron Highlander (imp.) [2562] [Vol. 21, p. 134 S.]**

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Dark bay, white star on face, hind feet and ankles white, foaled April 7, 1898. Bred by W. H. Lumsden, of Balmedie, Scotland.

Dam Balmedie Doris (13511)	Sire Royalist (6242)	Breeder of Sire.
2 Lady Dorothy (5688)	Balmedie Prince (7454)	Jas. Lockhart.
3 Maggie of Kirminnoch (5827)	Darley (222)	J. Cranston.
4 Jean of Kirminnoch (5826)	Strathclyde (1538)	Sir W. Stirling-Maxwell.
5	Young Conqueror (957)	J. Meisnac.
	Cairn Tom (117)	Jas. Smith.
		Mr. Cochrane.

BALMEDIE DORIS won the following prizes: only times shown—1896, Second Prize as a three-year-old at Royal Northern, Aberdeenshire, 1897, Second Prize as year mare at Royal Northern, Aberdeen, 1898, Second Prize as mare with foal at foot, at Royal Northern, Aberdeen. LADY DOROTHY won the following prizes, and was one of the best mares left by that famous stallion, Darley (222)—1891, Glasgow Show, Fourth Prize, Royal Northern, Aberdeen, First and Special for best mare in yard, 1892, Royal Northern, Aberdeen, First with foal at foot, Highland and Agricultural Show at Inverness, First Prize, 1893, Highland and Agricultural Show at Edinburgh, Silver Medal, 1894, Highland and Agricultural Show at Aberdeen, Third Prize, 1895, Formartine Show, First Prize and Special for best female, Inverurie Show, First Prize and Special for best female. ROYALIST (6242), sire Darley (222); dam Princess (6365), by Prince of Wales (673), is one of the Champion Clydesdale Stallions of the day, both in the showyard and at the stud, his progeny having taken First Prizes at the Highland and Agricultural Society, Royal English, and other leading shows. ROYALIST, in 1887, as a one-year-old colt, gained Third Prize at Kilmarnock, First Prize and Cup at Royal Northern Summer Show, Aberdeen, and Third Prize at Highland Society's Show at Perth. In 1888, as a two-year-old colt, he gained First and Challenge Cup at Inverurie Show, First Prize and Cup at Royal Northern Summer Show, Aberdeen. In 1889, as a three-year-old stallion, he gained First Prize at Royal Northern Summer Show, Aberdeen, and Second Prize at Highland Society's Show at Melrose; and in 1893, when seven years old, he gained First Prize and Challenge Cup as champion male at the Jubilee Show of the Royal Northern Society, Aberdeen. BALMEDIE PRINCE (7454), by Prince of Wales (673).

**Royal Carruchan (imp.) [2561] (Vol. 21, p. 172, S.)**

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Bay, stripe on face, off fore and hind feet white; foaled May 4, 1898. Bred by David Walker, Coullie, Udney, Aberdeenshire, Scotland.

Dam Jess of Coullie (13647)	Sire Prince of Carruchan (8151)	Breeder of Sire.
2 Balfarg Jess (5205)	Mount Royal (8065)	J. McCaig.
3 Dainty of Kingsdale (2648)	Corsair (1419)	D. Mitchell.
4 Jess 2nd (170)	Scotsman (740)	Sir W. Stirling-Maxwell.
5 Mettle	Stirling Tom (1537)	J. Meiklem.
	Sir Colin Campbell (778)	R. Moubray.
	Strlingshire Champion (930)	R. Lozan.
		J. Hardie.

PRINCE OF CARRUCHAN, by Prince of Wales, was First at Highland Agricultural Society Show at Dundee, as a two-year-old. First and Champion at the Highland Society, as a three-year-old, at Stirling. First as an aged horse at the Highland Society Show at Edinburgh; also winner of the Cawdor Cup twice at the Glasgow Stallion Show. MOUNT ROYAL won the following prizes—1888, First at Perth, 1889, First at Turriff, 1890, First and Champion for best entire, any age, Royal Northern, Aberdeen. First and Clydesdale Society's Medal for best entire, any age, Turriff. First and Challenge Cup for best animal, male or female, Inverurie. First and Lord Aberdeen's Special Prize for best entire colt, Aberdeen. V. H. Commended, Highland Society's Show, Dundee, 1891. First and Champion Cup for best entire, any age, Royal Northern, Aberdeen. First at Royal Northern Summer Show, Aberdeen. Second (to Prince of Carruchan) at Highland Society's Show, Stirling, 1892. First, Royal Northern Summer Show, Aberdeen. Fourth, Highland Society's Show, Inverness, 1893. Second, Glasgow, as sire of five yearlings. Kirriemuir Society's Premium horse, 1894. Kirriemuir Society's Premium horse, 1895. Short list of five for Glasgow Premium. Selkirk and Galashie's Society's Premium horse, 1896. Windygates Society's Premium horse. His stock has gained First Prizes at Huntly, Keith, Banff, Turriff, Inch, Konehmont, Inverurie, Fyvie, Aberdeen, Glasgow, Edinburgh, Dundee, East Kibride, Kirkinalloch, Girvin, Kirriemuir, Montrose, Forfar, Arbroath, etc. He is sire of Royal Garty (9844), the Cawdor Cup winner in 1896 and 1896.

**FOR SALE:**  
**Three imp. Yearling**  
**Bulls; Seven imp-in-**  
**dam Bull Calves.**

Bred by Messrs. Duthie and Marr, from females imported by us, and sired by the best bulls in Scotland. All are excellently bred and first-class individuals. We also offer any reasonable number of females, either in calf or with calves at foot; all ages. Herd headed by the imported bulls, Golden Drop Victor and Prince Bosquet.

Also the Standard-bred Trotting Stallion,  
**PAVON (30760) A. T. R.**

CATALOGUE FREE.

If interested, come and see us or write:

**H. CARGILL & SON, CARGILL, ONT., CAN.**

**TROUT CREEK HERD OF SHORTHORNS.**

Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced, also, that a bull of the right sort is even more than half the herd, we have decided to keep the following choice ones:

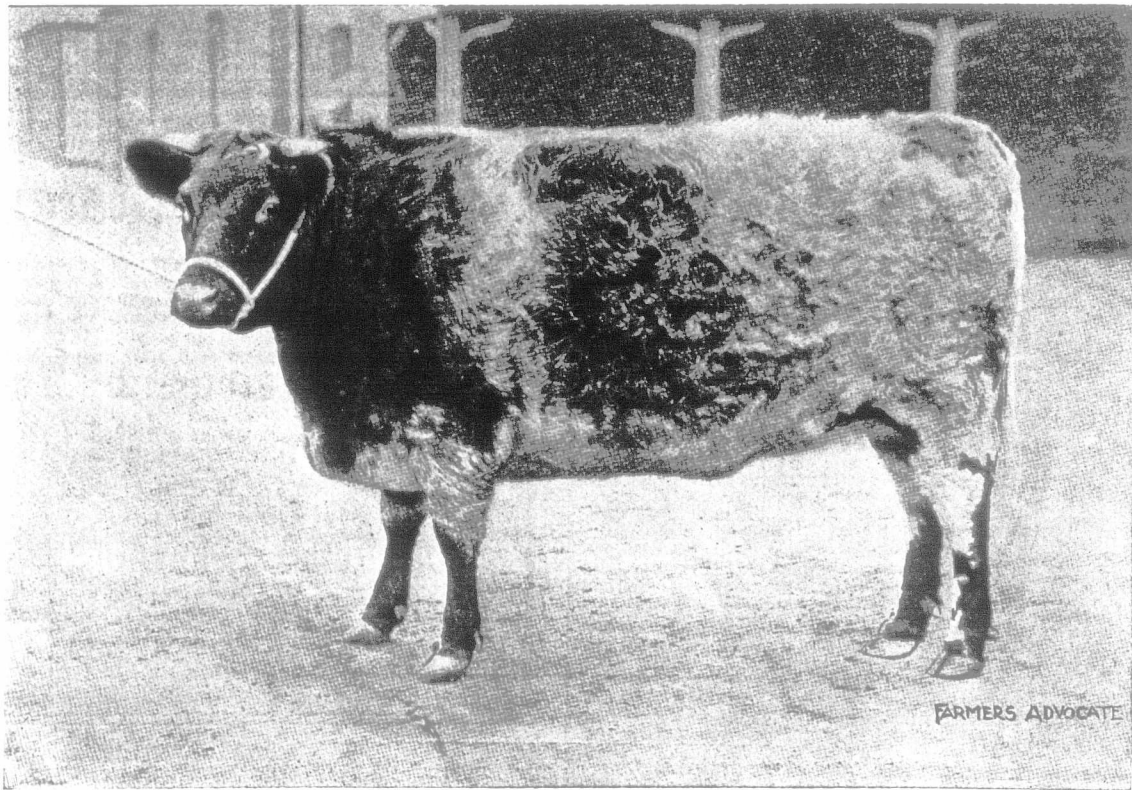
**Imp. Lord Banff.**

Bred by A. Watson; of the Campbell Bessie family.

**Imp. Consul.**

Bred by J. D. Fletcher; of the Campbell Claret family. Consul was awarded first at Edinburgh, first and champion at Provincial Union, first and champion at Creiff, and second at the Highland. His sire, Watchword, bred by Wm. Duthie, was first at the Highland in 1895 and 1896, and got by Scottish Archer. Watchfire, by Watchword, was first at the Highland, 1897. Consul is the highest-priced bull imported to Canada.

Hamilton is a city of over 50,000 inhabitants, located on main line of Grand Trunk Railway, between Chicago and Buffalo; also connected by Canadian Pacific Railway and Michigan Central Railway—branch lines.



FARMER'S ADVOCATE

CICELY.

Bred by Her Majesty the Queen; undefeated in her class and many times champion; imported by W. D. Flatt.

**Imp. Silver Mist.**

Bred by Wm. Duthie; of the famous Missie family. He had many friends for first choice at Messrs. Marr and Duthie's sale. Mr. Beck, representing the Prince of Wales, made next to last bid.

**Imp. Wanderer's Last.**

Bred by W. S. Marr; also of the Missie family. Is the last calf got by that renowned Cruickshank bull, Wanderer. Mr. Marr considers this youngster very promising.

We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

**W. D. FLATT,**

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.

WANTED—Good, reliable salesmen, to sell complete line of Lubricating Oils, Greases, and Paints. Experience unnecessary. Exceptionally liberal terms. Special inducements to parties owning teams. JEWEL REFINING CO., Cleveland, Ohio, U. S. A.

FOR SALE: Model Standard-bred Trotting Stallion, 6 years old, from imported stock. Apply—BOX 341, MAYFAIR, ONT.

BLACK PAIR DRIVERS STAND 16 hands, good action and well matched. Were handled by trainer and drive nicely. Sired by Toronto champion roadster, BLACK VALENTINE; dam by HAMBLETONIAN GEORGE—a frequent winner. 4 and 5 years old. No fancy price asked. Come or write. JOHN CAMPBELL, Fairview Farm, Woodville, Ont., Can.

Sugar Beet Growth.

FARMERS SHOULD GROW SUGAR BEET. Profit from \$50 to \$100 per acre, at \$4 a ton at sugar refinery. Seed furnished to contractors of one or more acres. Call, or write—

John A. Moody, 398 1/2 Richmond Street, LONDON, ONT.

CHOICE AYRSHIRE BULLS.

OFFER: 2 bulls, 12 months old; 2 bulls, 8 months old; and 3 bulls, from 3 to 5 months. All off imported and heavy milking stock.

W. W. BALLANTYNE, STRATFORD, ONT. "Neidpath Farm" adjoins town, on main line G.T.R.

90 HEAD Herefords High-quality, Early-maturing Prizewinners. Young bulls, cows, heifers. The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue.

H. D. SMITH, COMPTON, QUE.

FOR SALE: Hereford Bull, Santiago, Register 956, 3 years old; very lengthy, low-set fellow—a fine sire; very gentle. Apply to J. BERGIN, Cornwall, Ont.

Thoroughbred 3-year-old HEREFORD BULL FOR SALE. W. R. COLEMAN, Cookstown, Ont.

ABERDEEN - ANGUS FOR SALE: 2 bulls, 13 and 27 months; also females. Quality and breeding equal to the best. 37 head in herd, all registered in A. A. H. B. JAMES SHARP, Rockside, Ont. Cheltenham Station, G. T. R. and C. P. R.

For Sale: High-class Ayrshires.

1 choice bull, 14 months old, from prizewinning dam and sire. A few young females of different ages. Calves of either sex, from 6 months to 2 weeks, sired by our imported bull, Caspian of St. Anne's, and White Cockade.

Newcastle Herd of Shorthorns and Tamworths One choice 2-year-old heifer. Several boars, from 2 to 3 mos. old; one boar and two sows, 6 mos. old. We are now booking orders for spring pigs, all from Toronto prize stock. Be sure to write us.

FOR SALE: 7 choicely-bred Scotch Shorthorn Bulls, 10 to 18 months; big, sappy, smooth fellows—no better, none cheaper. Also females of various ages. DAVID MILNE, Ethel, Ont.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS. We are offering 8 young bulls for sale, of first-class quality, and AI breeding.

R. Mitchell & Son, Burlington Jct. Station, Nelson, Ontario.

Large herd of Scotch and Scotch-topped Shorthorns of the most popular Aberdeenshire tribes, including 4 imp. bulls, 12 imp. cows and heifers. Also a number of home-bred yearling and two-year-old heifers, and 7 good, thrifty home-bred bulls, from twelve to fifteen months old. Write for catalogue.

A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. DEHORNING KEYSTONE KNIFE Done with the safety of a razor. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying. Owned and Manufactured by R. H. MCKENNA, V.S., Picton, Ont. THE LATE A. C. BROSIUS' PATENT.

FOR SALE: Shorthorn Bulls, Cows and Heifers, carrying a combination of Scotch top crosses, and tracing through many popular strains on the dam's side. F. A. Gardner, Britannia, Ont.

Shorthorn Bulls

TWO excellent young bulls: one 2 yrs. in May, and one 1 yr. in Mar. Bred straight from high-class Scotch-bred bulls and Scotch-topped cows, of good milking families. Write for prices, or come and see for yourself.

GEO. MILLER, Markham, Ont.

Standard Sheep Dip (OIL OF TAR.)

Non-poisonous, cheap and effective. Destroys Scab, Lice, Ticks, Foot Rot, etc.

Write for Testimonials and Circulars. Manufacturers: The West Chemical Company, TORONTO, ONT.

For Contagious Abortion use West's Fluid.

Shorthorn BULLS AND HEIFERS FOR SALE.

Choice quality and best Scotch breeding. Imported and home bred. Imported Knuckle Duster (72793) and imp. Royal Prince head the herd, which has furnished the Provincial Fat Stock Show champion three out of the last five years.

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

Shorthorns FOR SALE:

12 young bulls. 10 yearling heifers and heifer calves. 16 2-year-old heifers and young cows, several well advanced in calf to Precious Stone (imp.). Prices moderate. Write for particulars.

G. A. BRODIE, Stouffville Station, Bethesda, Ont.

ARTHUR JOHNSTON Greenwood, Ontario, Canada.

HIGH-CLASS SCOTCH SHORTHORNS (First Importation Made in 1874.)

(My recent importation of 30 head has just arrived home from quarantine. Herd now numbers over 120 head.)

OFFERS FOR SALE: 40 Imported Cows and Heifers, 40 Home-bred Cows and Heifers, 11 Imported Bulls and Bull Calves, 13 Home-bred Bulls and Bull Calves.

Railway stations—Pickering, on main line of Grand Trunk Railway, 22 miles east of Toronto, and Claremont, 23 miles east of Toronto, on the C. P. Railway. Catalogues on application.

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

FOR SALE: 5 Shorthorn Bulls 5 From ten to twenty months. Good animals and well bred. Three reds and two roans. Anyone wishing to see them will be met at town station by dropping a card.

HUGH THOMSON, BOX D, ST. MARY'S, ONTARIO.

Hillhurst Shorthorns.

Three Collynie-bred Bulls in service: Scottish Hero, by Scottish Archer; Joy of Morning, by Pride of Morning; Scottish Beau, by Silver Plate.

SPECIAL OFFER: Three young bulls (registered), red, roan and white, 12 to 14 months old, bred from Cumberland, Gloucestershire and Canadian dairy strains, at farmers' prices and for farmers' purposes, to produce big-framed, deep-milking cows, and early-maturing beef steers. Write at once for prices and particulars.

Hackney Stallion, Rattling Shot 351 A. H. S. B., 6 years, 16 hands, 1,300 lbs., dark roan, black points, broken to harness, grand actor, and successful sire of promising carriage horses, mostly bays. Dam imported, 15-mile-an-hour roadster. Come and see him, or write for low price and particulars.

M. H. COCHRANE, G.T.R., 117 miles east of Montreal. HILLHURST STATION, COMPTON CO., P. Q.

W. G. Pettit & Son, FREEMAN, ONT. Scotch Shorthorns and Shropshire Sheep.

OFFER FOR SALE: 12 Imported bulls, 12 mos. to 2 yrs. old. 5 " " " 9 to 12 mos. old. 20 " " cows, 3 to 6 yrs. old. 15 " " heifers, 2 yrs. old. 5 " " " 1 yr. old. 20 Home-bred bulls, 9 to 18 mos. old. heifers, 1, 2, and 3 yrs.

Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm.

T. DOUGLAS & SONS, STRATHROY, ONT. BREEDERS OF Scotch Shorthorns 100 HEAD TO SELECT FROM. Offer for sale 14 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee = 28861 =, at head of herd. Farm one mile north of town, on

J. & W. B. Watt, SALEM, ONT., BREEDERS OF Clydesdale horses, Scotch Shorthorn cattle, Leicester and Oxford sheep, Berkshire pigs.

Our SHORTHORN herd was founded over 30 years ago, and contains such tribes as the Village Buds, Matchless, Missies, Mildreds, Stamfords and English Lady, upon which we have employed such bulls as Barmpton Hero 324, Young Abbotsburn 6238, Challenge 2933, Perfection 9100, Lord Lansdowne (imp.) 2712, Clan Stuart 14381, Canada 19536, Sityton Chief 17060, Royal Sailor (imp.) 18959, Royal George 28513, Clipper King 16293 and Judge 23419, all of which have been first-prize winners wherever shown. Royal Victor 34681 and Royal Wonder 34682, by Royal Sailor (imp.), and out of English Lady and Mildred dams, now head the herd, assisted by Roan Cloud 31317, by Lord Gloster 26995, and out of Melody 21992, a descendant of the Buckingham family. We are now offering young bulls, cows and heifers for sale, of Scotch type.

Farm 2 miles from Elora Station, G. T. R. and C. P. R., 15 miles north of Guelph.

Queenston Cement.

The demand for our cement in 1900 justified us in adding largely to the capacity of our cement works. The indications are that this year's business will be still greater. We start the new century with an equipment which for the manufacture of natural rock cement is not excelled in America.

We shall be glad to assist you in making plans for new farm buildings or for remodelling old ones. Our experience should be of value to you. It will pay you to investigate our system of ventilation.

Write us for prices or for estimate of cost of any kind of concrete work.

Queenston Heights Stock Farm.

Shorthorn Cattle: Eight young bulls for sale; any age, any color. Also cows and heifers—straight Scotch crosses.

ISAAC USHER & SON, QUEENSTON, ONT.

Rapids Farm Ayrshires.

REINFORCED BY A RECENT IMPORTATION of 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at—

Toronto, London, and Ottawa, in 1900.

Come and see or write for prices. Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager for W. W. Ogilvie Co., Lachine Rapids, Quebec.

PLEASE MENTION FARMER'S ADVOCATE.

**GOSSIP.**

At a combination auction sale of Herefords at Kansas City, Mo., Feb. 19th and 20th, comprising drafts from six herds, 104 head sold for an average of \$257.

Last month Mr. Cameron, of Caledon, Ireland, who had been a large purchaser of the best class of Shorthorns at the Perth spring sale, visited the Collynie herd and purchased from Mr. Duthie, at a high price, on behalf of Mr. Kirker, Craigavad, County Down, the highly-bred rising two-year-old Shorthorn bull, Royal Windsor, bred by Her late Majesty the Queen, and by Robin Nonpareil, from a dam by the famous Bannockburn. Royal Windsor was the pick of the Windsor calves in 1899, and was purchased privately by Mr. Duthie in the spring of last year for service at Collynie. He is a bull of beautiful quality, very true and just in his shapes, and with a fine cover of hair; he is also very well bred, his sire being Roan Robin, from a Cumberland cow, while his dam is of the well-known Beaufort family, which produced the celebrated 1000-guinea bull, New Year's Gift. Mr. Duthie had intended keeping Royal Windsor as a successor to Scottish Archer, and it was only an exceedingly tempting offer that induced him to part with him.

**A RECORD SALE OF DODDIES.**

On March 6th to 8th, in Chicago, at the dispersion sale of Aberdeen-Angus cattle belonging to Messrs. Chas. Escher & Son, Botna, Iowa, the average price of \$479.95 for 143 head was made. This is said to be the highest average ever made on a like number of pedigreed cattle of any breed, only one animal in the whole list selling below \$200. Six animals sold at prices ranging from \$1,000 to \$1,700, and 54 for \$500 and upwards. The highest price for a female was \$1,700 for imp. Krivinia, a 2-year-old heifer, bought by Cantine Bros. & Stevenson, Holstein, Iowa. The highest for a bull, \$1,300, for the 4-year-old Orin of Longbranch, bought by A. C. Bennie, Alta, Iowa. Seven-teen bulls averaged \$465.95; 17 cows and heifers, \$483.05. One hundred and forty-three head brought \$68,630, an average of \$479.95.

**9—SHORTHORN BULLS—9**

From 7 to 18 months old,

Of the Fashion and Lavender tribes; well-developed, healthy, and thick-fleshed; red and roan animals. Golden Robe now heads the herd.

WM. G. HOWDEN,

Ontario Co. Columbus, Ont.

**Shorthorns for Sale.**

Two excellent bulls, sixteen months old; roan in color; well bred and well grown; at reasonable prices.

D. ALEXANDER, BRIGDEN, ONT.

**YOUNG SHORTHORNS FOR SALE**

Our present offering includes several choice young bulls fit for service, sired by "Scotland Yet," and out of Warfare (imp.) dams; also bull calves, from Blue Ribbon (imp.), and out of Royal George cows. Inspection and correspondence solicited.

A. & D. BROWN,

M. O. RAILWAY. IONA, ONTARIO.

**PURE AND SCOTCH-TOPPED SHORTHORNS FOR SALE.**

Ten red bulls, from 6 mos. to 2 years. Calves by Imp. Prime Minister, Strathallan, Hawarden. Also females for sale. Parties notifying us will be met at Burlington Station, Appleby P. O.

A. D. ALTON & C. N. BLANSHARD CO.

**Shorthorns and Leicesters.**

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859, and Duncan Stanley = 16364 =. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS,

CALEDONIA, ONT.

**Center Wellington Herd Scotch Shorthorns**

was founded in 1892 on Marr-bred descendants, to which have been added the Mistletoe and Matchless tribes, with Lord Stanley 4th 22078 at the head. Young cows and heifers for sale. Farm 1/2 mile from town and 14 miles north of Guelph.

Box 66. H. B. WEBSTER, Fergus, Ont.

**J. R. McCallum, Iona Station, Ont.**

Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices. Iona Stn. on M.C.R., half a mile from farm.

**Bonnie Burn Stock Farm**

Forty rods north of Stouffville station, Ont., offers 5 Shorthorn bulls and some heifers, 30 Shropshire rams and ewes from Imp. and Canadian-bred sires, at reduced prices.

D. H. RUSSELL, Stouffville, Ont.

**JOHN DRYDEN,**

BROOKLIN, ONTARIO,

OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine.

GOOD QUALITY AND CHOICE BREEDING.

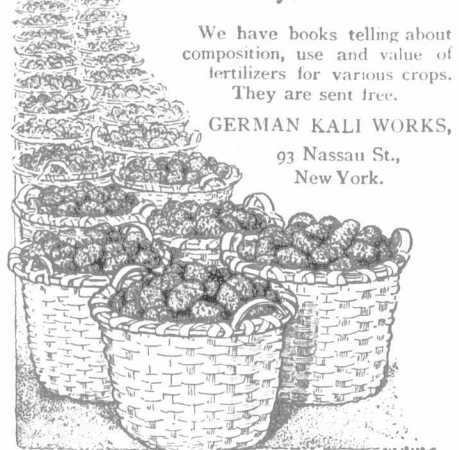
**11 SHORTHORN BULLS 11**

5 reds, 3 roans, and 3 whites, for sale, from 3 to 13 months old, sired by imported British Statesman; also some cows and heifers.

FITZGERALD BROS.,

Simcoe Co. Mount St. Louis,

Two hundred bushels of potatoes remove eighty pounds of "actual" Potash from the soil. Unless this quantity is returned to the soil, the following crop will materially decrease.



We have books telling about composition, use and value of fertilizers for various crops. They are sent free.

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

**FOR SALE:**  
**SHORTHORN BULLS AND HEIFERS**  
from such sires as Mariner (imp.), Royal Judd 17499, Sultan Selam (imp.), Grenadier 26251, and Roseville Abott 30874, on a Victoria foundation. Also one extra Kinellar Stamp 10-mos. red bull. Come or write.

HURON COUNTY. THOS. CUDMORE & SON,  
EXETER STATION Hurondale, Ontario,  
and Telegraph Office.

**Maple Lodge Stock Farm**

ESTABLISHED 1854.

**SHORTHORNS**—Grand young bulls and heifers for sale. We have the first-prize milking strains. Imported Knuckie Duster and Imported Sir Wilfred in service.

**LEICESTERS**—First-prize flock of Canada for past six years. Imported and home-bred for sale.

ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

**WOODSLEE STOCK FARM.**

FOR SALE: 3 Shorthorn bulls, 15 months old, two reds and one roan. Well developed, healthy, and thick fleshed.

S. G. LITTLE, Hagerman, Ont.

W. PATTON, Manager, Unionville Station, G. T. R.

**SHORTHORN CATTLE AND LINCOLN SHEEP.**

Imp. Prime Minister at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON, DENFIELD, ONT.

**6 Shorthorn Bulls 6**

Also cows in calf and yearling heifers. All of straight Scotch breeding.

SHORE BROS., WHITE OAK, ONT.

**SHORTHORNS AND YORKSHIRES**

4 SUPERIOR Scotch-bred Shorthorn bulls, 12 to 14 months; 4 two-year-old heifers of the best strains; and cows with calves at foot. Also a superior lot of Yorkshire boards and cows from 3.5 to 7 months old. Orders booked for spring pigs. Pairs and trios supplied not akin.

H. J. DAVIS, WOODSTOCK, ONT.

**SCOTCH-BRED 6 Shorthorn Bulls**

from 6 to 12 months old, good size and quality, at two-figure prices. Also a few heifers. Scotch collie pups from registered stock. Write.

L. K. WEBER, HAWKESVILLE, ONT.

**SHORTHORNS.**

6 choice young heifers, 4 imported cows. Also 16-months-old home-bred bull.

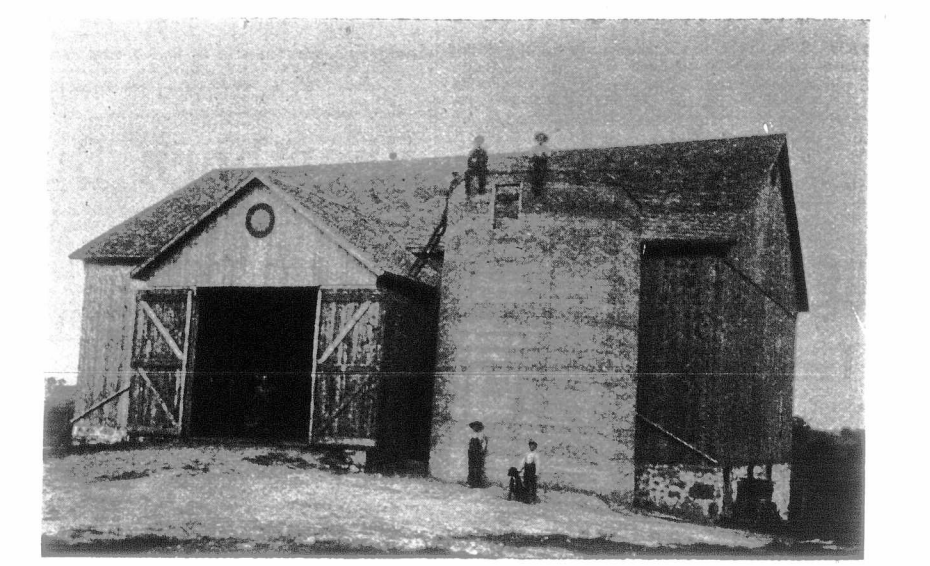
A. P. ALTON & SON, Burlington Junction Station, Appleby P. O.

**SHORTHORNS AND BERKSHIRES.**

Young bulls, six to twelve months old, cows and heifers. Berkshires (various ages, either sex), and Embden geese.

MAC. CAMPBELL, Northwood, Ont.

AN EVERYDAY SILO  
BUILT BY JAMES MCINTOSH, OF SEAFORTH, ONT., WITH  
**Thorold Cement**



SILO OF JAMES MCINTOSH, SEAFORTH, IN PROCESS OF CONSTRUCTION. BUILT ENTIRELY WITH THOROLD CEMENT.

Read what Mr. McIntosh says of this Work:

ESTATE OF JOHN BATTLE, Manufacturers of Thorold Cement, THOROLD, ONT.:  
SEAFORTH, ONT., Dec. 11, 1900.  
DEAR SIRS,—The cut shown is the Cement silo of Mr. James McIntosh, Seaforth, Ont., built with BATTLE'S THOROLD CEMENT, by Mr. A. E. Hodgert, July, 1900. Total cost, \$160. Size, 14 feet inside diameter; 30 feet high; 8 sided; 82 barrels of Cement in paper sacks; 50 cubic yards gravel; 5 cubic yards stone; 34 1/2 days labor for one man; Cement mixer 9 days; walls 14 inches thick at bottom; top, 7 inches. The walls are all right, without a crack in them. I must say that by using A. E. Hodgert's cement mixer I built my silo \$20 cheaper than if we had not had it.

Very sincerely,  
JAMES MCINTOSH.

**Estate of JOHN BATTLE, Thorold, Ont.**

**SHORTHORNS, COTSWOLDS, BERKSHIRES and BARRED PLYMOUTH ROCK FOWLS**  
FOR SALE.—One yearling bull and 5 bull calves, a few cows and heifers, 7 shearing rams. Barred Rock eggs at 75c. per 13, \$2 for 50, \$3.50 per hundred. No other variety of fowls kept.

F. BONNYCASTLE & SONS, Campbellford P. O., Ont.

**SHORTHORNS FOR SALE**

Cows and heifers, also a few young bulls. I have employed sons of Lord Lovel, Royal Member, on Lord Lovel and Abbotsburn females.

WM. HAY, TARA, ONT.

**SHORTHORN BULLS FOR SALE.**

We have Cruickshank Lovely, Fashions and Stamford females, and Matchless females bred by J. & W. B. Watt, Salem, Ont., with Lovely Victor 22170 at the head.

T. MERCER, MARKDALE, ONT.

**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.

**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.

**SHORTHORNS FOR SALE,** of the Crimson Flower, Clarissa, Missie and Lustre tribes, with Indian Chief (imp.) and Clan Campbell (imp.) prominent in their pedigrees. Young bulls and heifers for sale.

ARTHUR JOHNSTON, GREY COUNTY, Vandeleur, Ont.

**SPRING GROVE STOCK FARM**

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topsyman = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prize-winning Lincolns.

Apply T. E. ROBSON, Ilderton, Ont.

**High-class Shorthorns and Yorkshire Pigs.**

Just now three 10-months bulls, got by imp. Sirius 15281, great big massive fellows with lots of flesh and quality—away above the average. Also a few superior young cows in calf, and 5 or 6 heifers. We are booking orders now for the spring trade. Can ship some in six weeks.

JAS. McARTHUR, GOBLE'S EAST OF WOODSTOCK, 2 miles from farm. Visitors met.

**FOR SALE:**

Bull calf, A. J. C. C., dropped Mar. 6th, 1901; sired by a son of Two Hundred Per Cent; dam by Perfect Combination; solid color, black points.

E. B. HINMAN & SONS, GRAFTON, ONT.

**FOR SALE:**

One Jersey bull (16 mos.); also one bull calf. Correspondence solicited.

W. N. HASKETT, "Avon Manor," Markdale, Ont.

**Maple City Jerseys.**

One Jersey bull two years old. Some very choice bull calves from 2 to 5 months old, and a few high-grade heifers and heifer calves. All of the choicest breeding. Write for prices.

Box 552. W. W. EVERITT, Chatham, Ont.

**GLEN ROUGE JERSEYS.**

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

**THOSE Butter Jerseys**

ADVERTISED ARE ALL SOLD.

But I have others fully as good, or better. Heifers from 4 months up to 2 years. Several soon due to calve. Another g.g. daughter of old Massena, 10 months old. Three fresh young cows, grand udders. One yearling bull. One aged bull. No young bull calves left, but more to come.

MRS. E. M. JONES, Box 324, Brockville, Ont.

**HOLSTEINS FOR SALE.**

I am now offering Holstein calves of both sexes, out of such cows as Panarista Pauline, Inka Darknes 3rd's Jessie DeKol, DeDickert's DeKol, Belle Burke Mechthilde, Pieterje Hartog DeKol, and others, all closely related to DeKol 2nd and Netherland Hengerveld, the greatest of Holstein cows.

J. A. CASKEY, Madoc, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

**GOSSIP.**

USHER & SON'S SHORTHORNS.

Messrs. Isaac Usher & Son, on their 350-acre farm at Queenston, Ont., where they quarry and grind the famous Queenston cement at the rate of 400 barrels a day, have established a strong herd of about 70 head of registered Shorthorn cattle, at the head of which is the choice roan 3-year-old bull, Lord Gloster =2895=, sired by the champion prize bull, Abbottford, son of the imported Cruickshank cow, Village Blossom, dam of Young Abbotts-burn, champion bull of all beef breeds at the World's Fair at Chicago. The dam of Lord Gloster is Gaiety, of the Cruickshank Duches of Gloster family, and she was got by Prince Albert, a son of the famous Barmpton Hero, who was himself a championship winner and sire of many champions. He was a pure Cruickshank bull, his sire and dam being bred at Sittytton, the latter being a daughter of Champion of England, the greatest bull ever used in the Cruickshank herd.

Among the females of the herd are representatives of many well-known and favorite families of the dual purpose class, the cows as a rule being good milkers, and all of the good-feeding sort, which put on flesh rapidly when dry. The top crosses in their pedigrees show the names of many noted Scotch-bred bulls, such as the Kinellar-bred Killerby =6377=, imp.; Cavalier =22603=, by the Cruickshank sire, Sittytton Chief, by Hospodar; Imp. Blue Ribbon =17085=, bred at Kinellar; Strathlyde =20078=, a Strathallan, by Imp. Duke Lavender; Crimson Chief, a Kinellar Crimson Flower, by the famous Imp. Indian Chief, bred by Cruickshank; Imp. Guardsman, noted as a sire of prizewinners; Mysie's Chief, a Kinellar Mysie, by a son of Indian Chief; and Mina King, a Kinellar Mina. Such an array of noted bulls figuring in the breeding of a herd must necessarily have made a strong impression in shaping the type of their offspring, and their influence is plainly seen in the general character of the cattle. In the large new barns, with cement concrete walls from floor to basement stables to eaves of roof, provision is made for the healthy housing of a large herd. The Usher patented system of ventilation is in use, having been thoroughly tested and found entirely satisfactory. This system, which has been frequently discussed in the ADVOCATE, consists of a series of tile pipes running through an opening in the wall at the end of feed passage. This tile pipe is tapped opposite the manger of each stall by a gas pipe which opens at the partition between each pair of cows, and these pipes are covered at the openings with perforated caps which admit the air by a spray. As the temperature rises in the stable, the heated air escapes by the 4x10-inch ventilators running up through the roof, thus making room for more fresh air. The stable, when all doors and windows are closed, has been by this system kept at a uniform temperature of 45 to 55 degrees during the present winter. Mr. Usher, Sr., has built an elegant dwelling house, the walls of which from cellar floor to chimneys are built of cement concrete, which is durable, dry and in every way satisfactory, drafts at sides of doors and window panes being entirely avoided, as the concrete is closely pounded down to the frames and sets solid, leaving no air spaces. Cement is evidently bound to be more largely used than ever in the construction of farm buildings, floors and silos, and the demand increases each year. Messrs. Usher, on application, send circulars giving full instructions for mixing and building with concrete, and also prepare plans for laying out stables either in new or old buildings. See their advertisement of cement and Shorthorns.

**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-o ALVA FARM, KNOWLTON, P. Q.

**W. R. Bowman,** Mt. Forest, Ont.

OFFERS FOR SALE  
5 Choice Angus Bulls.  
2 Shorthorn Bulls.  
25 Suffolk and Shropshire Down Ewes.

**SPRING BROOK**  
Holsteins, Tamworths & B. P. Rocks.

2 choice De Kol bull calves, 1 cow, 2 heifer calves—all De Kols. Tamworths: One boar, 9 months; a few sows. Orders booked for spring litters.  
**A. C. HALLMAN,**  
New Dundee, Ont.  
Waterloo Co.

**3 Holstein-Friesian** YEARLING BULLS for sale. Apply to  
**Wm. Suhring, Sebringville P. O., Ont.**

**BROOKBANK**

Is headquarters for Holstein bulls. They are going fast; be quick if you want one. Is writing, state age, etc., preferred.

**GEO. RICE,** Currie's Crossing, Ont.  
Oxford Co.

**Holstein-Friesian Calves.** We are booking orders for spring calves for March, April and May delivery. Cows and heifers from deep-milking strains. Breeding stock all registered. Write for prices.  
**H. GEORGE & SONS, CRAMPTON, ONT.**

PLEASE MENTION FARMER'S ADVOCATE.

**AFTER EFFECTS OF GRIP**

Are Often More Serious Than the Grip Itself.

Physicians and grip sufferers alike are agreed that the after-effects of the disease are more to be feared than the acute attack; you can never be sure that the disease has left the system completely.

La Grippe naturally attacks the weakest organ, and leaves it still weaker.

Not only pneumonia, consumption, bronchitis and throat trouble follow the grip, but kidney, liver and stomach troubles are just as liable to result, provided any of these organs should happen to be in a weak condition at the time of attack.

To get rid of the grip germ, to get it entirely out of the system and blood, few remedies are so good and none safer than Stuart's Catarrh Tablets. They are not a compound of powerful and dangerous drugs, but a pleasant, palatable, convenient remedy in tablet form, composed of the wholesome antiseptic principles of Eucalyptus bark, bloodroot, and similar germicidal remedies which are perfectly wholesome and harmless to the system, but death to the germs of grip, catarrh, consumption and diseases of the throat and air passages.

Mrs. Chas. Gornley, of Memphis, says: "Last winter an attack of the grip left me with weak back, a persistent cough, and loss of flesh and appetite, and after using various remedies for several months, with little or no improvement, I finally bought a 50 cent package of Stuart's Catarrh Tablets at my drug store, and as they were pleasant and convenient to take, I used them at all times of day or night, and I was astonished to secure such fine results from so pleasant and convenient a medicine. In two weeks my cough disappeared, my appetite returned. I improved in flesh and color, and no one would now think that I had ever had such a thing as the grip. My druggist told me he had sold more of Stuart's Catarrh Tablets, for the cure of grip, colds, and catarrh, than any other similar medicines.—Adv't. om

**4 HOLSTEIN BULLS 4**

FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aaggie, and Tritonia Prince, and out of imported females that have proven their worth at the pail. **THOS. B. CARLAW & SON,** Warkworth.

**MAPLE GROVE** OFFERS a few Holstein bulls of the very richest butter breeding. They are grand individuals, of the true dairy type, and will be sold at right prices. For breeding and prices, address—  
**H. BOLLERT, CASSEL, ONT.**

**RIDGEDALE HOLSTEIN-FRIESIANS**  
Two young bulls of choice breeding for sale; also some heifers. Prices reasonable. Write for particulars, or come and see them. **R. W. WALKER,** Shipping stations: **Utica P. O.,** Port Perry, G. T. R.; **MYRTLE, C. P. R.**

**Maple Glen Stock Farm.**

The home of officially tested, Advanced Registry, dairy test and showing-win **HOLSTEINS.** A grandson of Sylvia, of Carmen Sylvia now for sale. Price is in keeping with breeding and performances.

**C. J. GILROY & SON,** Brookville, on C.P.R. or G.T.R. **Glen Buell, Ont.**

**Riverside Holsteins.**

**4 BULLS,** from 8 to 13 months old, sired by our famous stock bull, Victor DeKol Pietertje. Some are from imported or officially-tested dams. Also a few heifers for sale.

**M. RICHARDSON & SON,** Haldimand Co. **Caledonia, Ont.**

**Maple Hill Holstein-Friesians**

**SPECIAL OFFERING:**  
Three very fine bull calves, 2 to 11 months old. Also several extra good young cows and heifers. Prices moderate. Visitors welcome.

**HARRISBURG STN., G.T.R. G. W. CLEMONS,** **GALT STN., C.P.R. ST. GEORGE P.O., ONT.**

**WHERE ARE THE BEST HOLSTEINS?**

Have you read of Lith Pauline DeKol's wonderful record? Her sire was bred here. Have you read of Susie DeKol's record? She was sired by a son of our great cow, DeKol 2nd. We can give our customers more of the blood of the greatest producers than can be found in any other herd. Look over official reports and see where the sires of the great producers were bred. We have over 30 young bulls for sale, and a large number of females. Animals shipped to Canada are accompanied by certificate of health, and are subject to no duties or quarantine. If you want the best, write or visit—

**BROOKSIDE HERD,** on **H. Stevens & Sons, Lacona, Oswego Co., N. Y.**

**Maple Cliff Dairy and Stock Farm.**

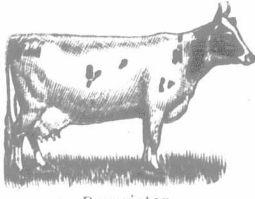
**BREEDERS OF**  
**AYRSHIRE CATTLE, IMPROVED BERKSHIRE AND TAMWORTH PIGS.**

FOR SALE: 5 bull calves, a few heifers; young pigs, pairs not akin 2 boars, 4 months old; young pigs. Farm adjoins Central Experimental Farm, Ottawa.  
**R. REID & CO., Hintonburg, Ont.**

**Ayrshires, Guernseys, Shropshires**  
**AND**  
**Yorkshires**

For immediate sale.  
A few fine Ayrshire bull calves, from 4 to 12 mos.

**Isaleigh Grange Farm,** Danville, Que.  
**J. N. GREENSHIELDS, Proprietor.**



"For raising calves on separated or skimmed milk,

**Bibby's Cream Equivalent**

Is the most popular food on the market, and probably rears more calves than all other manufactured calf foods put together." Try it. Price: **100-lb. Bag, \$3.50; 50-lb. Bag, \$2.00.** Freight paid to nearest railroad station.

MANUFACTURED BY **J. BIBBY & SONS,** 10 BAY STREET, TORONTO.

**Cannot Beat the "ALPHA" in a Fair Test.**

FROM **Matthew Moody & Sons** (Factory and Head Office, Terrebonne, P. Q.), MANUFACTURERS OF **Rakes, Mowers, Reapers, Binders, Threshing Machines, Ensilage Cutters, Etc.**

TERREBONNE, July 16, 1900. I, the undersigned, Geo. Belanger, manager for M. Moody & Sons, have bought for Mr. Heary Moody's account two (2) Alpha No. 1 Separators, from the Canadian Dairy Supply Co.; after a test of the Alpha De Laval Separator against the "U. S." machine, held on the 10th and 11th of July. In the results obtained by both tests of machines, the difference was large enough to warrant me buying the two Alpha Separators, and I recommend all buttermakers thinking of purchasing a separator to get an Alpha, as no other will give such satisfaction from the work. (Signed) **G. W. BELANGER, Mgr.**

TERREBONNE, January 5, 1901. GENTLEMEN,—Yours of the 2nd inst. to hand. The two Alpha Separators which we bought from you during the past season have been in constant use, and have given us every satisfaction, both as to their capacity and as to the quality and quantity of product. Yours truly, **M. Moody & Sons.**

**THE TEST.**

Here are the results of the test, under Inspector Corbeil's Supervision:

	10th July, 1900. U. S. Separator No. 1.	11th July, 1900. Alpha No. 1.
Milk received.....	9,416 lbs.	9,571 lbs.
Average temperature.....	72 deg. F.	72 deg. F.
Duration of fat in milk.....	3.80 per cent.	3.80 per cent.
Percent of skimming.....	3 hrs. 50 min.	2 hrs. 50 min.
Amount skimmed per hour.....	2,464 lbs.	3,378 lbs.
Speed of Separator.....	7,800 revolutions.	6,400 revolutions.
Average fat left in skim milk, samples taken every 15 minutes.....	0.07	0.03.

**THE CONCLUSION.**

	POUNDS.
Butter-fat saved by the Alpha on 9,571 lbs. milk, as compared to the U. S. performance.....	3 83/100
Equal to finished butter.....	4 40/100

Also saved by the Alpha, as compared to additional time occupied by the run of the U. S.:  
A. Power, oil, wear and tear, attendance, patron's time, waiting outside the door, spoil quality of milk..... One hour.  
B. Power, 50 per cent. less than with the U. S. during 2 hrs. 50 min., equal to .85 minutes.

**And this economy will be a daily occurrence during the lifetime of the Alpha, and will be increased as the season goes on and milk is harder to skim.**

FOR CATALOGUE AND FURTHER INFORMATION, APPLY TO  
**Canadian Dairy Supply Co'y,** General Agents for Canada,  
327 COMMISSIONERS STREET, MONTREAL, QUEBEC.

**FOR SALE:**  
**THREE BULL CALVES,** from 4 to 10 mos. old, from choice Ayrshires of deep-milking strains. Prices reasonable. Come, or write to **Carr's Crossing, G.T.R. W. F. STEPHEN,** Brook Hill Farm, Trout River, Que.

**LIVE STOCK AUCTIONEER.**  
The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alna, and Mossom Boyd, Barbeyagon. **THOS. INGRAM,** care Mercury Office, GUELPH, ONT.

**FOR SALE—**Fine Ayrshire bull, from best stock in Canada. First two-year-old at Sherbrooke last Sept. Large and finely formed. Address—  
**J. F. PARSONS, BARNSTON, QUEBEC.**

**AYRSHIRES AND LEICESTERS**  
We breed for milk and quality, and employ only the best sires. Are now offering young Ayrshires of both sexes. **DONALD CUMMING & SONS,** Lancaster, Ont.

**Ayrshire Bulls** fit for service, out of big, rugged cows, having good udders and teats, and by sires from deep milking strains. **F. W. TAYLOR,** Wellman's Corners, Ont.

**DAVID A. McFARLANE,** Breeder of high-class **KELSO, P. Q.**  
**AYRSHIRES.**  
Young stock for sale from imported and home-bred foundation. Prices reasonable.

**FOR SALE:**  
**High-class AYRSHIRES,**  
 including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write.

**WM. WYLIE, - HOWICK, QUEBEC.**

**AYRSHIRE FEMALES FOR SALE**

Carrying the same breeding as our prize-winners, including such offspring as Floss and Tom Brown, the World's Fair winners. We breed for constitution, quality, and production.

**DAVID BENNING & SON,**  
 Williamstown, Ont.

**High-Class Ayrshires and Poultry**

**GREAT BARGAINS DURING MARCH.**  
 One choice prizewinning bull calf, eleven months old, fashionable color, tracing direct to imp. stock, \$35.00; one heifer calf, six months old, \$25.00; one bull calf, one week old, price \$15.00. All sired by Royal Star, first prize bull at Toronto and London. Also two two-year-old heifers; one three-year-old heifer, due to calve this spring; prices right. Also five pair of choice Toulouse geese, \$1.00 per pair. White Leghorns, Black Minorcas, Houdans, and Langshans. For particulars write

**WM. THORN, Lynedoch, Ont.**  
 Norfolk Co. Trout Run Stock Farm.

**FOR SALE:**

**Choice Ayrshires,**  
 AND BARRED ROCK EGGS.

**3 BULLS,** from 7 to 17 months old; also a few **COWS AND HEIFERS.**

Eggs for hatching, from choice matings, at \$2.00 per 15. Incubator eggs \$4.00 per 100.

**JAS. McCORMACK & SON,**  
 -om ROCKTON, ONTARIO.

**For Sale:** Six Ayrshire bulls, ranging from 5 months to 1 year past. Also a few cows and heifers, thoroughbred fowls, and Scotch collie dogs.

**WM. STEWART & SON, MENIE, ONT.**

**Ayrshire Bulls:** Write to **J. YULL & SONS,** Carleton Place, for special prices on Ayrshire bulls from 1 1/2 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jock of Burnside—1684—, also females of all ages. Shropshire sheep of all ages; a number of fine ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

**TREDINNOK AYRSHIRES**  
 Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchinrain, and Lord Dudley. Forty imported females, selected from leading Scotch herds, and their produce from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars, address

**JAMES BODEN, Mgr.,**  
 St. Anne de Bellevue, Quebec.  
 G.F.R. & C.P.R., 20 miles west of Montreal.

**NETHER LEA AYRSHIRES, BERKSHIRES, YORKSHIRES, AND ROUGH-COATED COLLIES.**  
 YOUNG STOCK FOR SALE.

I expect to import from Europe, in the near future, and can book orders for stock on commission, as I have a good connection in England and Scotland.

**T. D. McCALLUM, Danville, Que.**

**EUROPEAN ADVERTISEMENTS.**

**HENRY DUDDING, RIBY GROVE, STALLINGBOROUGH, LINCOLN, ENGLAND.** Breeder of Lincoln Longwool Sheep and Shorthorn cattle. The Riby flock of upwards of 1,400 Ewes holds an unequalled record for true type, merit, and quality. Its produce and their descendants have won the highest honors at all the principal exhibitions and shows throughout the world; its wool exhibits being unbeaten. Established upwards of 140 years. Its produce leads the way from the fact that satisfaction is given. The Riby Shorthorn Herd of upwards of 300 selected specimens of Booth, Bates, Cruickshank, and Scotch strains, is one of the largest herds in Great Britain. Its principal Stud Bulls are: "Pride of Fortune" 73240, s. "Pride of Morning" 145654, d. "Flora 2nd," by "William of Orange" 50691; "Golden Robin" 68718 (rich roan), s. "Roan Robin" 57992, d. "Golden Sunshine," by "Royal James" 54972; "Prompter" (Vol. XLV.), by "Prefect" 69255, d. "Rissington Lass," by "Empire 13th," 1st and champion at Ombersley, 1898; "Rosario" s. "Wiltshire Count" 69824, out of "Rose Blossom" (G. Harrison). This bull, his sire and dam, won 84 prizes, including first and champions. Telegrams: "Dudding, Keeley." Rail Stations: Stallingborough, 3 miles; Great Grimsby, 7 miles.

**J. E. CASSWELL'S**  
 Loughton, Folkingham, **LINCOLNS**  
 Lincolnshire, England.

Breeder of Lincoln Longwool sheep. Flock No. 16. The flock was in the possession of the present owner's great-grandfather previous to 1785, and is unique in having descended direct from father to son without a single dispersion sale. At the Palermo Show, 1900, 25 rams bred by J. E. Casswell averaged 454 each; 14 of the best averaged 663 each, this being the highest sale of the season in the Argentine. Ram and ewe hogges and shearlings for sale; also Shire horses, Shorthorns, and fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingborough, G. N. R.

**FAMOUS ALL OVER THE WORLD**  
**ALFRED MANSELL & CO.,**  
 LIVE STOCK AGENTS AND EXPORTERS,  
 SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to **ALFRED MANSELL & CO.,** Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

**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.**

**HAMPSHIRE DOWN SHEEP.**

**SPLENDID MUTTON, GOOD WOOL, GREAT WEIGHT.**

THIS HIGHLY VALUABLE

**English Breed of Sheep**

Is unrivalled in its rapid and wonderfully early maturity, possessing, too, a hardiness of constitution adapted to all climates, whilst in quality of mutton and large proportion of lean meat it is unsurpassed. Full information of

**JAMES E. RAWLENCE,**  
 SECRETARY HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION,  
 SALISBURY, ENGLAND.

**REGISTERED Southdown Sheep, Suffolk Sheep AND Berkshire Pigs.**

THE Cheveley flocks and herds, the property of Col. H. L. B. McCallum, M.P., are unique for the purity of their blood, typical character, and individual merit. In their foundation, etc., no expense has been spared in securing the best and most perfect specimens of the different breeds. In each case full records are kept of individual pedigrees, so that any selections made from these flocks will, in addition to being of the highest merit and typical character, have also the great advantage of individual pedigrees.

The Southdowns have secured the highest showyard honors during 1900, including first prizes at the leading summer and winter shows. The Suffolks are equally well bred, and numerous prizes have also been won. In fact, for individual merit, pedigree, and purity of breeding, it would be difficult to find better and more suitable flocks of either of these breeds from which to perpetuate their high individual merits. Apply to—

**H. J. GARROD,**  
 Cheveley, Newmarket, England.

**Lincoln Longwool Sheep Breeders' Association.**

**Lincoln Ram Sales**  
 1901.

The 12th and 13th sales of Lincoln Longwool rams, by members of the Association, will be held in LINCOLN, as follows:

**9th AUGUST, 400 RAMS,**  
**6th SEPTEMBER, 500 RAMS.**

On view the afternoon before the day of sale.

**STEPHEN UPTON,**  
 Secretary.

St. Benedict's Square, Lincoln, 19th January, 1901.

**MANSELL'S DISPERSION SALE.**  
**Shropshires.**

Andrew E. Mansell, Harrington Hall, Shipnal, England, who is settling in Tasmania, will sell by auction, without reserve, on Thursday, August 29th, 1901, his unrivalled flock of Shropshires. Sheep bought for America and Canada will, if desired, be sent in charge of Mr. Robert Mansell. Particulars and catalogues obtained from Alfred Mansell & Co., Auctioneers, Shrewsbury, England. Commissions carefully executed.

**PLEASE MENTION FARMER'S ADVOCATE.**

**GOSSIP.**  
 At the auction sale of Berkshire hogs drafted from the Biltmore Farm's herd at Biltmore, N. C., on Feb. 12th, 51 head sold for an average of \$102. Prices ranged from \$51 to \$250, the highest price being paid for Luster's Topper II., by Guy C. Barton, Omaha, Neb.

Mr. Alex. Galbraith, Janesville, Wis., whose advertisement of Clydesdale stallions is running in this paper, writes us that, for the convenience of his Canadian customers, he has opened a branch sale barn at Woodstock, Ont., under the management of Mr. S. P. Thompson, a gentleman well and favorably known throughout the Province in connection with the stallion business. A few first-class stallions have already been sent there, and several others will follow in a few days. Those of our readers interested will do well to inspect these horses, which Mr. Galbraith says are all guaranteed and strictly first-class.

A. B. Armstrong, Codrington, Ont., writes:—"The trade resulting from my advertisement in your paper has far exceeded my expectations. I have sent fowls and pigs as far east as Nova Scotia and as far west as Manitoba, and have orders for eggs for hatching for spring delivery from Nova Scotia and as far west as Western Ontario so far, and have enquiries too numerous to mention. In Yorkshires we have made the following sales: To A. Gilmore & Son, Athelstan, Que., 1 boar and 1 sow; to K. C. McItae, Maxville, Ont., 1 sow; to C. A. Wade & Son, Sarnia, 2 boars and 1 sow; to Daniel Keen, Nelles Corners, Ont., 1 sow; to E. F. Tietz, Hagersville, Ont., 1 sow; to Henry Snell, Hagersville, 1 boar and 1 sow. In fowls our sales have been too numerous to mention. We also have an order for a pair of Yorks to be sent to Manitoba in the spring. We have a few good pigs left. Our fowls are doing well and laying a goodly number of fertile eggs. We have spared no pains to get together a lot of No. 1 fowls for breeding purposes, having such strains as E. B. Thompson's cockerels and Brady & Leffel's strain of pullets in Rocks. In W. Wyandottes, we have a pure Dunston male and Massie females—all snow white. In W. Leghorns, we have Rice's strain and Seiver's strain of hens, headed by a snow-white cockerel from S. Dippel, of Listowel. In Brown Leghorns, our females are Knapp's strain, headed by a Rice male. In Black Minorcas, we have Duff's strain and Scott's strain of females and headed by a 9-lb. cockerel. In White Minorcas, our females are Shales' and Jerome's strains, and mated to an Abbott cockerel. Our M. B. turkeys are No. 1 quality and extra large birds. Our golden-weighted 36 lbs. last fall at one year old. In Pekin ducks, our young drake weighs 10 lbs. and females weigh 8 lbs. and have no disqualifications. On Feb. 2nd we placed 165 eggs in our incubator, and in testing them we found only 16 infertile eggs in the lot."

**SUCCESSFUL SALES OF SHORTHORNS.**  
 At Kansas City, Mo., March 5th, was held a draft sale of Shorthorn cattle from the herds of Messrs. T. J. Wornall, West Liberty, Mo., and J. G. Robbins & Sons, Horace, Ind., the former selling 40 head at an average of \$316.12, and the latter firm 20 head at an average of \$376.50. The highest price, \$1,190, was paid by Mr. W. D. Flatt, Hamilton, Ont., for Mr. Wornall's 4-year-old show cow, Lady Valentine, by St. Valentine, the champion show bull who was bred in Canada by the Messrs. Gardhouse, Highfield, Ont. Mr. Geo. E. Ward, of Hawarden, Ia., who owns her sire, was a competing bidder to the last. The second highest price, \$965, was paid by E. W. Bowen, Delphi, Ind., for the red 2-year-old Warden Secret, from the same herd. The third highest price was \$890, paid for Robbins' red yearling heifer, Imp. Graceful Rose, by Scotch Thistle, bought by H. Gilchrist, Hope, Ind. Eight hundred dollars was the highest price for a bull, and was paid by J. F. Prather, Williamsville, Ill., for the red 10-months calf, Secret Prince of Fairview, of Mr. Wornall's offering. Three hundred and fifty dollars was the next highest price for a bull.

On the following day consignments from the herds of Messrs. E. K. Thomas and Abram Renick, of Kentucky, were sold, the offering of the former, 13 females and 1 bull, making an average of \$271, and Mr. Renick's 21 head an average of \$169.50.

**Fairfield Lincolns.**

The partnership heretofore existing between J. H. Patrick and Eugene Patrick, of Ilderton, Ontario, as to the management of Fairfield Stock Farm, has been dissolved. J. H. Patrick again resumes full management at Fairfield, and Eugene Patrick taking charge at Lincoln Grove, Teura, Idaho.

**J. H. & E. PATRICK, Ilderton, Ont.**

**WOOL, HIDES AND SKINS.**  
 HIGHEST MARKET PRICES.  
**E. T. CARTER**  
 (SUCCESSOR TO JOHN HALLAM)

At the old stand, 83 and 85 Front St. East, **TORONTO.**

**Dorset Horn Sheep**  
 THE largest flock in America. The most celebrated prizewinners at the Columbian Exhibition and Canadian exhibitions. Contains more Royal winners than any other. Awarded 5 out of 8 first prizes at Toronto, London and Ottawa in 1900. Flock of 300. Stock for sale always on hand.

**John A. McGillivray, Uxbridge, Ontario.**

**BROAD LEA OXFORDS.**  
 We have at present a number of good ewe and ram lambs. Also some choice young ewes dropping lambs in April for sale. Correspondence solicited. Visitors welcome.

**Henry Arkell & Son,**  
 Teeswater, Ont.

**A Good Deal of Nonsense**

About "Blood Purifiers" and "Tonics."

Every drop of blood, every bone, nerve and tissue in the body can be renewed in but one way, and that is, from wholesome food properly digested. There is no other way, and the idea that a medicine in itself can purify the blood or supply new tissue and strong nerves is ridiculous, and on a par with the foppery that dyspepsia or indigestion is a germ disease, or that other fallacy that a weak stomach which refuses to digest food can be made to do so by irritating and inflaming the bowels by pills and cathartics.

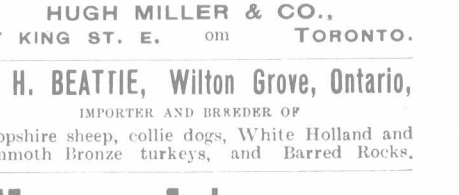
Stuart's Dyspepsia Tablets cure indigestion, sour stomach, gas and bloating after meals, because they furnish the digestive principles which weak stomachs lack, and unless the deficiency of pepsin and diastase is supplied it is useless to attempt to cure stomach trouble by the use of "tonics," "pills," and "cathartics," which have absolutely no digestive power, and their only effect is to give a temporary stimulation.

One grain of the active principle in Stuart's Dyspepsia Tablets will digest 3,000 grains of meat, eggs and similar foods, and experiments have shown that they will do this in a glass bottle at proper temperature, but, of course, are more effective in the stomach.

There is probably no remedy so universally used as Stuart's Tablets, because it is not only the sick and ailing, but well people, who use them at every meal, to insure perfect digestion and assimilation of the food.

People who enjoy fair health take Stuart's Tablets as regularly as they take their meals, because they want to keep well. Prevention is always better than cure, and Stuart's Dyspepsia Tablets do both: they prevent indigestion, and they remove it where it exists. The regular use of one or two of them after meals will demurely argue their merit and efficiency better than any other rate.—Adv't.

**BISSELL'S**  
 Steel Rollers



Built with solid **PRESSED STEEL HEADS** in the drums. Has **TRUSS RODS** under the frame. Heavy **2-INCH AXLE ROLLER BEARINGS, LOW-DOWN DRAFT.** Light on horses' necks. Turns at end of field with ease; in fact, a perfect beauty. Ask your nearest agent for this roller. No other quite as good.

Address—**T. E. BISSELL,**  
 For Disk Harrow, see page 249. -o- Fergus, Ont.

**FARMER'S LIVE STOCK EAR LABELS.**

Most convenient way of marking breeding animals or other stock. \$1.50 per 100, and up. Send for circular and price list. Send in your orders at once. We will do the right thing with you.

**R. W. JAMES, King St., Bowmanville, Ont.**

**MILLER'S TICK DESTROYER**  
 NEVER FAILS:  
 ONCE IS SUFFICIENT.

Kills the eggs, cures scab, improves the wool. **35c. Tin—sufficient for 20.**  
**HUGH MILLER & CO.,**  
 167 KING ST. E. om **TORONTO.**

**W. H. BEATTIE, Wilton Grove, Ontario,**  
 IMPORTER AND BREEDER OF  
 Shropshire sheep, collie dogs, White Holland and Mammoth Bronze turkeys, and Barred Rocks.

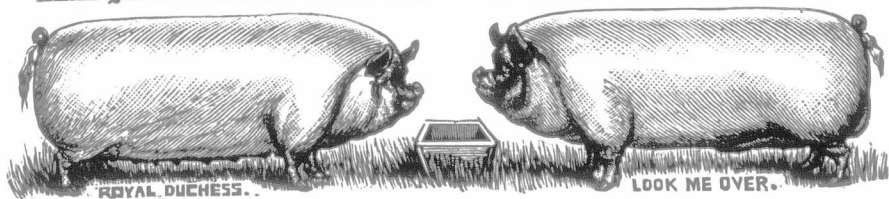
**Shropshires...**  
 Ram and ewe lambs, sired by an Imp. Williams ram, for sale.  
**GEORGE HINDMARSH,**  
 AILSA CRAIG, ONT.

**Berkshires**—Large, lengthy, English type. Five first prize boars in service. Spring pigs ready for shipment. Boars fit for service. Sows ready to breed. **GEORGE GREEN,** om Fairview, Ont.

**English Berkshires.**  
 Choice stock of all ages. Can supply pairs not akin. A few May and August boars at special prices.  
**JOHN RACEY, Jr.,**  
 Lennoxville, Que.

# Summer Hill Herd

HEADQUARTERS FOR THE IDEAL BACON HOG AND EASY FEEDERS.



The largest herd of imported and Canadian-bred Yorkshires in America. Out of 121 exhibits at the leading shows in '99 and 1900, including Toronto and London, we gained 116 awards. Expert judges both at London and Toronto were unanimous in pronouncing our herd far superior to that of our strongest competitors. Won most of the best prizes offered, including first prize for best pen of pure-bred bacon hogs, also grand sweepstakes over all breeds in a class of 13 entries. The foundation of our herd was laid by personally selecting the choicest stock from the most noted breeders in England and Scotland. We have the ideal bacon type—size without coarseness, and easy feeders. Pigs of all ages for sale at moderate prices. Write us for particulars. Telephone, Millgrove, Ont. Telegraph 254 Bay St. S., Hamilton, Ont.

D. C. Flatt & Son, Millgrove, Ont.

## Large English Berkshires

Windsor Model (imp.), Royal Star (imp.), St. Williams Queen with a litter, 2 sows and 2 boars 4 mos. old, for sale at a sacrifice. Twenty-five B. P. Rock pullets and one grand cockerel, cheap for quick sale. Write for prices.

H. BENNETT & SON, St. Williams, Ont.

## Snelgrove Berkshires.

We have a number of large, lengthy sows, to farrow in March and April, and will have young pigs for sale of the type now wanted. Now is a good time to order. Can supply pairs not akin, as we have four high-class boars of different breeding in service. Write for prices.

SNELL & LYONS, Snelgrove, Ont.

## FRESH BERKSHIRE BLOOD.

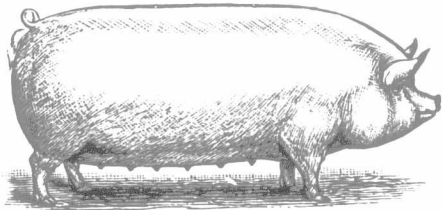
Have secured the first choice of the champion gold medal herd of America (which won over 400 prizes, cups and medals), including the \$400 show sow, Elphick's Matchless (never beaten), and other sweepstakes sows in the United States. Also 15 April, May and June boars and 15 sows of the same age, and 3 fall litters, selected to meet the best Canadian demand, being long, low, and extra good through the heart.

Farm within 10 minutes' walk of electric R. R. terminus on Kingston road. on-

DURHAM & CAVAN, East Toronto, Ont.

## OAK LODGE YORKSHIRES

ARE THE CORRECT TYPE TO BRING THE GREATEST PROFIT.



We breed our winners, and we win more prizes than all other herds combined at Toronto, London, and other large shows. Sweepstakes in bacon classes over all other breeds in dressed carcass competition, also on foot, for two years in succession. Championship carcass in bacon class at Chicago, 1900. First-prize herd at Toronto Industrial for nine years. Write for prices.

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We have some nice young boars and sows fit for service, for sale. Also one imported boar, 8 months old, and have 9 imported sows in farrow and 2 more to be bred for June litters, besides a number of home-bred sows. Our imported stock was selected personally from the well-known herds of Philip Ascroft, Rufford; T. Heuson, Peterboro, Yorkshire; D. R. Daybell, and Sir Gilbert Greenhall, Bart., Walton Hall, Warrington, England. Correspondence solicited. Streetsville P. O. and Telegraph.

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Eggs for hatching: from extra fine matings of B. P. Rocks, W. Wyandottes, White and Brown Leghorns, and White and Black Minorcas, at \$1.00 per setting, or \$5.00 per hundred. M. B. turkey eggs and Pekin duck eggs in season. We have on hand 3 boars and 1 sow ready to ship, from our heavy weight sow. A. B. ARMSTRONG, Codrington, Ont.

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BOARS fit for service, including Oak Lodge B. Clarence 2nd 2895. Sows in farrow and ready to breed, and young stock. Also, a Shorthorn heifer, 2 years old, in calf. Write for prices.

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Yorkshire boars and sows, 8 weeks old, from large sows of bacon type. Berkshire sows ready to breed. Barred P. Rock eggs also for sale. Prices reasonable. Write

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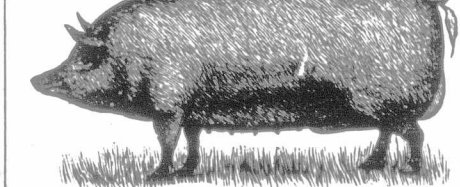
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We have for sale several choice sows in pig; also boars ready for service; and young P. Chinas and Yorkshires ready to wean.

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Stock boar, Defiance, 2nd prize, Toronto. First-prize boar, six months; boars, sows, 5 months. Prices right.

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One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices.

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are positively warranted to last TEN YEARS, without repairs, and are guaranteed to OUT-HATCH, during three trials, any other make of incubator on the market—bar none. THIS, OR YOUR MONEY BACK. Used exclusively at Experimental Farms, Guelph and Ottawa; also six American Experimental Stations. Daniels, the universal provider in the Poultry Supply business, has the sole agency for the Cypthers Incubators and Brooders for Canada. Our list of Poultry Supplies are too numerous to mention here, but just drop us a line and state what you require. We handle nothing but the best. Satisfaction every time, or money refunded. Mention ADVOCATE. C. J. Daniels, 221 River St., Toronto, Ont.

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Absolutely white plumage. Fine style; good head points. Choice stock for sale. Eggs \$1.50 per 13.

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EGGS FOR HATCHING. Barred P. Rocks exclusively. Large, strong, vigorous, well-barred birds, from imported stock, bred for utility. One setting of 13, \$1.25; two settings, \$2.00. A. E. SHERKINGTON, Walkerton, Ont.

## EGGS. EGGS. EGGS.

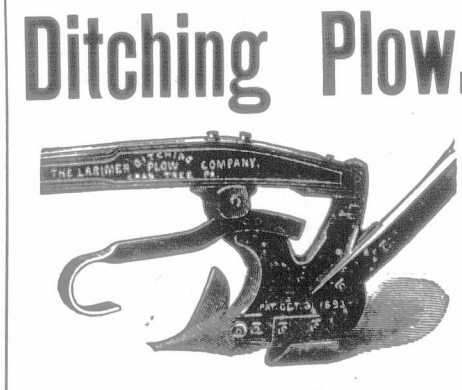
From National strain Barred P. Rocks, from choice White Wyandottes, and a few settings of Royal strain White Leghorns, at \$1 per setting of 13 eggs. Toulouse geese eggs, \$2 for 11 eggs, or 20c. each, securely packed. Also a few pairs of Toulouse geese for sale, if taken at once. W. W. EVERITT, Chatham, Ont. DUN-KIN PARK FARM. Also breeder of Jersey cattle and Berkshire pigs.

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Eggs from finely-barred hens and mated properly. \$2 per setting; two settings, \$3.50; three settings for \$5. Seven years' experience.

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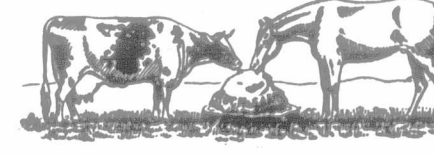
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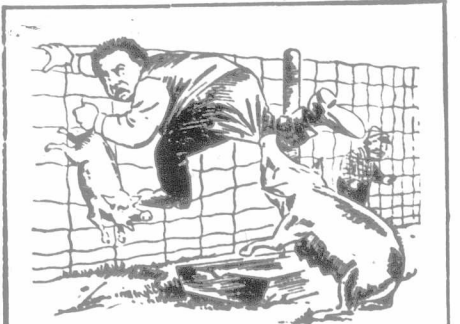
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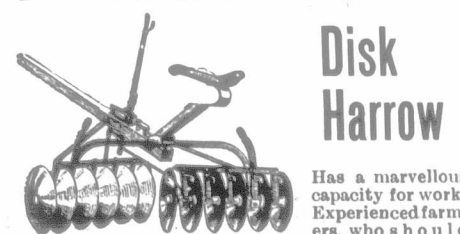
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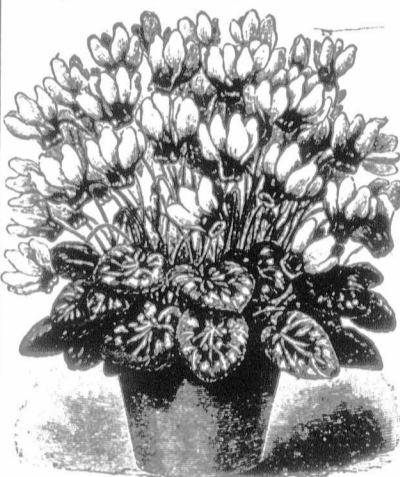
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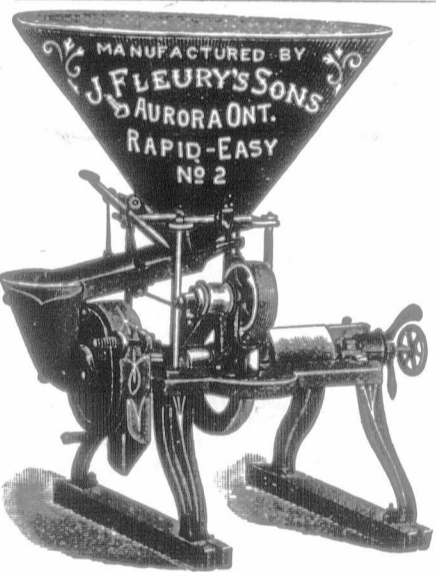


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| 5. CABBAGE, Winingstadt.               | Canada.                           | 45. CLIMBERS, Mixed.                   |
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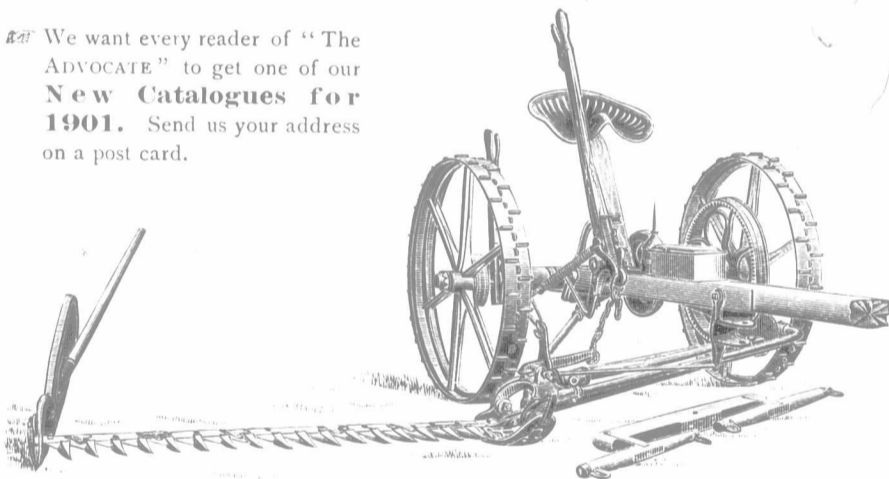
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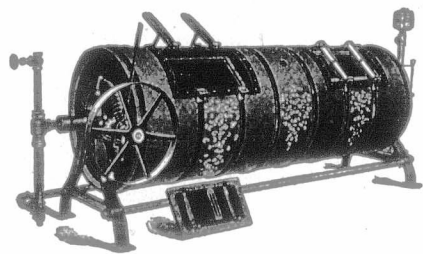
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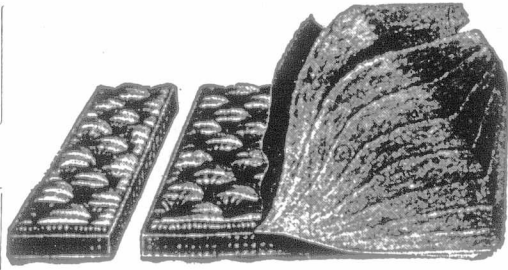
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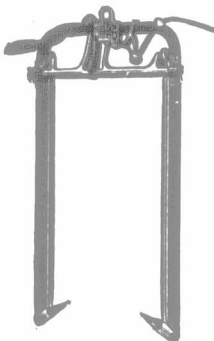
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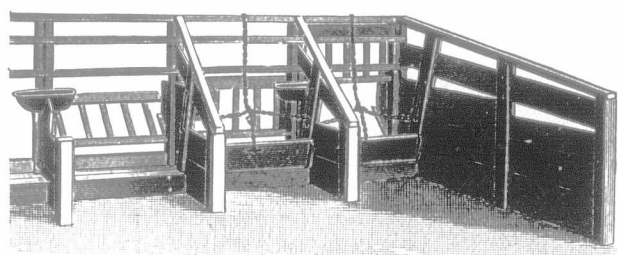
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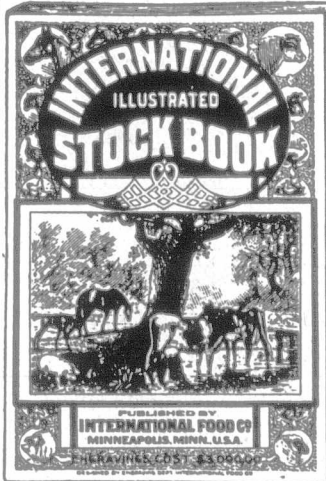
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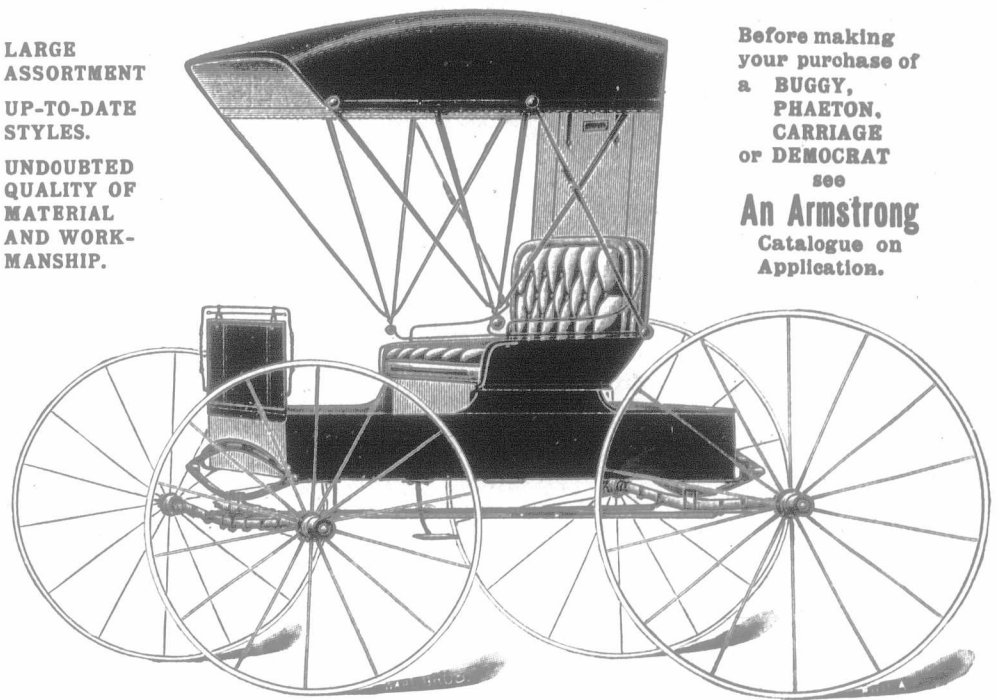
RAPIDLY TAKING THE PLACE OF SHINGLES.

Is put up in rolls of one square each, 40 feet long by 32 inches wide, and costs only \$2.25, including nails, thus affording a light, durable and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence.

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LARGE ASSORTMENT UP-TO-DATE STYLES. UNDOUBTED QUALITY OF MATERIAL AND WORKMANSHIP.



Before making your purchase of a BUGGY, PHAETON, CARRIAGE or DEMOCRAT

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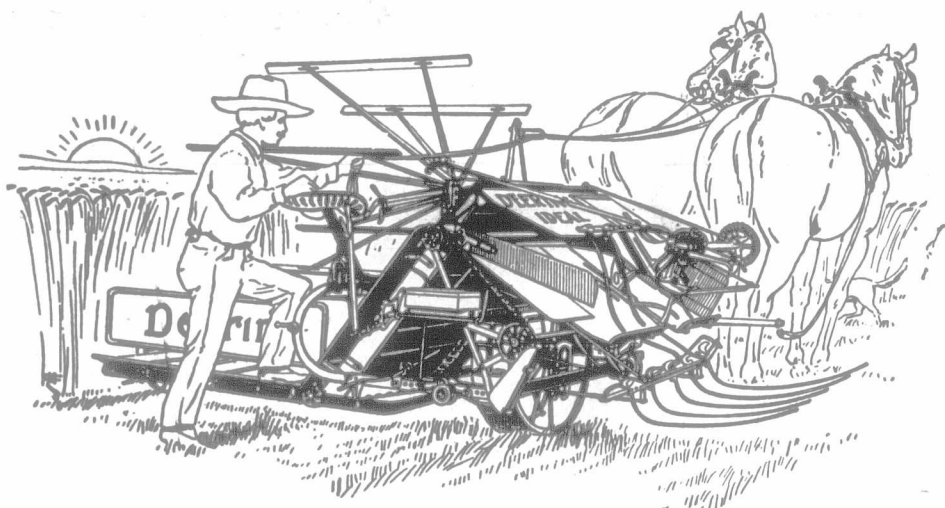
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Winner of the **WORLD'S HIGHEST AWARDS.** **Deering Ideal Binders.** Winner in the **FIELD.** It will be **A WINNER FOR YOU.**

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**PATENTED**  
 STEEL ROLLER BEARINGS, IMPROVED DETACHABLE LINK, IMPROVED STEEL FRAME, COMBINED LEVER AND FOOT DRIVE.

Improvements you will not find on other churns. Do you want the best? Then don't purchase until you see it. Sold by the leading wholesale houses in the Dominion.

No.	Capacity	Churns from
0	6 gl.	1 to 3 qt. cream.
1	10	1 to 5 "
2	15	2 to 7 "
3	20	3 to 9 "
4	26	4 to 12 "
5	30	6 to 14 "
6	40	8 to 20 "



SOLD BY ALL LEADING WHOLESALE HOUSES AND DEALERS.

"Good crops or poor crops, which shall it be for 1901?"

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ONE TO FOUR TONS PER YEAR.

To W. A. FREEMAN & Co., Hamilton, Ont. North Oxford, Ont.  
 DEAR SIRS,—Having used from ONE TO FOUR TONS per year of your SURE GROWTH FERTILIZER for wheat, oats, corn and mangels, for the last six years, with good success, I also find it an excellent thing for seeding down with, and can heartily recommend it to any person who wishes to make farming a success. I remain, Yours respectfully,  
 (Signed) GEORGE RAYMOND.

CAN TELL TO A DRILL MARK WHERE IT WAS USED.

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**THE W. A. FREEMAN CO., LTD.,**

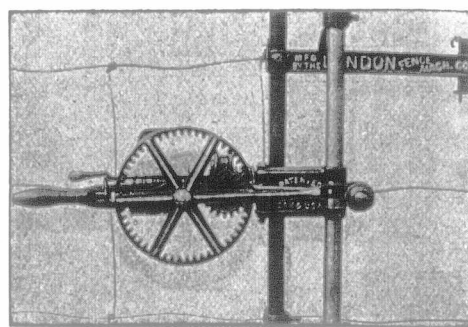
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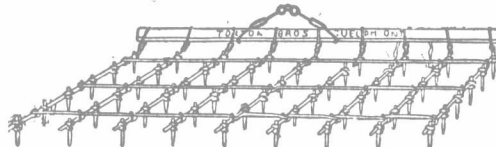
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—In these times of keen competition, is there such a great demand for this All-Steel Flexible Harrow?

**Because**

The Flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground as to smooth, and the oscillating motion produced by its flexibility pulverizes the ground and leaves it in a loose and more porous condition than any other Harrow, and it is made of the very best material money can buy for the purpose. The bars are made of Hard Spring Steel, very stiff and strong, the hinges and teeth being of solid steel, all of which are of a higher grade than is possible to use in any other make of Harrows.



We guarantee more than double the strength and wear in this Harrow than there is in any other make.

Parties wishing a first-class Harrow will do well to write us direct or apply to the local agent.

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**U.S. CREAM SEPARATOR**

Has fully established its position as

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At St. Paul, Minn., Feb. 18-23, 1901, with 829 packages in competition,

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**The Gold Medal for Highest in Gathered Cream Class**

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**The United States Separator Stands Triumphant.**

Ask for circular with full particulars and illustrations.

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