

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED
FOUNDED 1866

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

PUBLISHED AT LONDON, ONTARIO. APRIL 15, 1901. WINNIPEG, MANITOBA. No. 524

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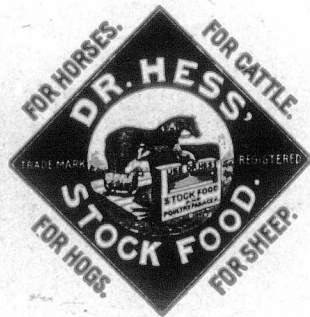
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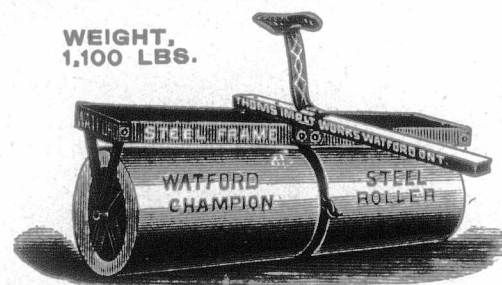
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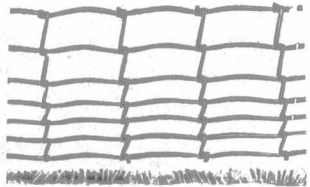
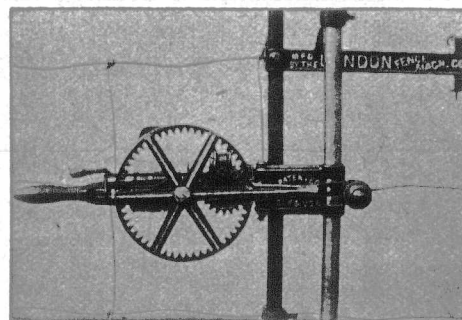
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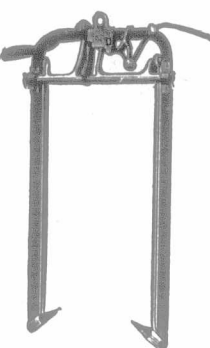
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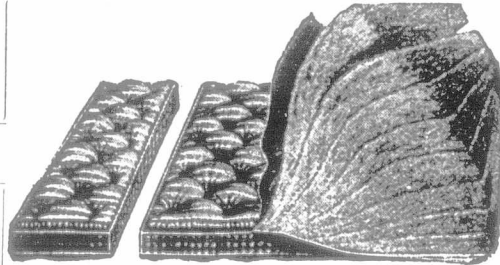


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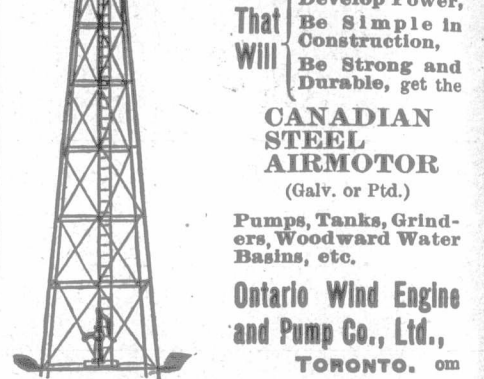
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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., APRIL 15, 1901.

No. 524

EDITORIAL.

Why Attend the Horse Show?

The Canadian Horse Show, held of late years in the balmy springtime, has evidently become a permanent institution, growing in interest as the years go by, and exerting a beneficial influence in the improvement of the horse stock of the country. The idea in past years has probably, to a considerable extent, prevailed among farmers and country people generally that the Horse Show is largely, if not mainly, a society event, or one instituted for the purpose, in part, of affording the swell set of city people an opportunity to show off their spring millinery and dress goods to advantage, and that the practical and useful features of the show were regarded as but secondary in the provisions made for them. This, we are bound to state, is a mistaken view of the situation, for while it is true that city people have patronized and do patronize the show liberally, there is comparatively little money, and, we understand, no part of the Government grant, spent by the management in catering to that element, the Toronto Hunt Club and the local committee of the citizens supplying the funds necessary for providing special accommodation for the city people, and which is recouped to them through the extra charge made for reserved seats, and their percentage of the receipts. But provision has been made in the programme for a special farmers' day, on which the principal classes of breeding stock are exhibited and judged for premiums, and this feature of the show is of special interest to farmers generally, as a great majority of farmers breed horses to a greater or less extent, and they will find it to their advantage to study, in the Horse Show and elsewhere, the requirements of the market as to the style and type of horses which is most readily salable, and which brings, or is likely to bring, the best paying prices. For this purpose there is no better opportunity available than the Spring Horse Show, where high-class sires of all breeds and classes—heavy draft, carriage, and saddle—are on exhibition and in competition, and where prizes are also offered for working horses of all these classes, in teams or singly, with the object of bringing out typical specimens of each class, which may serve as object lessons to farmers, of the ideal type in each, the type which is most salable and most valuable and useful in its class.

While Canadian-bred horses have proven themselves exceptionally satisfactory for army purposes, compared with those from other countries, having the necessary grit and endurance, we have not been in a position to profit to the largest extent in the trade for that class, from the fact that we had not enough of the kind suitable for that trade, or from the fact that not a sufficient number of the needed class could be found in any one district to make it an object for buyers to visit the district and to make it a center of operations. This doubtless accounts to a considerable extent for the purchase, for army purposes in the Transvaal war, of such large numbers of horses in the United States, the quality of which it is admitted was not nearly equal to that of Canadian horses, but from the fact that large numbers could be quickly obtained at large central marts, they were taken to meet the emergency. This difficulty, there is good reason to hope, will soon be overcome by the establishment, by the British Government, of remount stations in Canada, and by a more intelligent and systematic breeding and rearing of the kind of horses required, not only for that purpose, but also of high-class harness and heavy-draft horses, which are always in demand, and if of the right stamp, always bring good prices.

Those who in the last few years have had good horses to sell have found a profitable market at their door, and the desirable horse stock of this country and others has been so depleted by the active demand that there is little danger of a depression in that line in the next decade, and there is every encouragement to prepare for what promises to be a steady demand, by breeding the best in each class. To catch the best inspiration, and to keep up-to-date in one's information on this line, there is no more suitable opportunity afforded than the Horse Show, where, free from other attractions or distractions, the study of this noble animal in its varied types may be thoughtfully pursued, and the favorable railway rates secured by the management should bring out a record attendance at the show, which is slated for April 24th to 27th, in the Toronto Armouries.

Electric Roads and the Rights of the People.

On this continent we are on the eve of great and rapid changes in rural transportation. Electricity will compete with steam for the carrying of the people and their wares. As we have in the cities and towns seen the plug-horse car superseded by the electric motor, so we shall witness on many of the main country roads the mail stage and the light democrat giving way to the trolley. A short time ago we described how the country telephone is gradually extending itself, and in like manner electric cars are already reaching out in one direction and another, as in the Toronto, Niagara, Grimsby, Galt, Preston, Woodstock and other districts in Ontario. The owners of the Metropolitan Railway are making arrangements for the extension of their road from Toronto to embrace 150 miles of track in the Counties of York, Simcoe, Grey, and Wellington. Another projected electric railway is the London, Aylmer and North Shore Road, extending some forty miles or more in a south-easterly direction from London, through the townships of London, Westminster, North and South Dorchester, Yarmouth, Malahide, and Bayham, to Port Burwell on Lake Erie, with capital stock fixed at \$850,000, divided into 8,500 shares of \$100 each. The promoters are Wm. H. Patterson, of Philadelphia, Pa.; C. R. Luton and R. M. Luton, Grand Rapids, Mich.; M. E. Lyon and W. E. Stevens, Aylmer, Ont.

Numerous electric companies are already obtaining legislative charters, and from municipal councils are seeking free right-of-way over township and county roads. In return for this valuable privilege the councils should certainly acquire such adequate concessions as will safeguard the rights of the people, not only at the present time, but in future years, in regard to fares (which should not exceed one cent per mile), freight rates and other matters which the charter-rights secured from the Legislatures may leave within the purview of the councils. It has been suggested that the councils should receive a percentage of the earnings of these companies, as is done in Toronto, and also that strict stipulations should be made restricting the use of these lines on the Sabbath. Councils, of course, have the right to determine the using either the center or side of a road, and as to the bridges and culverts which the electric companies will be required to erect and maintain. It will be argued on behalf of the companies that they confer benefits on the people in the way of convenient and rapid transit, and that they will cause many city and town people to live along country roads to take advantage of the lower taxes and rents. The using of light rigs and horses by farmers will be decreased,

lessening the outlay for the former, but crowding more of the latter upon the market, which will not be favorable to better prices, and if he and his family use the cars, they will have to pay for the privilege. Till horses become used to the cars, these roads will be less safe for driving than heretofore. Therefore, the real beneficiaries are the companies, and there is little doubt but that in the course of time the earnings of some of these roads will be enormous. These receipts come from the people, and if a portion of the roadway be granted, they are earned by the use of what belongs to the people, and which should not be allowed carelessly to slip into the hands of these electric corporations. In fact, we understand that in some cases electric companies have been compelled to purchase their right-of-way from the farmers alongside the highways. Every step in the negotiations should be carefully guarded. Some years ago an electric company, professing to be worth millions, came before the Toronto Township Council, proposing to expend \$300,000 building an electric road and agreeing to pay all expenses of calling meetings, etc. The result was that a by-law was passed granting them what is known as the Lake Shore Road; but when the expenses were asked for, they refused to pay, and the by-law was repealed. It is no secret that companies are being formed and rights-of-way secured, so that the companies may sell their charters or otherwise dispose of their rights for their own gain, and in a manner prejudicial to the interests of the people.

Sir Melville Parker, ex-warden of the County of Peel and for many years reeve of Toronto Township, who has had a great deal of experience in such matters, makes the following preliminary suggestions in regard to the two corporations seeking rights in Peel County, and which are not inapplicable elsewhere:—

1st. That the financial position of each company be thoroughly gone into, and a positive assurance that they mean business and commence operations within a limit of say three to five months.

2nd. That no right-of-way be granted to either company for more than one road, and that no agreement be entered into for any distance on either side of said road, and that either company shall build their own bridges, etc., and be at all and any expense in grading said road.

3rd. That should either company require a special meeting of the Council, they shall deposit an amount equal to the expense of said meeting and any other expense connected therewith.

4th. That in the event of the Council seeing their way to grant such right-of-way, a lawyer thoroughly conversant with railroad matters be employed by the Council, at the expense of said company, to draw up any agreement or by-law.

Municipal councils will do well to give this new problem their best consideration, and where several are concerned in regard to one line, might do well to get their heads together in order to concerted action in dealing with applications being made to them by corporations for the use of the highways. In view of the importance of the issues involved, we shall be glad to afford space in our columns for the discussion of this subject by those having experience or suggestions of value to others to offer.

Homes for the Millions.

In what is called the New Ontario, there is a tract of fertile arable land north of "the height of land" stretching across Nipissing, Algoma and Thunder Bay, comprising no less than 15,680,000 acres, well watered, heavily timbered in places, and suitable for farming. Its climate resembles that of Southern Manitoba.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

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Horses and Fruit.

MORE HORSES TO BE BOUGHT IN CANADA FOR THE BRITISH ARMY.—WHAT THE MEASURE FOR MARKING FRUIT BARRELS AND BOXES PROVIDES.

FROM OUR OTTAWA CORRESPONDENT.

Ottawa, April 9th.—Lieut.-Col. Dent is again in Canada for the purpose of purchasing horses for remounts in the British army. He was in Ottawa this week for a few hours, but, with the exception of the Governor-General and the Hon. Sydney Fisher, Minister of Agriculture, he was disinclined to see anyone. To the question as to what were his plans, he said they would not be matured for some time yet, but he had definite instructions on two points: He would buy, at centers yet to be defined, all the Canadian horses suitable for army purposes that could be purchased at what he considered to be a fair valuation. As soon as possible he will buy 1,000 horses and ship them by way of Boston or Portland, as may be found most expedient. Then he will establish remount stations in various districts throughout Canada, at which horses will be bought and shipped as opportunity requires. When these depots are established, the experienced horse-buyer placed in charge will be empowered to give to horse-breeders all information necessary to enable them to raise animals suitable for army purposes. Lieut.-Col. Dent was disinclined to be interviewed personally on this point so important to the majority of the readers of the FARMER'S ADVOCATE, but he said the information would be forthcoming in due course. It is interesting to know, however, that the army officials have spoken highly of the quality of the horses taken from Canada for service in the South African war, and the Colonel volunteers the information that horses of similar build and breed (or variety of breeds) are just what is wanted. Indeed, there is reason for the belief that the official explanation why only 3,738 horses were purchased by the British Government in Canada, while 7,901 were bought in Australia and 26,310 in the United States, is correct. It was given in the British House of Commons on the 19th ult., when Mr. Gilbert Parker, M. P. for Gravesend, the well-known Canadian writer, asked for an explanation on the subject, thereby doing this country a good favor. Lord Stanley said the purchase of horses in the Dominion was "limited by the shortness of the season and the approach of the Canadian winter, and the prices of the horses and cobs were much higher than those paid for similar animals obtained in the United States and in Australia." There is

little, if anything, in the explanation of the short season and the approach of winter, for our winter does not in any way detract from the hardness of our horses, and in the Northwest thousands of them roam the plains, when not broken in and working, the entire year round. But we can well understand that if the Imperial authorities refused to pay our horse-raisers full market price, they would be unable to buy. If they got cheaper horses elsewhere, it does not follow that they got as serviceable animals, for experience has shown that the well-bred Canadian horse—thanks, in great measure, to the health-giving properties of our bracing northern climate—can hold his own with the horse of any country, under any conditions.

When navigation opens, the horses purchased by Col. Dent will be shipped by way of Montreal. The greatest care will be taken to secure proper shipping facilities for the animals, and in this work Col. Dent is being aided by Major the Hon. Ormsby Gore, of the 11th Hussars, and Dr. James Fraser. The last named, by the way, is a Canadian, the brother of Mr. S. P. Fraser, 10th con., East Zorra, Oxford County, Ont. He has achieved distinction as a veterinary surgeon, and is at the head of one of the largest colleges in the United Kingdom.

I understand that it is the intention to establish one or more remount stations in the Province of Ontario, one in Quebec, one in Manitoba, and one in the Northwest Territories, though nothing will be definitely decided until Col. Dent looks over the ground. He was in Canada last year, and he was then so pressed for time that he did not visit the Northwest, but he recognizes the importance of seeing that country and its horses on this occasion.

The House of Commons made few amendments to Hon. Sydney Fisher's bill to provide for the marking and inspection of packages containing fruit for sale. As reported, the measure will come into effect on July 1st next. A closed package is defined as a box or barrel of which the contents cannot be seen or inspected when such package is disclosed. Fruit marketed in ordinary baskets will not, therefore, come under this law. Every box or barrel in which fruit is inclosed must be marked in a plain and indelible manner, with the initials of the christian names and the full surname and address of the packer, with the name of variety or varieties, and with a designation of the grade of the fruit. It will be illegal for any person to sell or expose for sale, or have in his possession, any fruit packed in a closed package and intended for sale, unless such package is marked as thus set forth. Section 6 provides that no person shall sell, or expose or have in his possession for sale, any apples or pears packed in a closed package upon which package is marked the grade, "A No. 1 Canadian," unless such fruit consists of well-grown specimens of one variety, sound, of nearly uniform size, of good color for the variety, of normal shape, and not less than 90 per cent. free from scab, worm holes, bruises, and other defects; properly packed and marked in a plain and indelible manner, with the minimum size of the fruit, in inches (or fraction thereof), across the case of the fruit. "No. 1 Canadian" is defined, under similar terms, as apples or pears of which 80 per cent. are faultless. There is an enactment making fraudulent any selling, exposing for sale, or having in possession, any fruit in a closed package that does not come up to the standard set forth for "A No. 1 Canadian," and marked "first," "best," or "extra good" quality. Fraud in packing is defined to be when more than 15 per cent. of the fruit is substantially smaller in size than, or inferior in grade to, or different in variety from, the marks on the package, or the faced or shown surface of the package. It is made a serious offence for anyone to virtually alter, efface or obliterate the words, "Falsely marked," placed on the package by the inspector who finds a package of fruit not up to the standard claimed for it by its owner. Penalties are imposed for a violation of any section of the Act, and provision is made for carrying out the intentions of Parliament in establishing and maintaining honesty in fruit-packing. The inspectors will be employed under regulations duly drawn up, to inspect packed fruit and to secure the punishment of those who may attempt to defraud the public and bring the good name of Canadian apples and pears into disrepute.

I listened to the interesting discussion that took place on the measure. There was no difference of opinion as to the need of it. It was conceded that it was the minority of packers that in the past had injured the export trade of the country and the growing sale of eastern fruit in Manitoba, but it was shown that the country, as a whole, was the loser by the fraudulent practices that had been resorted to. There was some question as to the best way to establish brands under which our fruit could be sold. The result is that the brands here set up, though intended to be standard brands for the whole country, are permissive. Men who have established a market for fruit under their own brands will be permitted to continue those brands, but their fruit must come up to the standard established. The Nova Scotia apple will still be known by its distinctive name, "Nova Scotia," but the standard must be upheld.

Mr. Hodson, Dominion Commissioner of Live Stock, is now in the Northwest visiting and addressing Farmers' Institutes. There is everywhere a tendency to improve the breeds of horses and cattle.

STOCK.

A Day with a Western Shepherd.

BY J. M'CAIG.

The Doukhobors and Galicians and their customs and habits are interesting to us, because they have become part of our commonwealth, but they lack the initial interest of fellowship and common nationality that many other settlers in the West have for their eastern friends. Apart from the large foreign immigration that is setting in Canada, the West has absorbed a great many eastern men or boys who have felt that they could do better if they only had the chance, and have consequently left the competition of the east for the open prairies of the West. These may be artisans, farmers' sons, or 'varsity grads. If they come as far west as Southern Alberta or Western Assiniboia, with its free grasses and balmy winter climate, under the kindly chinook, they soon conclude that the cattle business is the business of the country, and the goal of most is to get a start with a few cows; hence, many start riding for the big outfits, and convert their annual savings into cattle, and wait for their bunch to grow until it is large enough to afford constant employment and sufficient return to warrant them in homesteading a quarter-section, putting up a shack, and going into the cow business in an independent way. The cowboy life has been written and talked of "good and plenty," as the Western phrase goes. The picturesque aspects of it have not been neglected by fulsome newspaper correspondents. In fact, the pomp and circumstance of the old cowboy life, with its cartridge belts, guns, rough-riding, and eager sports and vices, have been given a prominence and emphasis greater than actual present humdrum working conditions warrant. But all Western men are not rough-riding, irresponsible cowboys; they are not even cattlemen at all. There are a good many shepherds. The newspaper men seem to have passed the shepherds up, but they are an interesting and an important economic factor of Western life just the same.

We had decided to see them at work. The natural grasses soon exhaust near the towns, and the shepherd tries to get where nobody else is, if possible. A visit to a sheep ranch does not mean a drive in a broad-cushioned phaeton for three miles and return, but a horseback ride of twenty miles. The ideal and typical way of traveling in the West is on the frisky "cayuse," as the Western pony is called. He may be heady and fresh at first, and roll you a bit for the first couple of miles, for the healthy pony is fond of moving. His wind and constitution are good, for he has been brought up outside, with exercise all the year round and with plenty of dry feed. By and by you get closer to your Mexican saddle, with its high pommel and cantel, and it is much more comfortable than the diminutive English saddle—"postage stamp," the cow-man calls it. The air is fresh and exhilarating as champagne. Your whole frame is in pleasurable exercise, and you feel for once independent of the druggist and his drugs. But this is another story.

Two hours and a half brought us to the camp of our shepherd host—a real 'varsity man, but he has given over talking about that now. It was still light enough to see the camp lay-out. Large shedding, more noticeable for its extent than architectural grace; large corrals adjoining it; dipping plant, wool press, a mower, horse-rake, and large basket wagon, with which to gather the short prairie hay, against an occasional bad winter spell; but no harvesters, plows or seeders; and, finally, the shack of the proprietor. This was the picture before us as we jolted down the coulee to the river "bottom," protected on both sides by high-cut banks which carried up the bench lands at both sides of the stream. The sheep bunch were in the corral for the night. We could see the white mass and hear the bleat of an occasional unhappy member of the flock, who always seemed to have two or three, or perhaps half a dozen, imitators.

We ate and slept, and ate again, the last time before daylight, as the first time after dark, for the shepherd must be early afield. The dogs were already clamorous to be out before the lamp was extinguished—two collies and a greyhound, the collies to work the flock, the greyhound to protect the panicky, stupid sheep against wolves and coyotes. The greyhound bore many a scar, and was quiet and sedate, but the Scotch dogs were all movement, back and forth, and had to be brought "in to heel" frequently. The flock were already noisy; a second's pause found a new leader, and then came a regular chorus until the corral sent out a confused din of sheep calls. The corral is opened, a black goat is the recognized leader, but hundreds of quick hooves are striking the hard-trodden, dry way up the coulee; the dogs are quickening the front ranks by barking along the sides, and are shooting back to hurry the loiterers behind, and the day's work has opened. The pace slackens after the corral is empty, and the flock ascend the slope to the bench in long files, one after one, in a continuous, wavy movement, that seems of one sheep instead of twenty-five hundred of the little quadrupeds. By and by the bench and the grass are reached, the head ones pause for the first bite, and the ones behind spread and dress up to right and left until the flock is spread to a quarter or half a mile front, and in this way the circle for the day progresses. As among men, the aggressive get the best bite, and the strong, husky ones of the

bunch go in advance of the cripples and crones, that have to be kept jogging behind, for all must be kept in sight, against the possibility of scattering of stray groups by the wolves or coyotes.

Sheep gather their food quickly. By eleven, occasional groups are seeking the airy knolls to rest and ruminate. But we were lucky enough to get all that was coming to us in sights and experiences! Things became suddenly mixed at one end of the flock. A vicious coyote is in the midst, snapping and biting in all directions, and the poor, panicky ewes are spreading away from him, but his day is short. The collies are diffident to go to the center, but the quiet greyhound is in the midst without hesitation. A few fierce yelps and sudden turnovers, another scar or two for the greyhound, with the collies in at the death on the word of the shepherd, and it is all over with the coyote, and there is another skin for the shepherd's rug. A couple of hours more rumination and rest for the ewes, and a square meal from the shepherd's hamper for us, and the flock are again in motion and busy, and the second half of the circle for the camp is begun. We swung around to the right in the morning, and are circling back to the left, towards the head of the coulee, for evening, having covered not less than six or seven miles. The sheep get very busy with the close of the afternoon. The head ones need no urging. The crones and cripples have gone as far, but have probably not got as much; but they are all of one flock, and must march with the bunch. The sun has already dropped when the black goat and strong ones are trotting down the coulee for camp; the collies are busy at the sides and rear of the flock; the greyhound, in the rear, is still more sedate. The area narrows, the bunch whitens as the night darkens; they are all ahead of us on the down-grade. The latch of the corral clacks into its niche. There is still an occasional unhappy sheep call, and the day is done.

Selecting and Buying a Draft Stallion.

With the present demand for good draft geldings and the good prices paid for them, there is sure to be an increased demand for draft stallions this spring. Many of these will no doubt go into the hands of men who have had little or no experience in the stallion business. Trusting that a few hints along the lines of buying and selecting may be beneficial to some of this class of buyers, it is not my intention to champion any of the draft breeds, but leave this question to the men who invest their money. Before going into the stallion business, it is very important that a man satisfy himself as to the needs of his locality. If Clydes have been bred in the locality and there are a number of good Clyde mares and little or no other draft blood, then, by all means, buy a Clydesdale. If, however, Shires have been used to any extent and there are well-bred Shire mares available, then I think it wise to invest in a Shire stallion, as the success of a district in horse-breeding depends greatly upon the persistence of the farmers along one line or breed of horses.

Though the Clydesdales and Shires resemble each other very much, and, no doubt, crossing between the two breeds would give very good results, yet I think it wise, under present conditions, to keep to the one breed or the other. Having decided on the breed of horse most suitable to your wants and of your locality, the next important thing is to fix in your mind your ideal horse—that is, the horse most suitable to produce the best results from the class of mares that are likely to be bred. A horse that is successful at the head of some studs of pure-bred mares or a great prize winner is not always the best horse to go to the country to cross on all classes of mares, or, say, the average farmer's mares. Thus, it is necessary when buying a stallion to travel a district, to take into consideration the class of mares likely to be bred. In the years of depression of the horse trade, a great many of our best mares were sold off the farms (they being the only ones that would sell), leaving such as were not salable in the hands of the farmers; thus we find to-day a great many undersized, light-boned, and very often coupled with this long backs, poor across kidneys and short-ribbed. Along with those qualities frequently goes a nervous disposition. I do not mean to say that

this is the case all over the country, or that there are no good mares left in the hands of farmers; but there certainly are more of this class than any other in many localities: thus it is quite evident that good big stallions are needed, having good sound feet, with good strong, hard, flinty bone, with well-muscled arms, good strong, well-muscled shoulders, well shaped to fit to the collar; back short, broad across the loins; ribs well sprung and of good length to give a good dinner-basket and plenty of room for digestive organs; chest deep and broad, with legs well set under. Coupled with these qualities will generally be found a good temper. Make sure that you get the above qualities and as many of the qualities that go to make your horse attractive as you can; but, by no means sacrifice qualities of strength and endurance for beauty. To be useful, a draft horse must be a good walker—must have a free, open stride, making free use of all the joints of his legs.

The best place to buy a horse is at a breeder's or importer's stable. Do not be induced to buy a horse that may be sent to your nearest town by some peddler (if I may be permitted to use the term), as the class of horses this class of men deal in in the above-named way do not appear as good in company as they do alone, and you will also have to pay the expense of sending the horse, the expense of two or three men for a week, or sometimes weeks in caring for the horse and soliciting buyers for him, or trying to work up a company or syndicate. I do not say that no good horses are sold in this way; but, in a great majority of cases, this class of horses does not give satisfaction, and a man can always do better at a breeder's or importer's stable. I would say, go to some reliable stable,

The Management of Brood Mares.

On the stock farm, where the only revenue derived from a mare consists in the production of a foal, it is necessary for the owner to use his best effort toward getting every one of his mares in foal each year; then, after getting them in foal, the risk of accidents tending to produce abortion should be carefully considered, and all the seemingly minor details of every-day management and feeding should be attended to with the utmost care and attention. As regards the ordinary causes of abortion (exclusive of contagious abortion and those that are a sequel to debilitating diseases, such as influenza, pneumonia, etc.), cases are frequently produced by the following causes:

1. Slipping on icy spots and either falling or producing a strain.
2. Fighting with other horses and getting kicked in the abdomen.
3. Getting pinched in box-stall doors while entering stall (this is where the doors swing out).
4. Getting into deep snowdrifts or muck holes, thereby producing strains.
5. Mares, in searching for a place to rub, or, as it seems to be with some of them, from pure curiosity, will get into all kinds of traps, such as between wind-mill towers, or try to get through some opening that is about half wide enough, and I have seen them get into a feeding pen for sucking colts, where they had to get on their knees to crawl under. Of course, when they come to get out, they usually get excited and try to jump over the top, get hung up, and an abortion follows.

6. Another cause is abuse from attendants. Some mares are very stubborn and aggravating about going into the barn at night, and have to be driven in from the yard by force; then, after getting them into the barn, it is still harder to run them into their stalls; finally, when they do go into the right stall, it is a very natural thing to strike them over the rump with a halter, board, or anything that comes handy, just as they jump through the door. I once saw this done, causing the mare to fall. This took place while letting them in from the yards at evening, and the mare lost her foal that night. Of course, there are many other causes that produce abortion, and the foregoing are simply examples of a few of the minor accidents that have come under my notice, and might happen at almost any time.

The remedy for this class of accidents is prevention. If there is ice in the yard, and there is too much of it to be chopped up, ashes or manure may be spread over it and then wet down, so that it will adhere and freeze to the ice underneath. Mares that are mean should not be allowed to run with others, and it may be necessary to let them have a small yard by themselves. Box-stall doors should always be fastened open before the mares are let in for the night, and it is wonderful how soon each one will learn her place and seldom make a mistake or get into the wrong stall.

I prefer earth floors in the stalls and alleyways, as the danger of slipping is less than on a plank floor, especially in winter, when their feet, on very cold days, become balled up with snow and ice, sometimes elevating them from the ground three or four inches, and it often seems advisable to knock the balls out of their feet before they are let into the stable. The approaches to the stable door should be arranged so there will be no sill to step over, as a mare will sometimes get just a slight toe-hold with one hind foot in going over a sill, and slip off just when the most weight comes on the foot, thereby causing her either to knuckle at the fetlock or causing abnormal extension of the hock and general concussion. As regards diet, we should be careful to see that the food is of the best and that no smutty corn or rusty oats are fed. It is also rather dangerous to allow pregnant mares free access to straw stacks, as is done in the West. Flax straw is particularly harmful, as is any food which acts as a purgative.

It will pay the brood-mare owner to try his mares often in the breeding season, and the plan adopted by most breeding farms of any size is to try all of the mares twice a week—for example, say Wednesday and Saturday, which should be known as "trial days" and on these days each mare is caught and tried. This is kept up until



AUTOMOBILING—AN IGNOMINIOUS JOURNEY HOME.

A correspondent writes:—"Two gentlemen and a lady were enjoying a spin in a motor car, when, without any warning, the works refused to act. The occupants of the car got out and stood considering for awhile, and as the advice of a passing mechanical engineer was of no avail, they decided to get a regiment of boys to push the vehicle home—a distance of four miles. Recruits were readily obtained, but they could not even move the car. At length a happy thought struck one of the automobilists. Why not hire a horse at a builder's, close by? Accordingly, a very heavy cart horse was obtained and attached to the motor, with a small boy on his back. Of course every passing Jehu had his joke at the expense of the luckless passengers, and the little urchins in the street practised their wit on the unusual spectacle. The youngster on the horse enjoyed the experience hugely, but the unlucky motorists looked as if they found the situation anything but humorous."—The Graphic.

where you can make comparisons, and, if not satisfied, visit several stables and take a little time to make your selection. Don't be hurried into buying by the appearance on the scene of some other prospective buyer, unless you have thoroughly satisfied yourself with horse and price, for, if the other fellow gets the horse, you don't pay for him, and there are others as good. It will always pay a man to buy for cash. Many breeders will sell on credit, but will allow a large discount for cash, so any reliable man, if he has not the money in hand, can get it at a lower rate of interest where he is known than in a strange place.

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Yours truly, JOHN R. LINTON.

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it would be too late in the season to breed them again, even if they did come in heat. I have seen mares that were bred in April refuse twice a week from May to July, and then come in season. In cases of this kind, it is probable that abortion takes place, but owing to the early stage of impregnation, the external signs of abortion, such as soiled condition of vulva and tail and tucked-up appearance of the abdomen, are not noticed. Sometimes a mare is noticed in whom it is almost impossible to determine whether she is in heat or not, and will allow a horse to tease her and will stand perfectly quiet. The only way to tell is that if she is not in heat she will object if the horse attempts to cover her. This kind of mare is a source of continual annoyance to all concerned.

In warm weather, the best place for a mare to foal is out of doors, on a good grassplot, but until warm weather arrives, arrangements must be made for foaling inside in a good-sized box stall, in which there should be plenty of bedding. Mares that foal inside should be watched both night and day, so that in case of non-rupture of the fetal membranes during labor, they can be opened by the attendant before the foal suffocates (this also applies to mares foaling out of doors). Another reason for requiring an attendant is to prevent the mare from lying down with her hind parts against the sides of the stall, thus interfering with the delivery of the foal; also to catch the foal from those mares that persist in foaling in the standing position, and in so doing, preventing the foal from falling and forcibly striking the floor. These are the principal difficulties met with by the attendant, exclusive, of course, of the many different phases of difficult parturition. Immediately after foaling, the foal should be carefully placed in one corner of the stall, where the bedding is usually comparatively dry. The stall should be re-bedded with dry straw at once, before the foal attempts to stand, as it is bad policy to allow a young foal to slip and sprawl about on a slippery floor. This should be done regardless of the time of night or how sleepy the attendant may be, and it will be found that small attentions of this kind will go a long way toward making the business a success.—*J. P. Foster, V. S., in Journal of Veterinary Archives.*

Diarrhea in Calves.

Many calves become stunted and have their constitution undermined, and many are lost, from this trouble. Very often the cause is obscure, and the means of prevention seem to be not generally understood; but prevention is so much better than cure in regard to this, as well as to many other troubles, that it is well worth while to take precautions for its prevention. The cause may, as a rule, be traced to damp, dark and filthy quarters and to unclean drinking vessels, to overfeeding, feeding at too long intervals, or feeding with cold milk. The vessel from which a calf drinks, in order to be really safe, should be rinsed with cold water and then scalded with hot water and placed in the sunlight to dry every day. Filth and decaying milk generate poison germs which set up the disease of diarrhea. Give the calves light, airy and clean quarters, and keep their drinking vessels well cleaned. If from any cause scours occur, do not neglect the case and wait for "a faith cure," but at once look for the cause, and remove it. If you have been feeding cold milk, you deserve to be punished. Cold milk is not fit food for the stomach of a young calf, and is almost sure to cause indigestion, which frequently brings on scours. Let the milk be warmed so that when fed it will be about the temperature of milk as it comes from the cow. Do not boil it, nor feed it when hot. It is better to heat it on the stove, and remove before it gets too hot; but if that is too much trouble, or is inconvenient, better far add enough hot water to raise the temperature to the desired point than to feed it cold. Overfeeding is another prolific cause of scours. Young calves, before they have learned to eat other food, should have milk three times a day in small quantities. The long fast from morning till night makes them very hungry, and if a big mess of milk be given, they gulp it down greedily, and it is liable to bring on indigestion and the serious trouble we are considering. The natural way of the calf getting its supply of milk is by drawing it slowly from the udder of the dam or nurse cow, the milk being mixed with the saliva of the mouth, which greatly aids digestion. If care were taken to keep them clean, there is no doubt that the ideal way to feed calves would be by the use of artificial teats of rubber on the spout of the feeding vessel, but if fed little and often while young, say for the first month or six weeks, and never overfed at any age, the other conditions as to cleanliness, etc., being observed, there will seldom be any need for medicines. But as before said, do not neglect the case when diarrhea occurs, but at once remove the cause; make a change in the feeding by giving less milk for two or three days, and in the best condition, and give one to two ounces of castor oil, according to age, in a little warm milk, from a bottle. If taken early, and the other precautions observed, this will generally end the trouble, the irritating cause being removed. A raw egg broken and put into the calf's mouth, shell and all—its head being held up till it has swallowed the contents of the shell at least—will be found helpful. If a cure is not soon effected, give a tablespoonful twice a day for a few days in a little milk, from a bottle, in which is also a beaten egg, of the following mixture: tincture of ginger, four ounces; tincture of opium, three ounces; tincture of rhubarb, two ounces; and

essence of peppermint, two ounces. In very bad cases, give a dose every two hours until the discharges become more natural. If the calf is very small and young, half the dose of oil and of the mixture will be enough. The calf should be kept warm and dry.

A Plea for the Standard-bred Trotter.

I have seen articles from time to time in the FARMER'S ADVOCATE on the horse, and the editor seems to always have a knife into the Standard-bred trotter, and in the March 1st number he comes out with a sweeping condemnation of them, and by what I can gather from the tone of his writing, I am of the opinion this gentleman has had little or no experience with the Standard-bred trotter or his offspring. He says: "Major Dent strongly condemns the Standard-bred sire"; also, "Horses with long backs, weak back ribs, and small bones below the knee, are looked upon by him as entirely unfit for army purposes, and these weaknesses in many Canadian horses he attributes to the Standard-bred trotting sire." These are points and weaknesses that are not characteristic of all of the Standard-bred trotter, and how can he, or why should he, produce such points or weaknesses such as he neither inherits nor possesses? A good Standard-bred trotter is very hardy, of great endurance and power. I am also of the opinion that if the Standard-bred trotter had been of English, Scotch or Irish production, he would be looked upon by Major Dent with much more favor. I am strictly a Canadian, though I love a good unbiased Englishman, Scotchman, or Irishman, and some of all that blood flows through my veins. My father was naturally fond of domestic animals, and grew into the breeding of all kinds of pure-bred stock, and we exhibited stock at all the old provincial exhibitions but three. He also did a large business (for those days) in the sawmill line for many years, some years manufacturing over ten million feet of pine lumber, which required a great deal of the hardest kind of horse labor, which gave him a great experience, and we worked every description of horse in Canada at that time, from a Thoroughbred to a Clydesdale. He was the first Clydesdale man in the County of Halton, and over twenty years of this time was while I was with him, and the best team he ever owned—a team that could outwork, outdraw and outravel any of them—did not stand over 15.3, and would not weigh over 1,200 pounds each. One was the stallion, Coates' Eclipse (see Wallace's American Trotting Register, vol. 2), a horse that would be in the Standard-bred class if he were alive to-day. He killed himself, when twenty-three years old, by getting loose and eating a large quantity of chopped barley, in the fall of 1863. He was the sire of the dam of old Caledonia Chief, a horse that had the fastest Canadian stallion trotting record in his day, and his mate was sired by a horse called Sir Henry, that was brought from the States, and his dam was a pure-bred French-Canadian mare. I have owned some of every breed of horses that we have had in Canada, except the Hackney and Percheron, and too many of the very kind that Major Dent advises our Canadian farmers to breed from—the Thoroughbred. I have kept for over forty years from one to six stallions annually, standing for service, of nearly all breeds. At present I have only three, viz., two Clydesdales and a Standard-bred, and when a friend comes and asks me candidly which of these stallions he had better use to likely produce a good, useful, docile, hardy and reliable animal, if his mare is at all suitable, I tell him unhesitatingly to breed her to the Standard-bred, Arka. Arka is no pony; he is a Standard-bred trotting carriage horse, stands 16.2, and weighs 1,200 pounds, and can trot a little as well as work. I must say there were far more weedy, ill-tempered, worthless ponies sired by my Thoroughbreds than by any of my other stallions, yet five (5) out of the lot of Thoroughbreds I had were 16 hands high and over, with a good deal of substance. Some of this I attributed to the class of mares that was often bred to them, as was too often the case with both them and the Standard-bred trotter.

Frequently, when a person has a little switch-tailed vixen of a mare, she is the one chosen to breed to that class of horses, and four times out of five disappointment is the result, and especially if bred to the Thoroughbred sire, because he cannot overrule that propensity in the dam, as they are apt to be a little ill-tempered themselves. I have had at least two Standard-bred trotting sires that could overrule the ill-temper in the offspring of any dam, and my convictions are, from long experience and close observation, that the Standard-bred trotting sire with good style and good natural speed and action, large, and bred large (do not overlook the fact that they can be bred large without impairing their speed proclivities: the world's fastest record to-day is held by a large, useful horse), and the more of the blood of Mambrino Chief (.11), George M. Patchen (.30), Royal George (.09), and some others, they carry, the more likely they are to be large and the larger they will throw their stock, and they are the most useful and the most satisfactory sire that the farmer can breed from, if he selects his mares properly. The mare should have good size and fair style. There is no stallion of which I have had any personal knowledge that has been as remunerative to the farmers and others of this district as old John E. Rysdyk 5721 (the first

Standard-bred trotting stallion that was imported to this part of Canada in 1871) and his sons.

The school inspector of this county, a gentleman who is very fond of a good horse, told me that he saw a carload of horses being shipped a short time ago from Chatham to Scotland, and in the lot there was only one that was not a grandson or granddaughter of old John E. Rysdyk 5721. Another gentleman told me that he saw two carloads going from the same place to Scotland, and only three of the lot were not grandsons or granddaughters of John E. Rysdyk. Mr. James McKenzie, of Union, Ont., a gentleman who has bought, handled and sold a very great number of high-steppers and other high-classed horses, while here some three or four years ago, told me that during his partnership with Mr. Adam Beck (the first four years of his horse ventures), the best horse they owned was sired by Verus, a son of John E. Rysdyk 5721, and his dam was by my old Davis' Black Hawk Morgan. I was in Texas four years, and returned to Wardsville in the fall of 1878. In the spring of 1879, Doctor Sumerville, of Buffalo, who was our greatest horse-buyer for many years, forwarded me some posters stating he would be at Wardsville on a certain day to buy horses for the English market, from 15.2 to 16.2, suitable for carriage and hunting purposes. Late on in the day of his visit I went down town to see how he had got on, but he had not bought a horse, and nearly the first remark he made to me was: "Where are those Black Hawk horses that you bred here?" My reply was: "You or your men picked up all that I know of except one mare and two geldings, that cannot be bought for what they are worth." His reply was: "Well, we got a lot of them, but I thought I might pick up a few more of them. Some of them were sold for carriage horses, and many turned out great hunters, and after the Englishmen found that out, they sold like hot cakes. Why, they would jump anything that they could, and some of them would try to jump a barn if you headed them for it. One mare, that must have been bred near here, and bought in Bothwell for \$150, was sold at Liverpool, before she was fairly landed, for £150 sterling, and lots of them sold for £100 and £125 sterling each." The great jumping horse, Bronte (the highest jumper in the world in his day), was sired by Black Hawk Warrior, a son of Davis' Black Hawk Morgan, when I had him in the County of Halton with John E. Rysdyk Jr., in 1881 or 1882. One of the greatest hunting mares owned at Montreal was bred by your townsman and friend, Dr. Tennent, and was sired by O. A. C. 2072, an intensely bred Standard-bred trotting sire, and her dam was by McKerlie's Grey Warrior, Standard blood on both sides, and after she became noted, her Montreal owner sent to Dr. Tennent for her pedigree. He sent it as it was. They wrote him asking if he could not make it with Thoroughbred strains. He wrote them that that was her true breeding and that was all he could do for them, and, no doubt, to-day she is being passed off as sired by some Thoroughbred, yet there was not a Thoroughbred cross near her; and of the horses that went from here to South Africa, that you say "won such reputation for us," I have no doubt that over half of them were sired by Standard-bred trotting sires or by sires that were a little short of Standard-bred, and that their owners claimed nothing but Standard blood for their superiority.

I do not for a moment say, if I were aiming to breed a fast runner or a great hunter, that the sire I would expect to produce it from would be a Standard-bred trotter. No, far from it; but, strange to say, they very often do produce the latter. But if I wanted to breed a good, useful, hardy and durable horse, then I would go to the large-sized, large-bred Standard sire with lots of natural trotting speed, and by selecting fair or large sized mares, with good constitution, I would hardly make a miss. A horse is an animal that I think should never be bred for a mountain of flesh (though I am in the swim, and have that kind); we do not eat their flesh, and they are strictly servants. In this country, I think they should be bred as much as possible for all purposes. My Standard-bred trotter, Arka, some days draws his share of a two-ton load of manure to the farm when the roads are reasonably good, and our road is not graveled, either. The next day he goes to Ridgetown and returns (forty miles); the next day the cattle get out, we throw the saddle on him and after them we go and bring them back on the double-quick. The next day we hook him up and go down town and have a little spin with the boys, and are not always hindmost, either. The next day away we go to the woods, swamping out logs and wood, and don't take light loads, either; and to-morrow my son is going into the country thirty miles and return. Now, this is just the way we use our Standard-bred trotter, and that is the way we used his father before him, that took twenty-eight first prizes in the show-rings (one second and one third), and they do it cheerfully, without fatigue. Now, could we do it with our Thoroughbreds, and could we dare we attempt it with our heavy drafts?

I never did any writing for the press before, and I assure you I do this very reluctantly; but I have had quite an experience with nearly all the breeds of horses on this continent, even the mustang, in his native clime, and when I see articles written so erroneously and prejudicial to the Standard-bred trotters, I thought it my duty to tell a little of the good qualities which I know they possess, in order to try at least to partly set right the minds of those who have had little or no experience with the Standard-bred trotter.

O. A. COATES.

Bothwell Co., Ont.

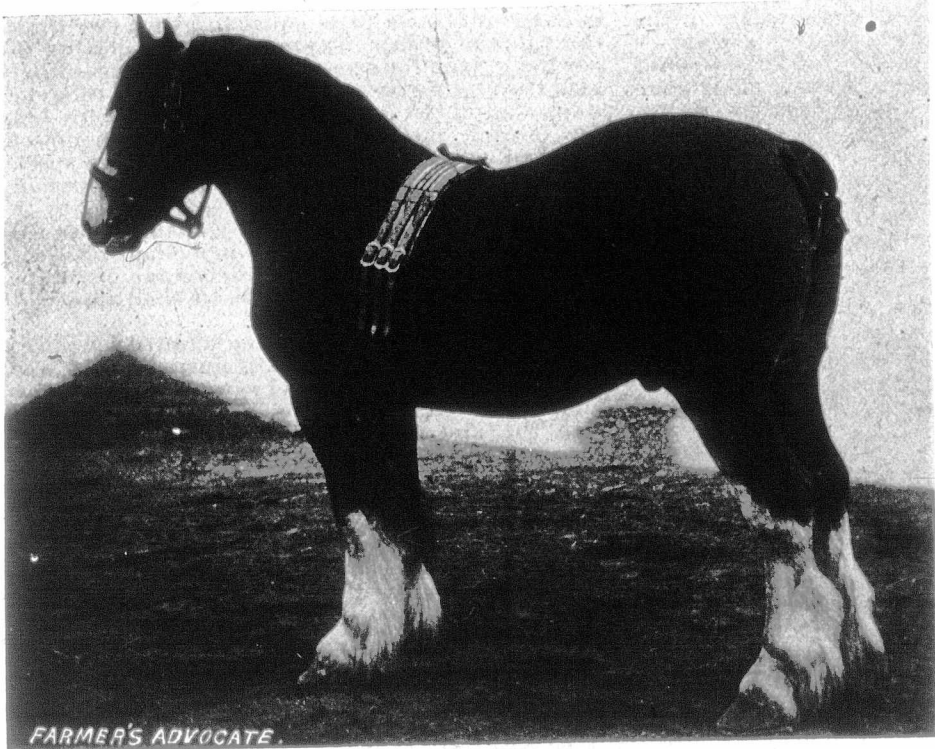
Our Scottish Letter.

The month of March is usually a busy one with Scottish farmers; this year it has been a peculiarly tantalizing one. The condition of things at the close of the month, except for the lengthening day, is more like January than March, and winter with a vengeance is lingering in the lap of spring. The week closing has witnessed snowstorms, curling-ponds bearing, north-east gales, and many other natural features well fitted to retard the progress of the crops. Very little seed has been sown, and the bitterness of the cold makes outdoor labor a burden not easily borne. How long this is to last does not yet appear. The one redeeming thing about the situation is that by the heat of the sun the evil effects of the excessive cold are in some

an absence of unanimity, and the second question, How should army horses be bred? therefore cannot meanwhile be answered. Whether a big horse or a little one is the better, depends largely on what burden the horse is expected to carry. The Boer is difficult to catch, not alone because he rides a small horse, but because he rides a small horse capable of carrying all is asked of him. The primary question in the whole controversy is, What weight should a mounted soldier carry? How should he be clothed and armed? Unless these questions be first disposed of, it is useless to argue for small horses or large horses. The Government officials at the beginning of the war were very chary of purchasing any horse, however hard trained, which could not pass the mallein test. This may or may not have been wise policy, but it undoubtedly kept them out

of a large number of horses in hard condition and fit in a very definite fashion for the work demanded of them.

the accused. The prosecutor has not to demonstrate his guilt; the accused must demonstrate his innocence or he is to be declared guilty. In other words, he has to prove that he did not tamper with the milk, but sold it as the cow gave it. He has to prove a negative, and that is not an easy task. Another Committee has been sitting to settle whether steps should be taken to guarantee the purity of the seeds sold for agricultural purposes? To Canadians it will appear strange that the Old Country should only be considering such questions now. You have had your seed-testing stations for a long time, and farmers in any of the Provinces of the Dominion would scarcely dream of buying seeds unless they were guaranteed. So far, with us, this Committee has only got the length of recommending, and that not unanimously, that the Government should establish a seed-testing station. Whether this recommendation will be adopted remains to be seen. It is a point in its favor that, with one exception, the leading seedsmen are in favor of it. "SCOTLAND YET."



BRIGHT STAR (Vol. 23).

Clydesdale stallion; foaled in 1898; sire Prince of Carruchan 8151, dual Cawdor Cup winner; dam Royal Maid, by Mount Royal 8065.

IMPORTED BY DALGETY BROS., LONDON, ONT. OWNED BY WM. KNAPTON, LONDON, ONT.

degree mitigated during part of the day. With the agricultural show season in prospect, farmers are not too cheerful, as spring work, which was well advanced for awhile, is now in arrears, and managers of agricultural shows have not much to give away this year. Many of them last year had balances on the wrong side, and should there be a repetition of the same state of matters this year, a few of them may cease to be. There are too many shows, and exhibitors will not be sorry if a few of them cease and determine. Their number is really a heavy tax on agriculture, and nothing will wipe out the superfluous portion of them but lack of funds.

Parliament has been occupied to some extent with discussions on army remounts, and horse shows have been the order of the day in London. The Hackney Horse Show was an unqualified success, and a very popular event in every way. Hackneys are sound, and when the breeders concentrate their attention on producing driving-horses they are likely to attain a large measure of success. The scarcity of good driving-horses in this country is well seen when one looks at the number of foreign horses in use in the West End of London. Of course, the financial question has a deal to do with this. If horses can be produced more cheaply under the aegis of the State in continental nations, Great Britain gets the benefit by her open ports. Horses are dear in this country because the land on which they are reared is dear, and the land is dear because there is a demand for it. This is not a proof of poverty, but of wealth. Agriculture here is certainly depressed, compared with what it once was, and many farmers have a hard struggle to make ends meet. Yet many farmers make money, and leave substantial sums for division amongst their heirs.

The Problem of Army Remounts in this country is this: The Exchequer will not allow the War Office to pay beyond a certain price for horses, and farmers cannot produce a sufficient number of horses of the class wanted at the money. The problem is a serious one, and the lessons of the South African war should not be lost sight of. The issue, so far as horseflesh is concerned, has been to demonstrate the weakness of our present lack of system, and it is well that this weakness has been discovered in connection with a war the issue of which, notwithstanding all our bungling, was never doubtful.

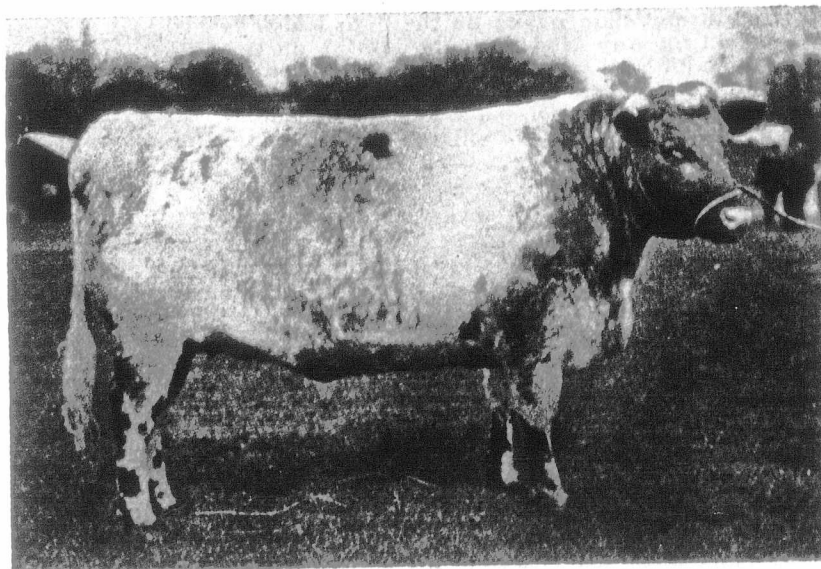
Whether the present Royal Commission on Horse Breeding has accomplished anything worth while may fairly be questioned. It does its work with a great appearance of zeal and authority, but it has neither the means nor the opportunity of seriously affecting the general result so far as army horses are concerned. The first question to be settled is, What kind of horse is best adapted for army purposes? On this preliminary topic there is

standard showing 12 per cent. total solids, and 3.25 per cent. milk fat. Naturally, the dairymen are up in arms against this, and there is some reason to fear that the Committee, which was not absolutely unanimous, has overshot the mark. The witnesses examined included dairy farmers, milk distributors and analysts. Generally, the first-named advocated a high standard, the distributors a low standard and some of them no standard, while the analysts were disposed to back the farmers rather than the distributors. Mr. George Barham, one of the members of the Committee, dissented from the majority and put in a report of his own, in which he recommended a standard of 2.75 for the four months of March, April, May and June, and 3 per cent. for the other eight months of the year, with a uniform standard for total solids of 11.75. No doubt, theoretically there is much to be said in favor of a seasonal limit rather than a uniform limit, but the difficulty in administering such would be very great, and a backward or early season would make a very substantial difference in quality at the particular periods. There was very little evidence before the Committee in favor of a seasonal limit, and the great majority of witnesses, who numbered 49, advocated a 3 per cent. standard. The evidence of farmers who had taken the trouble to examine the question for themselves went to show that the quality of milk in an ordinarily well-managed herd was much higher than is generally supposed. Individual cows there are in all herds which give milk of poor quality, but taking an average Ayrshire herd all through, the general result is a higher quality than people generally supposed. The farmers examined who had kept the best records and made most investigations were generally favorable to a high standard. Meetings have been held in Glasgow and Edinburgh, and the dairymen and dairy farmers alike have petitioned for a standard warranted by the evidence and the present state of knowledge, viz., 11.75 total solids, and 2.75 milk fat. Very likely this is what will be fixed. If Mr. Hanbury settles the standard at 3.25, there can be no doubt that innocent men may be put upon their trial, and the curious thing in this legislation is that the onus of proof is thrown upon

Care of a Brood Mare and Foal.

If horses are to be raised, only the best of care and treatment will bring them up to expectations, and how much more pleasant it is to have a stable full of good, sound, well-kept animals, in place of a poor-looking, ill-fed lot, that are worth at most their feed for their work. Brood mares should have large, roomy box stalls, where they can have plenty of moving room. This should be cleaned every day and freshly bedded with clean straw. When the weather is fine they should be turned outside every day for exercise; or, if you have any light work to do, let your brood mare do it. At any rate give her plenty of exercise, as this is conducive to easy birth of foal. Avoid slippery places and backing a heavy load with her. Feed her sufficient nourishing food to keep her thrifty, so long as she does not put on an excess of flesh. Keep her bowels open and acting freely. About three quarts of oats three times a day is considered the average feed for a mare. Some boiled barley, not fed too warm, is a good laxative. I do not think it advisable to feed much bran, as it is milk-producing and is likely to cause a mare to run her milk: a result of this will be a constipated foal. A foal should always get the first milk, as it contains a purgative principle. Great care should always be taken to avoid running navel. A good preventive is to apply a weak mixture of turpentine and sweet oil, or about 1 part carbolic acid to 20 parts water, if applied several times, will heal it up quickly.

When the foal is born, drop a raw egg or a piece of butter the size of an egg into its mouth and hold up its head until it swallows it. Feed the mother lightly for a while, and do not cause an over-supply of milk. If the foal is troubled with constipation, give it an injection of tepid water to which a little castile soap has been added. Never allow the foal to run with its dam when she is working, or to suckle her if she is warm. Let her cool off, and take away a little of the milk yourself, as a hungry foal will, as a rule, take too much. Teach



ALDSWORTH JEWEL.

Shorthorn heifer, winner of 1st prize and championship at Oxford Show, 1900. PROPERTY OF R. & W. T. GARNE, ALDSWORTH, NORTHLEACH, ENGLAND.

the youngster to eat as soon as possible. Be gentle with it. Teach it to lead while it is young and easily handled. Do not on any pretext let it remain out in inclement weather, for the texture of a foal's hide absorbs the moisture and causes inflammation. Use the brush and currycomb regularly, as this helps nature to throw off some of the poisonous substances which accumulate. Pay good attention to his feet, paring the hoof occasionally. Do this carefully and neatly and you will avoid contracted feet on your horse afterwards. A colt may be weaned at the age of six months or younger. Do not let it suckle too long, as it tends to weaken the next foal if the mare is in foal again.

Perth Co., Ont.

AN OLD HORSEMAN.

Succulent Food for Live Stock.

The time of sowing is at hand, and now is the time to determine what we intend to grow. To my mind, there are no crops so important as those that will furnish a plentiful supply of succulent food for the stock. If there is to be a profit made out of winter dairying, either by the butter-factory or home-dairy system; if stock is to be raised and turned into beef, mutton and bacon, at a good margin of profit, then succulent food, and plenty of it, is the key to the situation. In Canada, with our long term of winter feeding, it is the secret of success. But some people say: "Oh, but that kind of food is eighty to ninety per cent. water; what's the good of it? Why not get the water from the pump?" Let us examine the subject and reason it out. And first, I would ask: "What is the natural food of our animals; what did nature intend them to live on?" Why, grass and herbage, to be sure. This kind of food produces milk, beef, mutton, and promotes the process of growth in the animals; yet it is nearly ninety per cent. water. But nature intended the animals to live on it, and they are built that way. Now, we place our animals for six months or more on dry food, a condition nature never intended them for; so, if we are to be successful, we must try to get as near nature and natural conditions as we can, and the way to do it is to provide plenty of succulent food. If we feed dry food, we feed an expensive food, because we must feed a much larger grain ration; while with succulent food we get better results with a minimum of grain. And why? Simply because we are getting nearer to natural conditions. The bowels are in laxative condition, and the organs of digestion and assimilation are in a condition to make the very best use of the small quantity of richer food that may be used to balance the ration. By the term, "succulent food," I mean roots and ensilage, and every man who keeps stock should have plenty of both. And if I were asked what kind of roots I prefer to grow, I would say, "mangels." And why? Because, in my experience, I can grow a larger crop of mangels than I can of any other root. I can feed them to milking cows in large or small quantities without any danger of a taint in the butter. I prefer them also for beefing animals and for sheep, and as for hogs, there is nothing better for winter feeding, when fed along with a little meal. As the bulky part of the ration for hogs, they fill the bill. They are not subject to insect pests, like the turnip, and are just as easily and cheaply grown.

And now a few words from my own experience as to varieties and cultivation. Having tried a good many varieties, I have had the best results with the Giant Yellow Intermediate. The Mammoth Red will, on strong land, give a little larger yield, but does not keep as well and is not of as good quality. The Giant Yellow Intermediate keeps as fresh and crisp as a swede turnip. Some years I have planted half of each and fed the red ones first. Last year the yellow ones gave the largest yield, as well as the best quality, and I will sow only that variety this year.

The ground for mangels should be manured in the fall, though I have mostly in my own practice put the manure on in the spring, but do it early, as early as it is possible, using the shortest manure available. Having worked the manure in, I leave it till it is time to sow, then harrow and make the drills. I do not like sowing on the flat; I always like a drill for any kind of roots. But I do not make them high. I usually sow about four pounds to the acre. I put the seed into a cotton bag and rub it well, then pour it into a dish and pick out all the pieces of stalk, etc., so it will feed freely through the holes in the drill. It is a good plan to try the drill first on a barn floor or a smooth place on the road, to see how it sows, before putting it on the drills. (I use the ordinary double-drill seeder, drawn by a horse.) Loosen the set-screw and set the shear a little lower than it is used for turnips. Watch the machine closely, and examine it often, so as to be sure it is sowing regularly. After sowing, put on the land-roller. Here is one secret of success in getting a good catch of mangels. It is a rough seed, and requires to have the moist soil firmly compacted around it in order to germinate, and the little rollers attached to the drill are not heavy enough. The land-roller leaves all the drills nice and even on top. In thinning, I leave them a little closer than turnips, but they will not stand knocking about in thinning like turnips. After thinning, I do the rest with the scuffer. I seldom have to hoe them after that. They must be harvested before hard frost. They will not stand a hard freeze like turnips will. If other work presses and there is danger of hard frost, I pull them and throw them in piles about six feet square, with the tops on, placing those around the sides of the pile with the roots in and tops out, so that the tops hang down on the outside. This forms a thatch on the outside. Cover the tops of the piles with pea straw, and they are safe for a couple of weeks. Then about the first week of November I top them and take them in. The advantages of this plan are that it is very quickly done; the roots will be cleaner; they will not be injured by frost. The tops will twist off twice as easy after lying in the piles a few days. Mangels should always be topped by hand.

Now, to sum up: Manure in the fall, if possible. Sow the varieties that will give the best results in quality and quantity. Sow plenty of seed, and go over the drills with the land-roller after sowing. Sow about the first week of May. A dressing of salt, 300 or 400 pounds to the acre, is said to increase

the yield greatly, but as I am using it this year for the first time, I cannot speak of it from experience. I have tried sugar beets, but the yield was not nearly up to that of the mangels, and it costs more to harvest them. And while they are more valuable for hogs and milk cows, it is a question whether the difference in yield and cost of harvesting will be made up in the quality.

With respect to the other source of succulent food, viz., the ensilage, so much has been said and written that one cannot add anything new, and yet, how few avail themselves of this important stock food! However, there are a few points I would like to emphasize, from experience, and one of the most important is: Do not attempt to grow a variety of corn that will not mature in your locality; you must use a variety that will be well up to the glazing stage before frost. Quality counts in ensilage every time. Compton's Early and Salzer's North Dakota will mature almost anywhere in the older sections of the Province. By all means grow a crop of corn and put it in a silo, for an abundant supply of roots and ensilage is the basis of economical and profitable feeding in this country.

Simcoe Co., Ont.

G. C. CASTON.

An Officer Wanted in Western Ontario.

In addition to the recognition by the U. S. authorities of the certificates issued by Dr. J. G. Rutherford, V. S., representing the Canadian Government in Great Britain for the purpose of testing cattle intended for export, the following memorandum of agreement was arrived at between the Dominion Minister of Agriculture and Dr. McEachran, representing the Department of Agriculture of Canada, and Secretary Wilson and Dr. Salmon, of the United States Department of Agriculture:

1st. The certificates issued by inspectors specially selected and duly appointed as officials of the Government of Canada will be accepted for breeding cattle and dairy cows over six months old, at United States ports.

2nd. The certificates of Canadian veterinaries, of cattle tested by them in Great Britain, accepted at Canadian quarantines, when endorsed by the chief inspector of veterinary superintendents of the quarantine, will be accepted at United States points of entry. The following are the veterinary surgeons who are official veterinaries of the Department of Agriculture to apply the tuberculin test to cattle exported to the United States: W. H. Pethick, Central Bedeque, P. E. I.; W. M. Jakeman, V. S., Halifax, N. S.; J. H. Frink, V. S., St. Johns, Que.; J. A. Couture, V. S., Quebec; A. E. Moore, V. S., Montreal; Chas. H. Higgins, V. S., Montreal; V. T. Danbigny, V. S., Montreal; Geo. W. Higginson, V. S., Rockland, Ont.; William Stubbs, V. S., Toronto; Chas. Little, V. S., Winnipeg; J. C. Stargrave, V. S., Medicine Hat, N.-W. T.; J. B. Hart, V. S., British Columbia.

From the foregoing, it would seem that the Departmental Inspectors appointed have been needlessly bunched in the vicinity of Montreal, from whence few animals are exported, while the districts mainly drawn upon by Americans in search of breeding stock are contiguous to such Ontario points as Whitby, Toronto, Hamilton, Guelph, London, and Walkerton. Why should not the convenience of the Western Ontario breeders be considered in this matter? Several complaints from Western Ontario breeders have already reached us of the inconvenience of the present arrangement, and as we go to press a letter is received from a breeder who states that he has been waiting for two weeks for a Canadian vet to test some cattle sold to the United States, and is satisfied it would have been done a week sooner by American officers.

Light and Ventilation in Stables.

SIR,—The question of providing light and ventilation in bank barns and basement stabling is very important to the health of the stock. The stable must be kept dry and fresh, as well as warm. For the supply of fresh air, pipes leading from the outside, under the foundation and up to a few inches above the floor, are the best. The foul air can be best carried off by wooden pipes, 10 to 11 inches square, leading from the ceiling of the stable up through the barn, to discharge at the outside, under the eave, or, better, at top or ridge of the barn roof. These pipes should have slides, which can be closed if the stable gets too cold. There should be as many windows as the beams and wall will allow, each not less than 3x4 feet, set at least one foot below the top of the wall. I prefer a single sash, to slide into a pocket in the center of the wall. Have the wall sloped away from the frame of windows on the inside, to allow the sunshine to fall as much on the cattle as possible. The walls should be not less than 11 feet clear in height. The manner and dimensions for arranging stalls are so many and varied that it is best for each one to make them to suit his own circumstances. With plenty of fresh air and sunlight, people are not apt to have cattle too crowded. For large cattle, each one should have a space of 3x10 feet.

Halton Co., Ont.

ROBERT NOBLE.

A Beauty.

JENNIE HOOVER, Norfolk Co., Ont.:—"I received my prize watch, and think it a little beauty. I have had it two weeks, and it has kept good time. We have taken the FARMER'S ADVOCATE for several years, and, really, we would not like to do without it, and I shall try to do all for the paper that I can."

Feed Value of Oat Dust and Pea Bran.

A number of inquiries having been received regarding the feeding value of oat dust and pea bran, we decided to undertake a digestion experiment to obtain information in reference to the feeding value of the above fodders.

For this experiment, we obtained, early in the spring, 5 bags of oat dust from the Flavelle Milling Co., Lindsay; 6 bags of pea bran and 6 bags of oat dust from the Tillson Co., Tilsonburg; and 5 bags of pea bran from Walter Thompson, Mitchell. The Tillson Company write: "We are selling, at the mill, oat dust at \$7 per ton, and pea bran at \$13 per ton. The local demand is taking all we can produce." The Flavelle Company write: "We sell a large quantity of this oat dust to the farming community in our county at a price equal to about two-thirds the value of bran. At present we are getting \$10 per ton in bulk for same. We shall be exceedingly glad if you can give us any information in reference to its analysis, and how it will compare with bran for feeding purposes." Mr. Walter Thompson, Mitchell, writes: "We should appreciate a special report giving percentage composition, especially protein and fat, and also your estimate as to the feeding value of these fodders. Last year we sold to farmers 47 tons oat dust at an average of \$7 per ton, and 56 tons pea bran at an average of \$12 per ton. If a practical test is made, we shall appreciate a statement regarding results."

Three thrifty wethers, being selected for the experiment, were fed Flavelle oat dust and a little cut hay from April 6th to 12th, inclusive, then oat dust alone till 20th. Commencing at 5:30 p.m. on the 20th, the solid excrement was carefully collected till 5:30 p.m. on the 25th April. The sheep had free access to water and salt. On April 6th the weights were as follows: No. 1, 106 lbs.; No. 2, 110 lbs.; No. 3, 106 lbs.; while on April 26th their weights were respectively 163, 108, and 104.

The sheep were again given cut hay, with Tillson Company's oat dust for six days, after which the hay was discontinued and the oat dust alone fed seven days longer. Commencing at 5:30 p.m. on May 8th, the solid excrement was again collected till 5:30 p.m. on May 13th. At this date they were again weighed, but it was found the sheep neither lost nor gained any in weight.

During these above two periods, the animals ate oat dust heartily at the rate of 300 grams three times daily.

The three sheep were at once given Tillson Company's pea bran without any cut hay. The solid excrement was collected from 5:30 p.m., May 20th, till 5:30 p.m., May 25th. Sheep No. 2, refusing to eat, was dropped out of the experiment. Sheep No. 3 continued to eat heartily, but No. 1, though eating heartily, showed a tendency to scour. During these twelve days, while fed on Tillson Company's pea bran, sheep No. 1 gained 2 pounds, and sheep No. 3, 3 pounds.

Sheep No. 2 having recovered, all three were given Thompson's pea bran, and at the end of the seventh day excrement was collected from 5:30 p.m., June 2nd, till 5:30 p.m., June 7th. During these twelve days, while fed on Thompson's pea bran, sheep No. 1 gained 4 pounds; No. 2, 4 pounds; and No. 3, 1 pound.

During the above two periods on pea bran, the animals, except No. 2, as above stated, ate heartily, each receiving 300 grams three times daily.

By an analysis of the oat and pea brans, and of the solid excrement collected as above noted, the following data on digestibility have been obtained:

	Organic matter.		Nitrogenous substances.		Soluble carbohydrates.		Crude fiber.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	
Flavelle's oat dust...	63.5	66.0	76.2	76	40.3		
Tillson Co.'s oat dust	58.1	70.2	81.8	62.9	34.5		
Tillson Co.'s pea bran	68.9	59.3	93.6	81.8	64.1		
Thompson's pea bran	71.9	72.9	68.2	73.4	72.2		

These feeds are evidently of higher nutritive value than may have been generally believed. Pea bran particularly is clearly a valuable feed, which alone not merely maintained the animals for nearly a month in a normal condition, but produced a slight increase in weight.

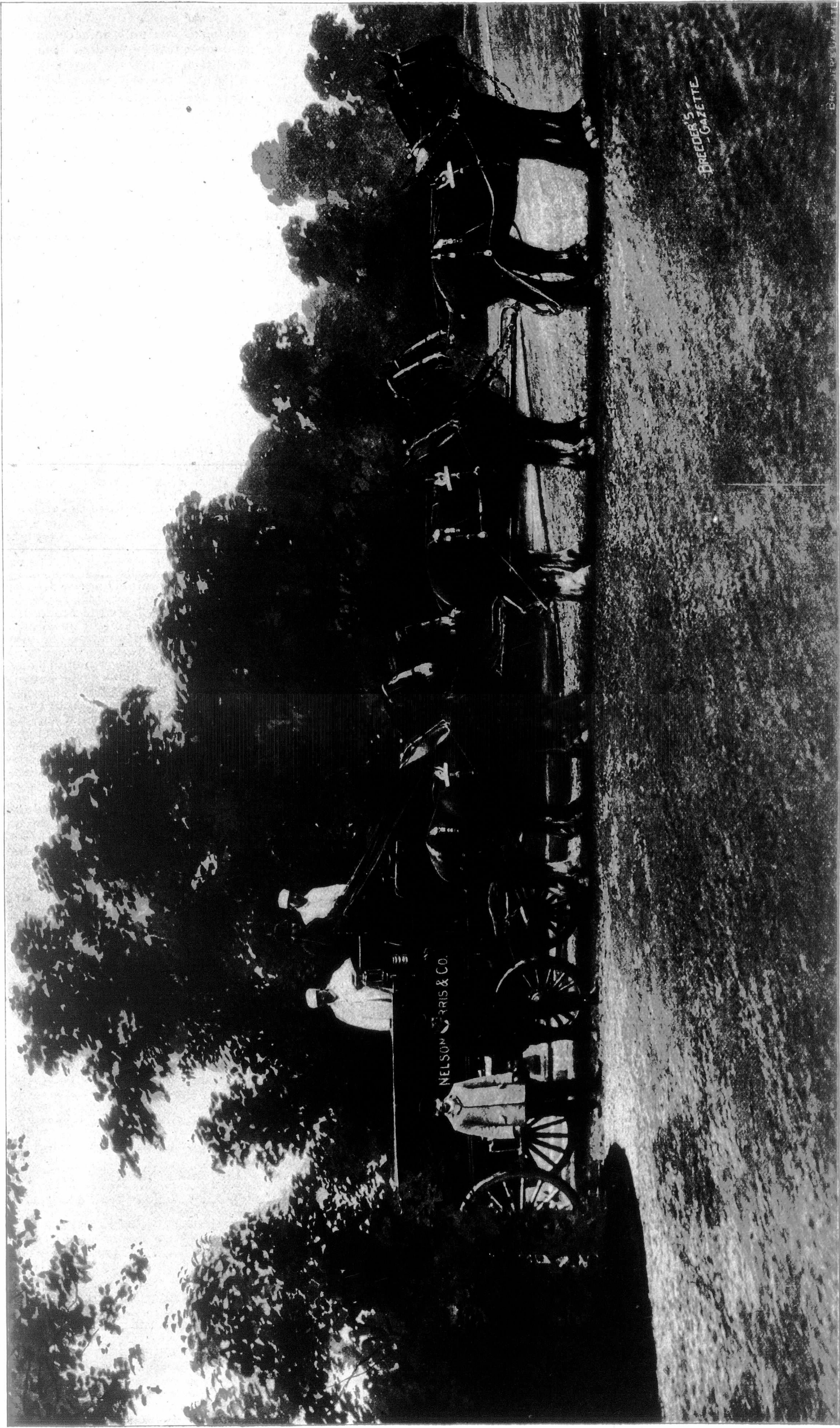
Further tests in the feeding value of other samples of the above varieties of feed must be made before definite conclusions can be drawn regarding the average comparative composition and nutritive value of oat dust and pea bran.

Pea bran is just the outside covering of the grain, which is removed by the shelling-stones. Tillson Company's pea bran was much freer of inside portions of the pea than that of Thompson's, which bran contained more or less pea meal intermixed. Oat dust is obtained from the husks after shelling.

A. E. SHUTTLEWORTH, Ph. D., Chemist.

Ontario Agricultural College.

[EDITORIAL NOTE.—In many sections of the country adjacent to the mills, oat dust and oat bran are extensively fed to dairy cows, much more so than to other stock. Some dairymen have been using these feeds for years, and think highly of them. Since the use of such by-products is likely to still further increase, we are pleased to note that Dr. Shuttleworth has begun investigations as to their value, and would suggest the propriety of a test of the two oat by-products, as well as the pea bran, in order to show their value in milk production, compared with such a grain ration as wheat bran or oats.]



CANADIAN-BRED CLYDESDALES, THE PRIZEWINNING SIX-HORSE TEAM AT THE INTERNATIONAL LIVE STOCK EXPOSITION AT CHICAGO, DECEMBER, 1900. EXHIBITED BY GEORGE MOORE, WATERLOO, ONTARIO, AND SOLD TO NELSON MORRIS FOR \$500 EACH.

(Plate furnished by Alex. Galbraith, Janesville, Wis.)

The Lambing Season.

(Extracts from a paper by A. D. Gamley, of Brandon: Sheep and Swine Breeders' Association.)

As the lambing progresses, the shepherd will have observed that some ewes are much heavier milkers than others, and that the poor milkers very often have twins. Put one of the twins on a ewe with a single lamb and a good milker. The best and easiest plan is to pick out a ewe giving indications of being a good mother, and watch for her lambing. As soon as she has lambed, and before she gets up, place the twin lamb beside the newborn one, and rub them together, which will give the same appearance and smell to both, and when the ewe turns round to survey her progeny, she will never suspect the fraud, but will commence licking both lambs. I have never seen this plan fail. If a ewe loses her lamb, make her foster a twin (aim to make every ewe raise a lamb). This case requires a little patience. My plan is to skin the dead lamb and sew the pelt on to the twin, putting the dam and foster lamb in a dark pen for a few days, always keeping a sharp lookout to see that the lamb is doing all right. It is as well in this case to tie up the ewe for the first day or so. Take off the pelt in 24 or 30 hours. Out-of-condition and young ewes require some watching at this time. The former are very often indifferent to their lambs and will leave them. Shut them up by themselves in a pen for a few days until the lamb thoroughly knows its mother. The young ewes sometimes do not take kindly to their lambs, and require to be held a few times until she gets accustomed to her lamb. If the ewe is hard to manage, a good plan is to place her with her rump in a corner, so that she can't back, the shepherd kneeling on one knee and the inside of the other leg against the breast of the ewe, one arm round the neck, and the lamb in the other hand, holding it to the teat. A little practice, and one soon becomes expert.

During the first few days of the lamb's life, care must be taken to see that no dirt accumulates under the tail, obstructing the passage. If there is any, it should be clipped away with the shears, or washed with warm water, and the parts smeared with a little castor oil.

The lambs should be docked when they are about a week old. A simple method is to take the lamb between the knees, and the tail in the left hand, drawing the skin towards the rump, and clipping off close to the fingers with a pair of shears, then sprinkling a little powdered bluestone on the stump to prevent bleeding. Castration is better done at this time too, as there is less danger than when the lamb is a few months old. This may be done by clipping off the whole scrotum with one stroke of the shears. By the time the lambs are two weeks old they will have commenced to nibble hay, and at a month old to eat oats. A separate pen should then be provided for them, with a "creep" through which they can go at will to the oats and bran and the choice morsels of hay that have been picked out for them.

The only diseases I have found lambs subject to is the "white scours" and indigestion, and for which the shepherd should have the necessary remedies at hand in case of emergency. The former trouble is caused either by some quality in the dam's milk or by a disordered condition of the lamb's stomach. When the dam is the cause of the trouble, her food should be changed and the lamb given, daily, a teaspoonful of linseed oil. When the cause exists with the lamb, two teaspoonfuls should be given, twice a day, of prepared chalk, one ounce to a pint of peppermint water. Indigestion is caused by the lamb taking too much milk at one time, which coagulates in the stomach. For this one ounce of Epsom salts should be given. These remedies I get from "Stewart's Sheep Manual," and have found them most beneficial, having used them for a number of years. By the time the lambs are a month old, the spring will have come, and if all has gone well with the shepherd and his flock, it ought to be in good shape to commence the summer's operations. For a week or two, feed them a few oat sheaves before they go out in the morning, and the same in the evening when they come in; also hay in the racks for night if they will eat it. They will eat very little hay at this time, but it helps to keep them up until they get a full bite of grass. From now till clipping time the shepherd will have it a little easier, and well does he deserve it, for if his flock is a large one, he will have been hard at work 24 hours a day all through the lambing time. Shearing ought to be done between the middle of May and 1st of June. Until the wool has grown, give them the run of the pens at night to protect them from the cold, also during the day to protect them from the sun. Dip ten days after clipping, and ten days after that again, to kill the ticks that have hatched since the first dipping.

Weaning time comes in August or September, according to the time the lambs were dropped. The ewe lambs may be kept separate for a week or two days, and then turned in with the flock again, care having been taken in the interval to milk the ewes at least twice in that time, and the heavy milkers as often as required. The ram lambs, if bred for the butcher, and to be sold as lambs, had better be special as soon as weaned, as they will fail rapidly if no special provision has been made for their care, such as a field of rape or turnips to run in during the day, and hay and grain at night. Care should be taken not to allow them on the rape until the frost is off in the morning, or with an empty stomach, and then not too long at a time until they get accustomed to it. At weaning time, and while the ewes are being

handled, it is a wise plan to mark those that are to be disposed of to the butcher. In this connection I would impress on the young breeder that the successful management of a flock in a great measure depends on three things: First, the choice of a ram; secondly, eternal vigilance at lambing time; and thirdly, culling close each year. Don't keep old ewes, or those not typical of the breed. Don't be afraid to weed them out. There is no better country in the world than this Western land of ours for the successful raising of sheep in large numbers, for they are subject to none of the diseases that are prevalent in the older countries. The only drawback there is to the sheep industry in this country is the wolf pest, and that, I have no doubt, will, through time, be overcome, the coyote disappearing as the country becomes more settled.

Pointers on Pig Raising.

I would feed a sow, before farrowing, a moderate quantity of oats and peas, either whole or chopped, on the ground if possible, and let her lie alone in a pen, and have exercise as she herself may incline. After farrowing, give lukewarm feed and drink, boiled peas, bran and sulk, but very light for a few days, and teach the sucklings as soon as possible to run out in feed passages or root house to keep them from getting too fat, and to help themselves to bits of roots or whole peas, etc., which may be thrown down among straw litter.

The milking quality of sow determines the age to wean. I have had to wean some litters at four weeks, but do not consider it beneficial to keep on sow more than six weeks. Use a small trough supplied with warm milk occasionally, and when fully weaned continue milk and begin to add a little bran and shorts, and some peas. Strew on ground thinly.

Barley ground, and 1/2 shorts added, or peas 1/2 and oats 3/4, ground, is my favorite feed. I like corn fed whole with either of the previous rations when pigs are at their fattening period proper, say from 120 to 150 or 160 pounds, but no corn for three weeks before marketing. I feed dry as a rule, with warmed water to drink after if very cold water and pen is not warm.

Walls, floor, etc., in my opinion, do not effect the hog so much, other than that they should be kept dry, and not allowed to sleep in a dungy, heating bed. For exercise, where not convenient to let out every day, I would advise to put a larger number in the pen than can get to the trough comfortably, and they will exercise themselves as a natural consequence, but divide them for finishing. I think rheumatism is caused by deranged kidneys or costiveness. A little turpentine given with food, for the kidneys, I think beneficial, and soured feed, not very sloppy, for costiveness. Rheumatism often comes from overfeeding and no exercise during growing period.

Wellington Co., Ont.

Bacon Hogs.

To the Editor FARMER'S ADVOCATE:

SIR,—How to produce the best class of bacon hogs is a very important question to the farmers of Canada. One would think by the way some of the packers talk and write, that the only breeds of pigs that are fit for pork are the Yorkshire and Tamworth. I do not say that these are not good breeds, but I think it is possible to raise good bacon pigs from nearly any breed. A few years ago we bought eleven pigs, from about six weeks to eight weeks old. Four were Chester White and Berkshire, four were Poland-China and Berkshire, and three were Yorkshire and Berkshire crosses. These pigs were all put together and fed the same. The pigs of the Yorkshire and Berkshire cross were of poor quality, according to the rules of the packers, while the Chester White and Berkshire Poland pigs were of the bacon type, and some of the Poland-Chinas were well shaped, but they got too fat. Now, I don't believe the Chester White is a better bacon breed than the Yorkshire, nor a better breed to cross with the Berkshire, but the sire or dam of those Yorkshire and Berkshire cross pigs were not good breeding animals. Therefore, I conclude it is individual merit and the feed and treatment, more than breed, that counts in producing bacon pigs. Exercise is also a very important factor in promoting growth and the desirable quality of meat. There is more soft pork caused by lack of exercise than by improper feeding.

J. T. BARNETT.

Oxford Co., Ont.

Prizes for Holsteins at Buffalo.

The American Holstein-Friesian Association will duplicate all prizes offered by the Pan-American Association for Holsteins in their class, and will give a prize for a young herd, consisting of one bull and four females under two years of age; also for bull and three of his get, and for a cow and two of her produce, each as follows: first prize, \$50; second, \$25; third, \$12.50; and will still further offer prizes, amounting to \$175, to practically illustrate upon the Exposition grounds the system now in practice by the Holstein-Friesian Association of America for making official butter records; the test to be made, as nearly as possible, under the present rules of the Association for such tests; to be made by the Babcock machine, under the supervision of some officer or professor of some agricultural college or experiment station; the cows to be milked three times per day.

FARM.

Windmills and Lightning.

A reader recently enquired whether or not the placing of windmills on barns increased the liability of danger from lightning. Our own observation is that such is not the case. In order to ascertain what had been the experience of users of different sorts of mills, judged from actual reports, we make enquiry of three leading manufacturing establishments. The result would indicate that they are no menace whatever to the safety of farm buildings or the mills themselves. Indeed, it would almost seem that buildings carrying windmills have been singularly exempt from damage by lightning:

The Ontario Wind Engine & Pump Co., Toronto, write:—"In our experience for some years, and with the fact that we have hundreds of windmills all over the country, we have failed yet to learn of a barn damaged by reason of the windmill erected on it. We may say that if the fact of any structure standing out prominent was an attraction to lightning, it would have been demonstrated long ago in various ways, but you know as well as ourselves that lightning is something which is very unstable in its ways, and strikes and damages the most unlikely things. We did hear one time of a man being killed in the vicinity of Sutton, but this was not by a steel windmill, but by a wooden windmill. The lightning came down the vertical shaft, and the man was standing near, in the act of raising an axe, and we presume the electric fluid jumped from the shaft to the axe, and consequently passed through the man and killed him instantly. We claim that a steel windmill acts as a lightning conductor, and, if anything, is a safety more than a danger point."

Woodstock Wind-Motor Co., Woodstock, Ont.:—"We do not think that the danger is at all increased by putting windmills on the buildings, and have had the same opinion from parties who have given this a good deal of attention. We might say that we do not know of a single instance of a windmill on a building being struck by lightning. We know of cases where barns had been struck and burned down, with windmills erected on them, but in two of these cases in particular the barn had been struck at a point away from the windmill altogether. This matter has been brought up a great deal lately, and from all the information we have had, this is the conclusion we have come to: that the danger is not increased by a windmill being there, although the building is liable to be damaged whether the windmill is there or not."

The Gould, Shapley & Muir Co., Brantford, Ont.:—"In the earlier stages of the windmill business, fear of lightning being attracted by the mill was often used as an argument against them, but in our many years' experience we have never had a building injured by lightning through the attraction of the windmill. We had one case in Eastern Ontario where the lightning struck the opposite end of the barn from the windmill, and the barn was burned, but the part with the windmill attached was the last to be destroyed. After our experience, we have not the slightest fear of lightning being attracted by the mill."

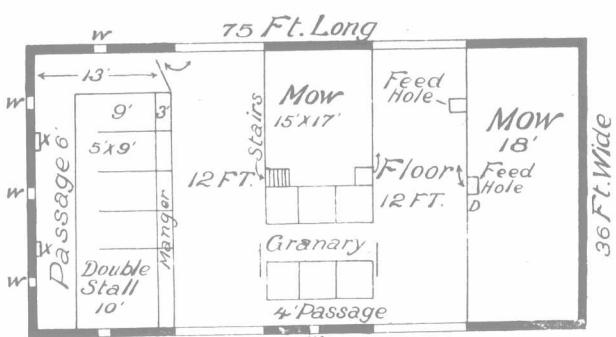
Variety Test of Sugar Beets, 1900.

VARIETY.	From 100 Seed Test.		Seed Boils that did not grow.	Average distance apart in the row.	Yield per Acre.	Average weight of samples analyzed.	Per cent of Sugar in Juice.	Purity.
	No. Sprouts out of one week.	No. Sprouts out of two weeks.						
Austrian Spec. R. G. V.	185	166	52	6 1/2	15.53	12	11.8	82.30
Austrian Spec. No. 5	122	130	30	6 1/2	15.21	12	13.61	79.57
Light Kl.	153	173	25	6	16.29	12	14.03	80.77
Ziemann Kl.	113	207	28	6 1/2	14.11	12	13.06	79.78
Kl. Govt. Seed 3941.	144	184	29	6 1/2	14.36	13	13.00	78.82
Zeh. Govt. Seed 3912.	66	66	64	6 1/2	14.88	13	13.44	83.12
Kl. Govt. Seed 3941.	77	138	51	6 1/2	10.87	11	14.16	82.43
Ru. from D. M. Ferry & Co.	209	209	3	6 1/2	13.12	12	14.45	84.17
Russia 2 Govt. Seed 3943.	144	201	00	6 1/2	12.69	12	11.87	77.25
Monsieur Le Grande B. 12	226	257	00	6 1/2	12.13	12	13.40	81.91
Simon Le Grande C. 27	157	180	38	6 1/2	13.82	11	13.73	84.31
Shannon Spec. B. G. V.	83	126	52	6 1/2	15.08	12	13.19	80.57
Austrian Spec. B. G. V.	166	166	00	6 1/2	12.98	13	13.88	80.98
Average	119	169	27	6 1/2	14.08	12.3	13.63	81.30

J. D. TOWER, Agriculturist, Michigan Experiment Station.

Cultivation and Seeding.

Seed-time and harvest are seasons which succeed each other with a certainty, for which the farmer and all mankind may well be grateful, since life and all its comforts depend upon these occurrences. A resurrection of the forces of nature comes with the balmy winds and warm sunbeams of the spring-time. The wise farmer will be prepared to take advantage of the readiness of the land to respond to the necessary cultivation and to receive the seed into a suitable and congenial seed-bed. Experience has taught that, as a rule, the early-sown grain yields by far the best crops, provided the land is in suitable condition and receives the proper cultivation. Therefore, the necessary tools and seed, in the best condition, should be provided before the



UPPER-FLOOR PLAN OF BARN WITH HORSE STABLE.

time for their use arrives, in order that not an hour may be lost or misimproved when that time comes. A few hours' difference in the finishing of the work of seeding a field may make many dollars difference in the outcome of the crop. A dash of rain on an unfinished field, which with a little more push might have received the finishing touches, may delay the accomplishment of this end for a week or more, and even then as good a finish may not be possible, and the sun may bake the soaked and sodden soil and discount a crop which might otherwise have been an ideal one. While it is wise to gain all the time one can by pushing the work on at the proper time, it is false economy to skimp or slight the cultivation. On the thorough preparation of the seed-bed depends largely the character of the crop. See that the implements used are doing the work of cultivation thoroughly, leaving the land in a good state of tilth, well broken up to a fair depth and fairly fine, so that the seed may germinate quickly and appropriate the elements in the soil necessary to the feeding of the plants. Sow good seed, and see that it is covered deeply enough, and not too deeply, for the most successful growth.

As the seeding-time advances, and the land gets drier and harder, more labor may be required in the cultivation, and it will pay to give more. If it be found necessary to harrow before cultivating, in order to the cultivator doing good work and leaving the land in finer condition, it is not wise to neglect the operation because it takes more time; the time will be well spent. If rolling after the cultivator and before drilling in the seed be necessary to fine the lumps, do it, even if it does take another day to get through the work. If when the land gets hard and dry you find the cultivator is not taking hold, but jumps or slides over the hard places without breaking the soil up well, examine and see if the teeth need sharpening. This may make all the difference between success and partial failure in the crop. Plan as nearly as possible to finish as you go, to cultivate only as much each day as you can seed, so that if rain comes that much may be safe from the effect of too much rain and is in condition to take advantage of any moisture that is in the land or may come in the form of rain. If on clay land a heavy dash of rain has fallen after seeding, and caused the soil to run together and pack hard, even if the grain has germinated, it may be wise to harrow before the land gets dry and hard, forming a crust which will exclude the air and delay germination and growth. A crop may sometimes be saved by this process, breaking the crust which binds, and admitting the air and light, which is essential to vigorous plant life. Sow clover wherever practicable with a reasonable hope of a catch. It will pay well, even if it must be plowed down the first fall after sowing. The roots and leaves make the cheapest fertilizer and one of the best that can be procured.

The foregoing has been written on the assumption that the land intended for early spring seeding has been plowed in the fall and has had the benefit of the mellowing influence of the frost and snow, in which case only surface cultivation is necessary, as a rule. If plowing must be done in spring, let it not be commenced before the land is dry enough that it will not bake hard under the action of the sun, and see that it is harrowed soon after being plowed and before it gets baked. As a rule, it will be found good practice to roll before harrowing. The roller presses and solidifies the land and crushes and flattens the furrows, so that the harrows do much better work, and the seed-bed is fined better and with less expenditure of time and labor than could be done without the rolling. A further advantage of this practice is that the moisture is conserved in the soil: whereas, if the plowed land be left exposed to the sun and wind for days before being worked down, it is dried out, and not enough moisture is left in the land to germinate the seed, and it is liable to die of dry rot or at least to lose its power to start and maintain a vigorous growth.

Plan of Barn with Horse Stable on the Upper Floor.

In your issue of Feb. 15th I noticed a demand for a plan of a barn. This is one that I have roughly sketched: Size, 75 by 36 feet. The basement shed, 18 by 36 feet, and stables, 36 by 57 feet, are large enough to hold 28 cattle, with 6-ft. stalls; standing room, 5 ft. 6 in.; gutter, 1 ft. 6 in.; crib or manger, 2 ft.; passage behind cattle, 6 ft., with a 7-ft. door. This enables one to drive a boat through and so clean out the droppings and have them in the field at once, and also saves extra work of loading. Feed passage is 7 ft. wide, and is connected by three feed chutes on barn floor, also the cut-feed house, the size of which is 12 ft. by 14 ft. 6 in. This feed house is directly under second floor and is connected by a chute. Over this chute is placed the cutting-box, so that feed drops down. To one side of the feed house is a box stall, 10 ft. by 24 ft. 6 in., that may be used for calves, cows when calving, or sick animals. There is a 3-ft. passage to root house (not shown in cut) under driveway. If barn faces north and south, the shed will not need to be sided in except on the west side, as horse and cattle manure will not freeze much if piled in one pile.

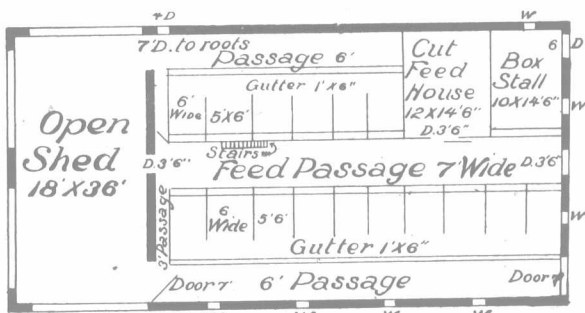
The second floor, size 75 by 36 ft., is divided into a horse stable, 18 by 36 ft.; 2 floors, 12 ft. wide; 2 mows, one 18 by 36 ft., the other 15 by 17 ft.; granary, 15 by 15 ft.; and passage 4 ft. wide. The horse stable has four single stalls and one double one. This may be used as a box stall for mare and colt. The stalls have 3-ft. crib, 9 ft. standing room, and are 5 ft. wide, with 6-ft. passage at back. The manure is thrown down holes, marked X in cut. The first floor serves to feed horses from. It may be scaffolded over, using second floor as threshing-floor. The granary, 15 by 15 ft., is divided into a passage 5 ft. wide, and six bins 5 by 5 ft. This is used for taking feed through. Also, when you drive in with a load you can unhitch and take your team through and leave your load standing. This is cheaper than a wide floor.

ARTHUR FRAYN.

Lambton Co., Ont.

Prepare for a Possible Drought.

It is a fortunate fact that with spring comes a hopeful confidence in the coming season. Whatever



BASEMENT PLAN OF BARN WITH OPEN SHED.

discouragements and failures we experience during the previous year are not prominent in our minds, and unless we are thoroughly alive to the needs of our business there is danger of neglecting to provide for possible contingencies. Yes, and it is not uncommon for many to neglect provision for probable untoward circumstances, such as have gone hard with many dairymen during several of the last years of the closed century. Last year many cheese factories were forced to shut down long before the usual season for cheesemaking had ended. This was a loss to the country, a loss to the factorymen, a loss to the patrons whose cows were well fed and milking well, but the greatest loss of all to those responsible for the closing down, as their cows that were being ruined as profitable producers had to be fed at least food of support for months before they commenced to return something to their owners. Now, all this could have been prevented had these farmers made provision in spring for liberal summer feed. Here is an instance of two dairymen that actually lived as neighbors, each having the same natural advantages, but, unfortunately, not equally balanced heads:

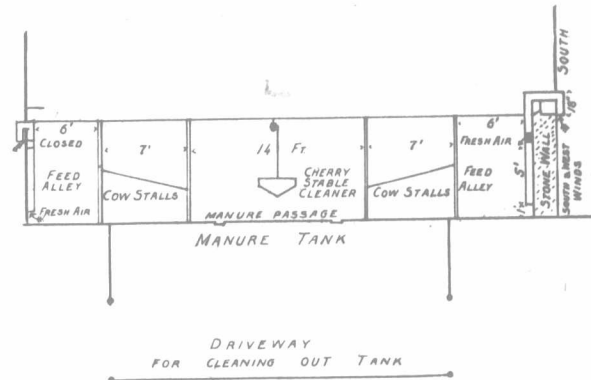
One is about the best, and the other is not the worst, but among the poorest. They have each one hundred acres. Last season was very dry, the driest for years. There was not a good soaking rain from the time the snow went off till October. This good dairyman had fourteen cows, to which he attended thoroughly. He had about an acre of oats and peas, and put in two and one-half acres of corn early, and he fed his cows right through the season. Both these farmers sent to the factory for seven months, and the good dairyman received in the seven months an average of 6,007 pounds from each of the fourteen cows in the herd. The other dairyman, who did not provide anything, received an average of 2,032 pounds each. Then, when it came to money, the man with the 6,007 pounds got \$49 per cow, the other man got \$18 per cow. The poor dairyman's cows averaged \$2.50 per month, and the other man's \$7 per month. Now, the fault was at home. One man prepared against the drought in case he needed it, and the other man prepared nothing. He had hoped it would be a wet year and there would be plenty of grass, but if it was a dry year he expected to have no money. He received about \$162 for these nine cows, and the other man received \$441, making a difference of \$279 to the man for his farsightedness.

Another Plan of Stable Ventilation.

In order to improve stable sanitation, and the consequent improved health of the live stock housed, we have been running through several issues of the FARMER'S ADVOCATE recently a series of articles on the subject of ventilation. The Usher and other systems, which in actual practice have proved efficient, have been described, and readers who are building new barns, or overhauling old ones, should give them careful study, adopting such as seem best suited to their conditions. No stable should be completed without some effective plan of supplying the animals with pure air, especially through the long nights of the winter season, when, for the sake of warmth, the tendency is to close up all ordinary passages through which the air will be purified. We therefore take pleasure in submitting for the consideration of our readers still another plan, to which our attention was called at the last annual meeting of the Eastern Ontario Dairymen's Association, by Mr. H. S. Foster, a progressive Quebec dairy farmer and President of the Bedford Dairymen's Association. Last fall Mr. Foster put the system in a small stable for trial, finding it most satisfactory. On writing him, some time ago, we learned that he was introducing it into his large barn, and after giving it a thorough test, he now writes us that it works to perfection, and sends us a plan and description for the information of farmers generally. He has satisfied himself that the direction of the wind has a great deal to do with the draft that takes off the foul air. His plan is as below.

Mr. Foster writes us: "The stable, which accommodates twenty-six head of cattle on each side, is forty feet wide, one hundred feet long and eight feet high, with cement floor, and manure tank at the end (outside), with Cherry stable cleaner adjusted upon track suspended from center. The manure tank shown in cut is at west end of barn, and separated from stable by good doors. The ventilation and airing are arranged in order to take advantage of the wind. This is accomplished by having five vent boxes on each side of the stable, adjusted opposite each other. These are made of inch boards six by ten inches wide, which gives an opening of six by eight inches. These boxes start a foot from the floor, run up and out on south side over the sill, and down eighteen inches on account of stone wall. On the north they run up and turn out under the sill, then turn down eighteen inches. There is a side opening made five feet from the bottom of the vent box, with a slide to close it any length in order to regulate the volume of cold fresh air coming in. When the slide is open at the top letting in air, the vent must be closed at the bottom. By having the vent pipes the same on each side you can take advantage of the wind. This barn stands east and west, so when south and west wind is blowing, the vent boxes on south side are opened at top and closed at bottom, with those on north side closed at top and opened at bottom, carrying off dead air with good draft, and vice versa when the wind is blowing from opposite direction. When I first put these boxes in I run them up on south side, letting them turn out under the eaves and down eighteen inches, but when west and south wind was on there was no draft; in fact, cold air came down. I thought that the longer they were, the more draft I could get, but unless the wind was right they would not work, and I find these short tubes give splendid draft when arranged to take advantage of the wind, and are most satisfactory in giving good stable ventilation without great expense."

One advantage of the foregoing plan is that it is inexpensive and can be put into almost any stable without disturbing the original design. To make certain of catching the wind from all quarters, vents



could be arranged in all sides of the stable. We would be glad to hear from Mr. Foster how the system works when there is no wind at all blowing. Mr. Foster's stable has side feed alleys, it will be noticed, while in many barns the feed alley is in the center, with a row of cattle on each side and a driveway for manure sled or cart behind. In such cases these vent boxes coming down inside the wall to within a foot of the floor would be liable to be struck by the whiffletrees in taking out the manure. This difficulty could be partly overcome by making them more oblong rather than so nearly square. Perhaps Mr. Foster can offer some suggestion on this point, and also as to whether he has had any trouble from cold drafts striking the backs of the animals when the slide is open letting in fresh air.

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.

Success with Clover.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of March 15th you invited some of your subscribers from the farming community to give their experience regarding growing clover. I have been growing clover for the last fifteen years. I started with sowing fifty pounds the first year, sowed at the rate of five pounds to the acre, with indifferent success as regards a catch. Still I persevered, and increased the amount sown during the next few years to 150 pounds of clover seed. During the spring of 1886 I sowed a field of twelve acres, leaving one ridge without sowing with clover seed. The crop the next year where the clover was sown was fully 25 per cent. better than the ridge that had no clover sown with it. Since then I have sown 250 pounds of clover seed every year. I sow at the rate of six pounds per acre, excepting when I am seeding for hay, then I sow five pounds of clover and five pounds of timothy seed. I always buy the best re-cleaned clover and timothy seed, and have less difficulty in securing a catch than I formerly had, and as I always plow clover down in the fall after the cattle have pastured on it as long as possible, I can see year by year improvement in the crops we grow. The clover roots and stems plowed down keep a good supply of vegetable matter in the soil, which makes the clover catch more sure. Our land is chiefly clay loam and sandy loam, some with rotten stone mixed through it. Since we started to grow clover, we have had no trouble growing a good crop of spring wheat. We feed all the hay and grain that we grow, with the exception of some wheat. We have this year fifty-three head of cattle, twenty-seven sheep, and five work horses. My advice to the farmers is to sow clover with all their grain, as it helps to keep the land clean, and enriches it. As long as we can get a good catch of clover, there is no fear but the cattle will have lots of feed in the fall.

Carleton Co., Ont.

SILAS SULLIVAN.

[EDITORIAL NOTE.—The doctrine of our correspondent is sound. We should never cease to sow clover each year; but in his district, we understand that severe summer droughts are seldom experienced, and spring wheat, which is one of the best spring crops to seed with, does not succeed well in many sections of Western Ontario. Oats grow so rank a crop that they are apt to smother the young clover plants or to render them so weak and puny that in hot weather after harvest they are burned to death by the sun. Barley seems to be the next best spring crop to seed with, but it is sparsely grown in many sections. We should like to hear from farmers who have succeeded in those counties where failure is common or frequent.]

The Pea Crop.

To the Editor FARMER'S ADVOCATE:

One of the most important of farm crops is peas. It is important as a food crop, and does not materially reduce the fertility of the soil. In times of depression in the price of grain, the discouraged farmer turns to the dairy cow as a source of revenue. In the production of either beef or milk, peas are valuable as a portion of the ration. Their chief value as a food lies in their flesh-forming properties. They contain nitrogen, which is among the most important elements the farmer deals with. Plants in growth require this special element. Some plants require it present in the soil, where it can be readily used; these are nitrogen-consuming plants. Other plants have, by nature, the power of drawing nitrogen from the air; these are called nitrogen-gathering plants. Everybody knows the value of clover as a soil-renewer and plant-food. The pea belongs to this same class of plants, the legumes, which draw on the free nitrogen of the air, and is therefore a nitrogen-gatherer. Nitrogen-consuming plants are more exhaustive on the soil than the nitrogen-gathering ones. Peas will do well on all classes of soil well drained and in good condition. The best samples are produced on a gravelly-clay soil. The seed-bed is made in the best condition when the ground is plowed in the fall. In the spring, before seeding, when the ground is dry enough, the seed-bed may be prepared by deep cultivation and a finely-divided surface. Sow with a drill to the depth of about two and one half inches, north and south in a field if convenient, so that the sun's rays may shine on both sides of the rows. Sow from one and a half to three bushels, according to size of peas. Very often it is advisable to sow land plaster at the time of seeding, or soon after. It stimulates growth and supplies what some soils require. Wood ashes no doubt would be a great advantage to land that has been repeatedly sown to peas. Where a judicious system of rotation of cropping is followed, there will be present a certain, and probably a sufficient, amount of plant-food for any crop. Very often it is stimulating to growth to harrow just after the peas are up nicely. It should be done with a light, sharp-toothed, iron harrow, when the ground is dry, soon after a nice shower. If heavy rain should pack the ground after seeding, harrow when dry enough and before too dry. This breaks the crust that binds the plants, and admits the air, which is essential to plant growth.

One great drawback to growing peas in the past has been the difficulty in harvesting them. There are now a number of good pea-harvesters on the market. A number of shove rakes are still in use, both revolving and otherwise, which are suitable

for long straw. For shorter-strawed peas none will do so well as hand-rakes made for the purpose. In this section of country, threshing is all done by ordinary threshing machines, the cylinder being made to run slower and fewer teeth being used in the concave.

All peas grown for the various seed companies represented in this district are "bugged." The bugs are killed by placing the peas in air-tight chambers built on either side of the warehouses, the chambers being filled with peas in the bags, just as they are delivered. A pan containing bisulphide of carbon is placed on top of the bags. This evaporates a heavy, poisonous gas, which penetrates everything in the room, killing the bugs in this way. It requires about forty-eight hours to treat one lot.

As a green manure, peas are valuable, especially to light soils where it is difficult to get clover to catch. They should be turned under about the time of blooming. They not only make humus, but store up nitrogen for future use of following crops. Any one who practices sowing peas, or peas, oats and barley together as a soiling crop for feeding stock, will understand that peas are very valuable when used in this way. Peas supply much of the flesh-forming substance in a ration of these three grains. It does more. It seems to help the growth of oats or barley, as either one will grow more rank and produce more straw when sown with peas. It would appear that the peas, besides being able to draw and use free nitrogen from the air, afford some also to be appropriated by the associated crop.

The straw of peas has often been thrown away as useless for food, but of late years, by the advanced methods of harvesting, it is found practicable and best to harvest them when the straw is still partially green; that is, before dead ripe, the leaves remaining on the vines. When cut at this stage and well cured, it is only of little less value in feeding than our common clover hay. Bright pea straw should not be fed alone for any considerable length of time, as constipation is liable to follow. If mixed with clover hay or other bulky food, this danger is avoided. It is valuable for wintering idle horses or colts and brood mares with foal.

Kent County.

HENRY SMYTH.

DAIRY.

Doings of the Western Dairymen's Association.

The directors of the Dairymen's Association of Western Ontario met in Stratford, Ont., on April 6th, and matured plans for the season's work. Provision was made for instruction in cheese factories and creameries on the same lines as during the last few years. During the months of June, July and August instructors are requested to give sufficient notice to the cheese and butter makers of the date of their proposed visit, to enable the makers to give notice that a meeting of the patrons would be held at the factory on the evening of the day of the instructor's visit; that at other times other than the months of June, July and August instructors shall remain to address meetings of the patrons when requested to do so, provided reasonable notice has been given by the cheese or butter maker; that the instructor shall test the milk for the purpose of discovering adulterations, when requested to do so by the cheese or butter maker; that the instructors shall prosecute patrons for supplying adulterated milk only when requested to do so by the managers of the factory, and then only when it will not interfere with his other duties as an instructor.

The fees to be charged the factories and creameries for the services of the instructor are practically the same as last year; that is, \$3 per visit when three visits or over are applied for; if only two visits are applied for, the fee to be \$3.25 per visit; and if one visit is applied for, \$3.50 per visit; the object of the board being to encourage the makers to secure the services of the instructors at regular intervals. The object to be kept in view by the instructors in addressing the meetings of the patrons is to instruct them as to the care of milk and the necessity for its being delivered at the factory in perfect condition. Instructors are to use the tests of the milk received that day at the factory for illustration purposes. They are to lay special emphasis on the necessity for thoroughly cleansing cans in which whey has been carried, before they are again used, and on the proper condition of milk waggons, cow stables and all the surroundings where cows are milked and milk is kept. Messrs. A. F. MacLaren and R. M. Ballantyne were appointed a committee to select the cheese for the Glasgow Exhibition and to forward them to their destination.

The board was decidedly of the opinion that an exhibition of the dairy products of Canada should be made at the Pan-American, and the following resolution was adopted: "That A. F. MacLaren, M. P., be requested to communicate to the proper authorities representing the Dominion Government at Ottawa the views of this board regarding the question of an exhibition of Canadian dairy products at the Pan-American Exposition. This board is of the opinion that general benefits would be likely to result to the Canadian dairymen from a first-class exhibition of Canadian cheese and butter at the Pan-American Exposition, and would strongly urge that such an exhibition be made by the Dominion

Government, and so take advantage of the immense sums expended by the promoters of the exhibition to attract visitors from all parts of the world, and in this way add to the reputation of Canadian dairy products, as was so successfully done with Canadian cheese at the Chicago World's Fair."

Farm Buttermaking.

The importance of producing on the farms butter of highest excellence, fit to compete in the open market with the creamery product, seems to be generally disregarded, or, if not so, considered too difficult of attainment. This is largely true through lack of knowledge of details essential to success. The subject is most intelligently treated by Prof. Otis, of the Kansas Agricultural College, in the new Biennial Report of Secretary F. D. Coburn, of the Kansas Board of Agriculture.

Extracts from Prof. Otis' discussion follow:

In the matter of making butter, the private dairyman can learn a great deal from his creamery brother. The latter has made the subject of butter-making a life-study, and many of the things that he has discovered can be applied to advantage on the farm. It is assumed that the milk and cream will receive the best of care previous to reaching the cream vat.

High flavor or quick aroma of butter is due to the breaking up of the milk sugar, forming lactic acid, and is possibly the result of a series of germs that get into the cream during the process of ripening (souring). If cream is churned while sweet, considerable butter will be lost in the buttermilk, and the butter will lack flavor, no matter what the cows are fed. If cream ripens too much we will get sour butter, or what Professor McKay calls "rotten-egg flavor." Cream ready to be churned has a smooth, granular appearance, with a rather sharp, acid taste. When cream reaches this condition, it should either be churned at once or cooled down to about fifty degrees F., and warmed to fifty-eight or sixty degrees when churned. So important is the right amount of acid, that our best buttermakers have what is called an acid test for determining the amount.

To hasten the ripening, or to get the right kind of lactic-acid germs, starters are sometimes used to advantage. These may consist either of buttermilk, sour skim milk, or especially-prepared commercial starters. Starters on the farm can doubtless be best procured by using milk or skim milk. Select a good healthy cow, put her milk into a well-scalded can, and keep at a temperature of eighty-five to ninety degrees until it becomes clabbered. Then use about one part of starter to nine parts of cream. The cream may be kept at a temperature anywhere from sixty degrees to seventy-five degrees F., if care be taken to cool it down as soon as the right quantity of lactic acid is developed.

If the local market calls for colored butter, the coloring matter should be put into the cream as soon as the latter enters the churn. The ideal color for butter is that produced naturally under June conditions, where the cows have an abundance of fresh green grass. At no time of the year should we attempt to give butter any higher color than this.

Cream should be churned at as low a temperature as possible and have the butter come in from one-half to one hour. Warm cream and rapid churning mean a large quantity of butter lost in the buttermilk, as well as soft butter, which is very hard to handle after it comes. The churn should be stopped when the butter is in a granular condition, about one-twelfth of an inch in diameter. If churned more than this it will be impossible to get the butter evenly washed and salted without spoiling the grain. When a piece of good butter is broken, it should have the appearance of broken cast-iron, and not the salvy, greasy-looking article that we often see at the store. When the butter granules have reached the right size, the buttermilk should be drained off and the butter thoroughly washed with pure clean water, at a temperature of fifty to sixty degrees F. This should be continued until the water coming from the butter ceases to have a milky appearance.

The quantity of salt should be varied, according to the demands of the market; usually an ounce to the pound is sufficient. This salt should be of the finest and best quality and thoroughly incorporated into the butter granules, and, usually, after slight working the butter should be allowed to stand several hours, in order that the salt may become dissolved and thoroughly distributed. While the light and dark spots in butter, known as mottles, are sometimes caused by an uneven distribution of moisture, it is much more generally caused by an uneven distribution of salt. Work the butter just as little as possible. The only object of working is to distribute the salt and compact the butter. When the salt is brought in contact with the butter in the granular condition, the necessity of working is reduced to a minimum.

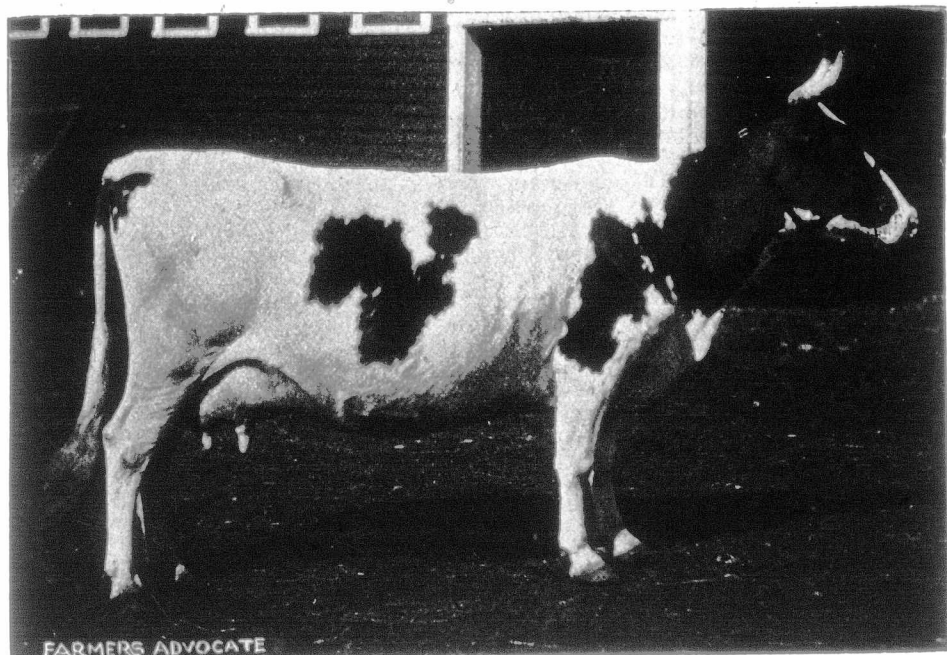
For private dairying there is probably no better package than the pound print wrapped in parchment paper. It is well to have a brand engraved in the print which will leave its impress upon every pound of good butter sold, but never send any poor butter under this brand, as it would be liable to spoil one's reputation. All butter prints and butter packages should present a neat, clean appearance, and never be allowed to be smeared with particles of butter or stained with imprints of dirty fingers.

Importance of the Dairy Interest.

TRIBUTE TO DAIRY INTEREST.

In an address before the U. S. National Creamery Buttermakers' Association, Mr. Jules Lombard said:

"There is an impression abroad that the dairy interests of the country are of comparatively little consequence, and that such vocation is trivial and unimportant. Its products are considered and treated as mere incidents of living, and regarded as mere condiments of the table. The fact is, that its product is of more value than any other branch of agriculture. It sells for more money by fifty million dollars per year than all the grain we raise. If anyone should feel inclined to dispute the asser-



MYRNIÉ —2065—

Ayrshire cow, winner of first prize and sweepstakes, the last four years in succession, at the Nova Scotia Provincial Exhibition at Halifax. Property of C. A. Archibald, Truro, N. S. The Ayrshire cow illustrated above is typical of the breed, and of true dairy form. She is nine years old, and was bred by David Morton & Sons, Hamilton, Ont. (who are now out of the business), from imported sire and dam: her sire being Royal Chief—75—, and her dam Sprightly II.—2001—. She is full sister in blood to the noted prizewinning cow, Jean Armour, owned by Wm. Stewart & Son, Menie. Myrnie is in thin condition, as she always is when milking, and had been eight months in milk when photographed, consequently the picture does not show her udder, which is her strongest feature, to advantage. She puts up a magnificent show of udder when fresh, her teats being properly placed and of good size, and her owner states that she gave 48 pounds of milk in a day, on the show-ground last fall, with inferior pressed hay and a good ration of other feed. She has given 50 pounds daily without forcing, and has tested 6 per cent. butter-fat.

tion made regarding the comparative value of the dairy and grain products, he has but to consult the statistics, to which I have not at present the time to refer in detail. But let him reflect that at average prices one pound of butter is worth thirty-five pounds of corn, and that the dairy crop is harvested twice every day, or seven hundred and thirty times a year, as against a single harvesting for the cereals. Multiplication does the rest. A gallon of milk is a small thing, a pound of butter a smaller thing, but neither is so small as the grain of sand which, in combination, forms the bed upon which the mighty ocean rests."

Testing Dairy Herds.

Mr. J. H. Grisdale, Agriculturist of the Central Experimental Farm, some time ago sent out a letter of enquiry to a number of dairy farmers, seeking information as to their methods of feeding, rations used in summer and winter, breeds, and the use made of whey and skim milk. Enquiry was also made as to whether the farmers would be willing to carry on a dairy herd test in 1901 in conjunction with dairymen in other sections of Canada and the dairy herd at the Experimental Farm, Ottawa. The only expense, apart from the labor, would be a spring balance or scale to weigh the milk daily. Mr. Grisdale undertakes to furnish the necessary blanks each month for keeping the records. The replies received encouraged him to give the matter greater publicity, so that any desiring to join in such a co-operative record or test may do so. Any of our readers desirous of taking part may obtain the necessary particulars by addressing the Agriculturist, Experimental Farm, Ottawa, to whom letters so addressed are carried free.

New Dairy Superintendent for Assiniboia.

The West is losing a most efficient officer in Dairy Superintendent J. W. Mitchell, for the past two years in charge of the work under Prof. Robertson in Assiniboia and Saskatchewan. Mr. Mitchell, however, leaves under pressure of a promotion, and the dairy interests of Nova Scotia will henceforth have the benefit of Mr. Mitchell's knowledge and experience in dairy matters. During his time of office substantial progress has characterized the work of the department in Assiniboia, the actual increase in the quantity of output being 33 per cent. last year over the preceding season. His successor is W. A. Wilson, a graduate of the Kingston Dairy School, who has had considerable experience in the West, having been in charge of the Moosomin creamery for the past three years. During the past season he has been butler-instructor at the Kingston Dairy School.

POULTRY.

Advantages of the Brooder.

The brooder is becoming more and more of a necessity to every progressive, up-to-date poultry-raiser. The use of a brooder does not necessarily imply the use of an incubator, although a brooder will prove a greater success by hatching with an incubator. But a good brooder costs less than a good incubator, and with hens to hatch the chickens and a good brooder in which to raise them, the added profit made possible by the use of the latter will soon enable the purchase of the incubator. I know by experience that a good brooder, if rightly managed, will raise 30 per cent. more chickens than if the brooding is done by hens. There are many good makes of brooders on the market, at different prices, and as a rule the higher-priced brooders, made by reliable firms, give the best results. The regulation of the heat should be as accurate as in an incubator, so that even in cold weather the chickens may be kept in a uniform summer temperature. If the brooder is heated with a lamp, the cost of oil must also be taken into consideration. The 30 per cent. we claim in favor of the brooder will more than pay for the cost of the brooder and oil, to say nothing of the time saved by releasing the hen from the care of her brood, and thus allowing her to join the army of egg-producers at an early date. There is also advantage gained in feeding when the chicks are in the brooder, for we only have chickens to feed on chick food, and not the hens to feed also. And we all know that chick food is more costly than food for adult fowls. With a brooder and run, we are enabled to feed the chickens just the proper food for quick and vigorous growth. This food is far too costly for the general flock, and which is sure to be stolen from the chickens when running at large with a hen. Every one who raises poultry knows what it means when a sudden storm makes it necessary to get the chickens under shelter. This necessitates a determined hustle when the chickens are in a large number of broods with hens. And if the hens have wandered out into the fields, and, like mules, refuse to be driven in the right direction, our efforts are useless. When the chickens are raised in a brooder, at the slightest alarm they will seek its shelter and protection. They regard the brooder as a place of refuge, and when once they are shut in the brooder, they are dry and warm.

They can be raised to the best advantage when put in flocks of about fifty. It is much easier to feed this number in one flock than in six or seven flocks, and have to hunt all over the farm to find them. When placed in brooders, the chickens soon become sturdy, independent, and used to looking out for themselves. The brooder never drags its charges through the long, wet grass, into dangerous places. It does not carry around an abundant supply of lice and mites, to share liberally with the chickens. It is quiet and docile, and always ready to receive the chicks with a warm greeting, while often the mother hen trails her young out into the wet grass and loses the whole brood in a single day, and at other times she leaves them when quite young. With the brooder it is not only possible to take care of very early-hatched chicks, when there is no sign of spring in the air, but also far beyond the season they can be raised successfully by the hen. The late-hatched pullets will lay well the next fall, when the earlier-hatched pullets are moulting. The cockerels will make good breeders for the second winter, while the culls are desirable for the table or market. The brooder answers the question of raising late-hatched chickens in the most satisfactory manner. Several small brooders are more serviceable than one or two large ones, as flocks of not more than fifty thrive better than larger numbers. All chicks in a flock should be of the same age. By setting five or six hens at a time, the resulting chickens make a fair flock for a single brooder. By using common sense in management, and keeping in mind a few of these facts, a really progressive man or woman who tries this method of raising chicks will find it to be a success. P. F. D.

Raising Geese for Profit.

BY WM. T. FERGUSON.

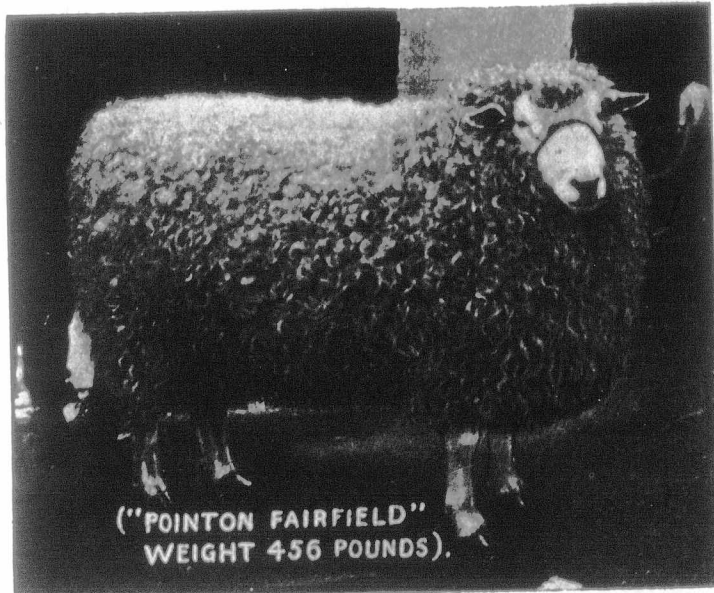
So much has been written about the poultry business in all its phases, that at times I think enough has been advanced. We read about the keeping of hens for eggs or for raising broilers, the best breeds, the housing, tending, feeding, diseases, etc., and in the end, after all their writing and financing, buying wheat at 75 cents a bushel, meat at 8 cents a pound, and bone and crushers, and even turning winter into summer in biddy's quarters, all to make her yield a profit to her owner of \$1.00 per hen, or about 300 per cent. profit. Very good indeed, but can we not do better with the queen of all poultry, "Old Mother Goose?" I have raised geese with profit as far back as I can remember; so did my parents before me, and I hope a few hints on the subject may dispel the idea that geese are only a nuisance, thus setting many a man who had not my early training on the right track.

Breed.—If you are only a beginner, or if you have some poor, non-paying, run-out variety, take my advice and get a pair of good Emden geese. I prefer the Emden for pure-bred geese because they are very prolific, the pure-white feathers sell for 10 cents a pound extra, and they are so much larger. But I get my best results from the large Emden geese mated with a gander of one of the smaller, more active breeds.

Preparation.—As you have your geese, you want some shelter for them during the storms in winter and a suitable place for them to make their nests. Any farm-yard shed will do if you scatter a little straw for them to sit on. In summer a small pasture is necessary. If you are convenient to a pond so much the better, but it is not necessary, and many consider a pond injurious because it is the home of many enemies and has a tendency to make the geese wild.

Feeding and Laying.—A goose has a small appetite for the size of the bird. We used in the old days to feed them corn all winter. Then when we began to feed more pigs, and silos were built, corn was not so plentiful and oats and buckwheat became the principal food. Then one winter even coarse grain was scarce and dear, but we had an abundance of Shantany (short red) carrots, and the geese were fed exclusively on them, and I must say we never had geese do better or start laying so early. A goose can be easily wintered on one dollar's worth of oats and carrots. Geese too fat lay very few eggs. Feed liberally in laying season and supply with plenty of water. Fresh water is necessary to secure fertile eggs. Geese are monogamous and are sure to pair off if allowed; but this is unnecessary, as each gander should have two geese—never three or more. If but a limited number is kept, each trio should be kept separate for at least a month before laying. With large flocks it is necessary to keep a larger proportion of male birds.

Care of Eggs.—Great care must be taken with the eggs. Geese commence laying about the first of March, and, as the weather is cold, the eggs must be



("POINTON FAIRFIELD"
WEIGHT 456 POUNDS).

TWO-YEAR-OLD LINCOLN RAM.

Winner of first prize at the Royal Show, England, 1900; first at Toronto Industrial Exhibition; first and championship at the International Live Stock Exposition, Chicago.

IMPORTED AND OWNED BY J. H. & E. PATRICK, ILDETON, ONT.

gathered before they are chilled. Then place the eggs in a wooden box lined with flannel and keep in the kitchen at an even temperature. Turn your eggs daily to prevent the top side drying up, or sprinkle sparingly with tepid water. Try to follow the natural methods of the goose: She covers her eggs to warm them, she turns them every time she lays, and she comes to them with feathers wet.

Setting.—A goose will generally lay about fifteen eggs: so it is advisable to set the first five eggs under a hen, in a warm place, and sprinkle often. Set on the ground on a mound of earth to keep the eggs moist and still have them dry. Provide plenty of straw. Set ten eggs under an ordinary goose, less under a smaller one. Many make the mistake

of giving a goose too many eggs. They require a great deal of heat.

Care of Young.—Leave in the nest for thirty to thirty-six hours, then feed some bread and milk and let out on a green sod. Young goslings require care for about two weeks; after that they will fish for themselves. Do not let them get wet or do not let the old goose run too much. I usually coop her up, feeding well till the young are able to run; then I put them into a field and they live on grass until near feathering time. They must have fresh water every day.

Fattening.—When full-grown, I shut them up for about ten days, stuffing on boiled grain and corn, and they will be fat enough for anybody.

Profit.—The profits are two-fold: feathers and roasters. First, I pick ganders four times a year,

he were simply attracted by color, for he must, in the first place, examine the animal to see whether it is built upon lines enabling it to perform the work he desires it to do. The same is equally true in the case of cows, and this principle ought to be laid down for the guidance of all poultry-keepers. Fortunately, we can divide our different breeds of poultry into distinct classes, according to their economic qualities, and this is at once an important guide in the selection of breeds.

Our first point in the choice of stock for producing table poultry is that the bird shall be built in such a manner as to carry a large quantity of flesh in the right place, that it shall have good quality, be by nature a quick grower, fattening easily, and is sufficiently hardy. A further most important matter in the selection of table poultry for export is as to color of skin and flesh, if we cater to that high-class market over the Atlantic, willing to pay fancy prices for the properly-finished bird of the right class.

For some reason our market prefers yellow-fleshed fowls, whereas our English neighbors always look upon those birds carrying the whitest flesh as being the best for table purposes, and there can be no doubt that the breeder of poultry for export who desires to attain the best results must keep this point in view.

It will be well just to mention a few of the different breeds, showing the color of their skin and conformation, and in this I quote from my own experience, as an industry for farmers and poultry-keepers. The most suitable breeds for this purpose are: Plymouth Rocks, Wyandottes, Brahmas, Cochins, Cornish Indian Games, and Dorkings, or crosses of these, the Barred Rocks being the best all-round bird. The Dorking is an excellent bird, but not very hardy in this climate, with white flesh and legs. In Britain there has been a strong prejudice in favor of white-legged fowls for table purposes. Happily, this prejudice is dying out, for it has been abundantly proved that our poultry is equal, if not superior, to any other country for table properties, and, of course, most of them are yellow-legged fowl. The color of the pedal limbs is not influenced by, nor does it influence, that of the flesh and skin on the body.

Another important matter is as to the shape of the bird, and the true ideal in the selection of table poultry is that the fowl shall be (1) good length in body, (2) broad in breast, (3) deep in body, (4) with short cream or white colored legs, medium bone, short heavy bill, denoting strong constitution, and small oval, such as comb, and giving the bird a massive and compact appearance. The length of body gives the bird a large amount of breast meat, and the width across the shoulder and depth determines the number of slices on the breast, which is the choicest part of a fowl.

As far as possible, the main points to be avoided are: Heavy-boned; narrow-breasted, with no depth; long-necked; long-legged, as the legs are composed of sinews and veins, which are tough and less valuable for food; absence of feathers on the legs and hock, which are so common on the Cochins and Brahma breeds, as a large percentage of feathers require to be maintained, and this can only be done at the expense of the feeder; a small comb is desired, as the birds are sold by weight, with their heads on. The selecting of poultry to feed for the table is just as important as breeds of cattle for beef. You might as well try to feed a narrow, long-legged, raw-boned steer, and expect a fine specimen for export, as to feed a narrow, long-legged, heavy-boned, long-necked cockerel, and expect to get a fleshy, plump bird. Another important item in connection with this class of poultry is that they lay a good-sized brown egg, for which there has been increasing demand by our transatlantic neighbors, who regard large brown eggs as being much superior to white ones.

In feeding hens for eggs to hatch, you should not forget to see that they get plenty of lean meat and bone, as this will ensure good, strong, healthy, quick-growing chicks. Select for setting the good-sized eggs; keep the young chicks growing from the time they are out of the shell till they are ready to coop. If you have them confined, see that they are supplied with plenty of meat scraps. They need meat-food to ensure rapid and vigorous growth.

Fig. 1.—Represents a cockerel weighing 11 lbs. Note the shape: Short legs; deep, wide breast; short neck; fair length; very plump.

Fig. 2.—Cockerel weighing 9½ lbs.; same age; same weight when put in to feed.

Bird No. 1 gained 1½ lbs. more in same time, and much more fleshy. No. 2 too long in the legs; too large in bone; narrow, with no depth; long neck; but good length; very hard feeder.

Fig. 3.—Pullet weighing 9½ lbs.; correct shape for the breeder and feeder of table poultry.

Fig. 4.—Pullet same age, weighing 6 lbs.; very poor shape, from a feeder and breeder's standpoint. Brant Co., Ont. J. W. CLARK.

Operating Incubators.

BY M. MAW, MAW'S POULTRY FARM, WINNIPEG.

Many unreliable makes of incubators are being operated in this country. These machines give endless trouble and very poor returns, many hatches being small in number, the few chickens that do hatch being unhealthy and in some instances crippled. A very interesting official report on this subject has been given by Mr. A. G. Gilbert, Poultry Manager of the Dominion Experimental Farm,

Ottawa. It is printed in pamphlet form, and has been widely circulated, giving the Experimental Farm's experience with the various makes of incubators. In it he gives details of machines they operated with no success, also results with up-to-date machines that are now run with a degree of certainty that was unknown a few years ago. These reports are very interesting and instructive, and parties interested would do well to write the department for a copy. The large and increasing demand for incubators has resulted in a great improvement. Men with years of experience have devoted time and money, their aim being to produce a perfect machine. For years the great trouble has been how to regulate the moisture. Many machines have succeeded in regulating the heat, but cannot control the moisture, resulting, at hatching time, in a great many fully-developed chicks being

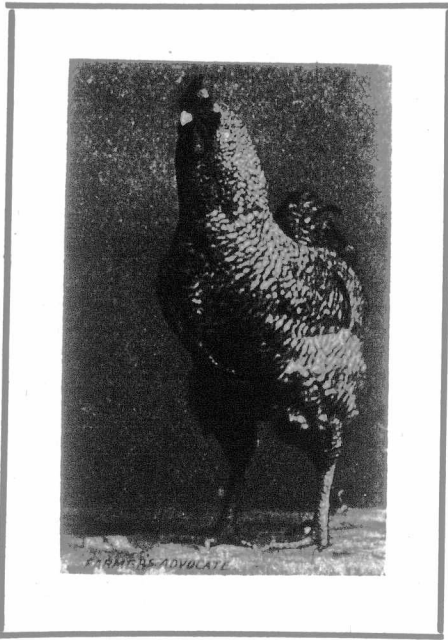


FIG. 1—CORRECT TYPE FOR FATTENING.

and geese three times and young ones once. Pluck every six weeks, beginning with the males the last week in April. You can easily tell when to pluck them by watching when they begin to pick themselves, or try one to see if the feathers are ripe. If the ends are bloody, they will not keep. With the four pickings of mature geese and the goslings once, we generally average two pounds of feathers to a goose, at 60 cents a pound, which will pay for the cost of keeping her, and you have the goslings clear profit. This will be about ten goslings, each weighing 15 pounds, at 8 cents a pound, or for twenty young ones, \$24.00 from each trio. Counting a trio worth \$4.50, this means a gain of 533½ per cent., or over 200 per cent. above the gain on hens in their luxurious houses.

Advantages Over Other Poultry.—They are free from disease. The same breeders do for fully twenty-five years—a goose is in her prime from the fifth to the twenty-fifth year. They never die like

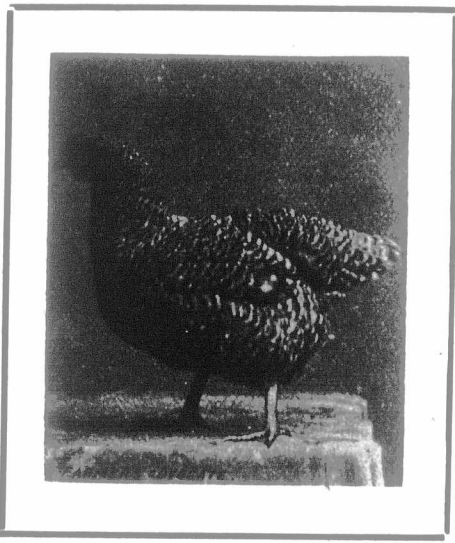


FIG. 3—CORRECT SHAPE FOR BREEDER AND FEEDER.

turkeys or chicks. They protect their young vigorously. They always come home early, and they can be easily confined by clipping one wing. Geese are profitable on a large scale in Virginia, where they are grown for the feathers. And in Germany goose-farming is a profitable business. There they form the national luxury for feasts on all festive days. It is looking after the small investments that makes the farmer rich, and nothing on the farm will help wipe out a mortgage quicker than "Old Mother Goose." Grenville Co., Ont.

Poultry Breeds for Fattening.

In making choice of any animal for domestic purposes, a most important, and, in fact, a necessary point, is to consider the structure of the animal in relation to the work which it is to perform. It would be suicidal on the part of a horse-buyer if

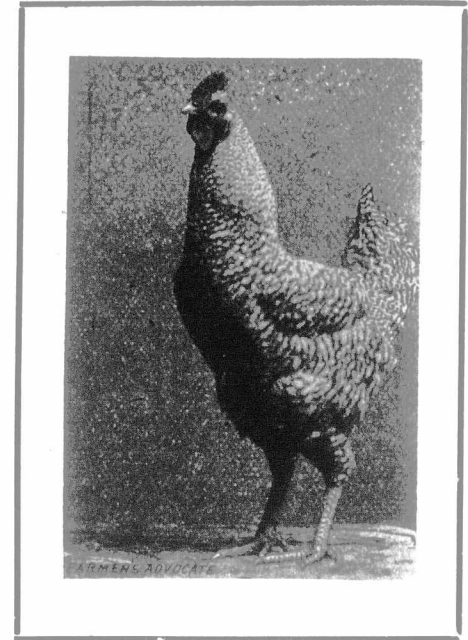


FIG. 2—A VERY HARD FEEDER.

suffocated in the shell. For years the poultry press discussed this trouble. Many reasons were given and new systems advocated, still the chickens died. At last a gentleman, named Cyphers, published a book on "Artificial Incubation," which solved the problem, doing away with moisture pans and cold-air ventilation, substituting a system that diffused the heat from an upper chamber, gently settling on the eggs, causing no drafts, leaving the moisture in the eggs, and carrying off, through a shallow underchamber, all the impure air. He studied nature and he imitated the hen. Most of you have known hens to hide a nest of eggs in some out-of-the-way place and return home with a full hatch of chickens. Instinct taught that hen to make a nest. She chose a place with no under-drafts, and although she had a fever heat of 103 degrees, she neither absorbed nor added to the moisture in the egg. As a great many have not got an up-to-date machine and are having trouble, a few

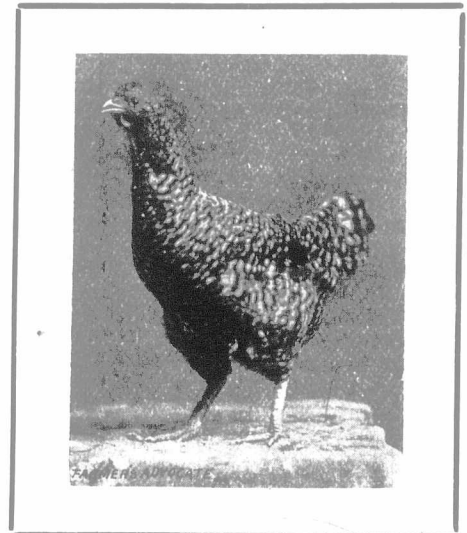


FIG. 4—A FOUR SHAPED FEEDER.

hints would not be out of place, by one who has experienced many of the troubles and disappointments, and if I do not touch on your trouble, write me what it is, naming the machine, and I will cheerfully give you my ideas on the subject.

In starting the machine, carefully read and study the directions. Place it in as good a location as possible, on a perfect level, and let it run for several days before placing the eggs. This is done to get all the parts evenly warmed up. If during this time you have not got the regulator working true, it would be well to put in a few eggs not intended for hatching, and work the machine on them till you have mastered every detail. In selecting the eggs, try and get those that have no deformity in the shell, avoiding all extra large eggs, as they are probably double yoked, and very small eggs, as they are often deficient in germ, and will either not hatch or produce a very delicate chick. Remove all

dirt from the shells, and place eggs carefully in machine. If you have a good incubator and have carefully followed directions, which are very simple (it is only a matter of turning the eggs twice a day and trimming the lamp—a few minutes' work), the machine will do the rest. If your machine has moisture pans and takes in cold air through holes in the bottom or sides, you must run it either in a cellar or a warm room, with an even temperature (this style of machine is not adapted to our climate). The later and best machines are made with well-packed walls, hot-air chamber, no moisture pans, and no cold air drafts. This is the ideal for Manitoba, and can be operated in an ordinary room without a fire. But, unfortunately for many, the old style of machines predominate, and we have to do the best we can. When the machine is once started, avoid opening the door of the egg chamber as much as possible, for this reason: In opening, you alter the atmosphere and at the same time the moisture. If opened often, some of the moisture will be taken from the eggs, causing the germ to dry and stick to the inner shell. In some machines, the egg-turning apparatus catches some of the larger eggs and prevents them turning. In such cases, it is well to mark the eggs and see that they are turned properly. Be sure your thermometer is reliable. I have seen whole hatches spoiled by the thermometer registering wrong. A large percentage of the thermometers supplied with incubators are unreliable, with uneven tubes; thus, at 90 degrees it will register right, but at 103 degrees be one or two degrees out. Get one of the very best. In placing the thermometer, put the bulb on a fertile egg, in such a position that you can read it without opening the door. If possible, have two thermometers, and place them in corner and center of egg tray. In poor machines you will find a difference of heat from extremes to center. In an up-to-date machine, the egg trays are square, and can be reversed each day without handling the eggs. In hot-water machines, examine the tank carefully each hatch. A small leak will spoil a big lot of eggs. In filling the hot-water tank, use soft water; the alkali in hard water will soon eat through the tank. On the eighteenth day make all preparations to close up your machine till the hatch is out. Don't open the door during hatching. It seems hard to see a chick struggling to get out of the shell; you feel like opening the door to help it. Don't; your help is not much good. If it can't liberate itself, blame the machine or the bad operator. Keep the door closed; by opening it you probably take necessary moisture from other eggs at a critical time, and cause them to either stick to the shell or suffocate. Wait till all the chicks have had time to hatch before removing any. If your machine has run right, all chicks should be out before the end of the twenty-first day. If they begin hatching on the nineteenth and twentieth day, you have had too much heat; if they come on the twenty-second, it has been too cold. In either case, either the machine or the operator or the thermometer is entitled to the blame. In conclusion, take advice only from someone who knows by experience what he is talking about. A book of instructions goes with your machine; follow it to the letter. You had confidence to spend your dollars on that machine. The maker has probably sold it to you, thoroughly believing all he stated was true. Give it a good, honest test. Don't know more than he does. If you can't make a success, write or see someone who has a machine of the same make. Probably he can put you right. To those who have not yet got a machine, take advice: Don't buy a machine because it is cheap. You can't get an honest, well-built machine as cheap as a machine built to catch the eye. They are all well advertised. Many are all right in warm climates, but no good for early hatches in Manitoba. Before buying an incubator, write to some of the experimental farms, or Mr. Gilbert, for their experience. Of one thing you may be sure, you can't make a success of poultry farming without an incubator. By its help you get early hatches, and that means lots of eggs in the winter and well-developed cockerels for the fall market. There are plenty of good machines, honestly made and easy to operate. Be sure you get one; it will be as good an investment as you have on the farm.

Approved Rations for Cows.

Prof. H. H. Dean, of the Ontario Agricultural College, says:

"We have tried many different kinds of foods during ten years, but now have settled down to pasture, green peas and oats, corn silage and bran, for summer feeding. In winter feeding, the following ration we have found satisfactory:

Corn silage	30 to 40 lbs.
Pulped mangels	20 lbs.
Cut hay (clover preferred)	8 to 10 lbs.
Bran	1 lb.
Ground peas	2 lbs.
Ground oats	2 lbs.

"This ration is given to the cows at two feeds. The first is fed about 7 a. m., after milking. The second is fed at 4 p. m., before milking. We have found that cows require about eight pounds of concentrated feed (meal) for each pound of fat they are producing in their milk. Small cows will usually require less meal per pound of fat than large cows."

As this ration has succeeded so well with Professor Dean's cows, it may safely be adopted, taking care to heed the caution conveyed in the last paragraph, that all cows are not alike. It requires good judgment to properly balance a ration for a herd.

GARDEN AND ORCHARD.

Vegetable Gardens.

WHAT TO GROW AND HOW TO MANAGE IT.

In travelling through the country, one cannot help noticing how very few farms have any sort of a garden. Being a farmer's daughter and having lived the most of my life on the farm, I know that a garden, if it does exist, owes most to the care of the women-folk, and necessarily increases their work, which is often too heavy before. Still, a garden is not only a convenience, but an economy besides. In the hot, close July days, one turns from pork or meat of any kind to what is far better, a nice fresh salad, new potatoes or green peas. To begin with, the garden should be quite near the house, for where help is so hard to get and keep, every step counts; besides, if near at hand, one is often tempted to step out for a breath of fresh air, and while out it seems a pity not to pull up some weeds or loosen the earth around the younger plants. Children are of great use in the gardens, and most farmhouses have two or three little ones, whose whole days seem too long for them and their mothers, but it should not be made work—play, rather. Give each child a plot of ground for its own use, and watch results. In years to come a little beginning like this may have more to do in changing the face of the country than we could possibly imagine, besides benefitting the children themselves.

The way to plant farm gardens now is in long rows, the rows three feet apart so a horse and cultivator can be made to do most of the work.

Beans are easily killed by frost, and while a few may be risked for very early growth, the main crop should wait for settled weather. For Lima beans make well-manured hills (when I say hills, I do not mean an elevation, but a hole rather, where the seed is dropped and covered up on a level with the surrounding earth). If you elevate, when a shower comes the rain runs away from the roots instead of down to them. Set the poles four feet apart each way, but do not plant the beans until the weather is "set fine." Put in five or six beans to each hill, pressing them into the mellow soil with the eye downward. When well established, pull up all but two or three of the strongest plants. They sometimes require to be helped in climbing the poles.

Beets.—The first sown must be thinned as soon as large enough, leaving the smaller kinds four or five inches apart.

Cabbages and Cauliflowers.—The earliest crops should be started in the house or in hot-beds, but they must be well hardened by exposure before they are planted out. Seeds for the late crop I sow in well-prepared ground in the open air, after the weather gets fine.

Carrots.—The main crop should be sown in May. Use an abundance of seed, in order that the young plants may break through the ground freely. Thin sowing is a frequent cause of failure, as the young plants are very weak and slender, so cannot make their way through the soil that covers them.

Celery.—The seed should be sown very early in the hot-beds for the earliest. The seed is slow in germinating. Do not be discouraged if the seed does not come up in three or four weeks. It will come if the seed is good. Transplant in trenches or on the level ground, and, if on level ground, the self-bleaching varieties will bleach lovely if the plants are set closely together (about six or eight inches).

Corn.—The general crop of sweet corn should be put in at "corn-planting time," but it is well to risk a small planting somewhat sooner. The chance of having a picking a week earlier is worth risking the loss of a little seed.

Cucumbers.—Plant the seed in well-manured hills four feet apart each way. The pickle crop is better not planted until June or July. Use an abundance of seed, as insects will demand a large share of the young plants. On a small scale, the best protection from insects I have found is to cover the hills with a bottomless box or frame with net or some such fabric over the top. Fine slacked lime or a mixture of ashes and plaster freely dusted over the young plants will help to keep off the "beetle."

Herbs.—The leading kinds are sage, thyme, and summer savory. The seeds should be sown far enough apart to allow the hoe to be used between them. Sow thinly, cover slightly, and keep free from weeds.

Onions.—Sets should be put out about the middle of May, or in some localities before that time. The seed may be sown about the 25th of the same month. As soon as the rows can be seen, run a push hoe or hand wheel-cultivator between them. Hand weeding should begin as soon as weeds are visible. If any plant turns yellow, dig it up, with the maggot which killed it. I like the Red Wethersfield and the White Spanish or Prizetaker the best for home use. I always have the best luck with these varieties.

Parsnips.—Some prefer to wait until the soil is warm to sow this seed, but we usually sow them among the earliest things in order to get strong plants before droughts come.

Peas.—American Wonder or Rennie's Prosperity and other varieties may be sown whenever

there is room. The tall varieties should have the earth drawn to them and be given some support before they fall over with their own weight, as it is then difficult to make them cling to the bush. A three-wire trellis of poultry netting makes a good support.

Peppers are transplanted from hotbed or window-box at the same time of setting out tomatoes.

Potatoes should have early attention to save them from the beetle, and the more thoroughly the first brood of insects are poisoned, the smaller the next.

Salsify may be much increased in size by thinning to six inches apart, giving frequent hoeings.

Squashes should be sown in hills or rows. Use plenty of manure. The way I do is to have the earth removed to a depth of about eight or twelve inches, then put well-rotted manure into the excavations and put about three inches of earth on top of the manure, then plant the seeds, cover lightly with earth, and, when all covered, the spot should be about one inch lower than the rest of the ground, then the seeds will get the full benefit of every shower. The plants will not suffer from drought, as the manure holds the moisture. This takes a little more time, but you will be well paid for your work by the fine fruit the vines produce. Last year my squash, cucumber and melon vines were all planted this way. They excelled anything of the kind I had ever raised before. I have been troubled considerably by large squash bugs. They would come in hosts and light on the vines and in one hot day would destroy the whole vine. Last year my vines were close to the potatoes, and some of the vines ran over into the potato patch, and I noticed they were just as green and thrifty as they could possibly be, and, upon examination, I found there was not a single bug or egg on the leaves. The only squashes I had last fall were the ones that grew in among the potatoes. The bugs had long ago destroyed the rest of the vines. This year I intend to plant my squashes and cucumbers in or close by my potato patch.

Tomatoes.—Set out when frosty nights are no longer feared. It is well to have a reserve stock of plants to guard against accidents. The vines should be supported by some kind of trellis, which should be put in place when the plants are set out. When supported by trellis, they will ripen earlier and have more fruit to the plant, and it will also be much larger.

Turnips.—Sow the ruta-baga sorts the last of May or the first of June. For table use the White French is the finest flavored. Rich soil, clean culture and thorough thinnings are needed.

Watermelons do best on a light warm soil, well manured. Sow an abundance of seed, as only a small portion usually germinates. A person can choose the varieties they like best. The same with muskmelons.

Success in gardening depends largely upon little things. As soon as seeds are seen breaking the soil, a sharp hoe run near the row will help them. A rake with long sharp teeth run over the surface frequently will destroy thousands of young seedling weeds. Thinning of root crops is seldom overdone.

Do not forget your row of flowers, readers. They look best in the center, I think.

FARMER'S WIFE.

Spring is Coming.

BY MRS. EVERGREEN.

Yes, spring is almost here, with its possibilities and opportunities, for another season. Have we laid our plans for better results than ever before? That is one of the inspiring influences of spring. It stimulates us of the farm to try for improvement. Let us this season aim to do so all along the line of our several farm industries. Never put a pound of poor butter on the market. Let us produce larger and more turkeys and chickens; and I want to say a word for that which is more neglected on the farm than any other thing; the vegetable garden. There is nothing that will give such good returns for little outlay as the garden, especially if it is well stocked with berries. I have heard those who have good gardens say that it was half their living, and I don't doubt it, when it is stocked with a well-selected variety of vegetables and fruit, commencing early with asparagus and rhubarb, and coming on in succession until late fall with celery and vegetables to store for winter. Mothers of children say that if they can keep their little ones well till strawberry season comes, they are all right after that; yet, how few farms have a sufficient supply of this luscious fruit, when so little ground and toil will secure it. Even if they are cheap, we of the farm don't get all we might make use of, if we depend on buying. Then, they are not nearly so nice as those picked in our own garden. While it may not be profitable to spend much time or money in experimenting with new varieties of seeds or plants, yet a little every year may be pleasurable, and sometimes we get a new kind that is really valuable. If we can get a new berry that will yield twice as much of equally as good berries as the older sort, with no more labor, that is so much gained. But in attending to all of these many affairs, don't forget the house and its surroundings. The home ought to be neat and kept in repair. Even the well-swept doorway is an attraction, and a few flowers pay well in many ways for the time and care bestowed on them. We have had another winter in which to read our agricultural papers and attend Farmers' Institutes. Now we must put into practice what we have learned. Science is knowledge applied, and no matter how

much we may know, if we don't use it, it will do neither ourselves nor others good. It is a real pleasure when one goes to a farmhouse and sees everything neat and trim all round it, with no unsightly piles of old lumber or stones or discarded machinery to offend the eye, or big burdocks growing right up to the door.

Spraying for San Jose Scale.

Mr. Geo. E. Fisher, Chief Inspector of San José Scale under the Ontario Government, has issued the following instructions for spraying:

1. Trees must be thoroughly pruned, and all rough bark and lichen removed.
2. Have a sufficient supply of material on hand and a proper pump for applying it.
3. Do not spray the trees when wet.
4. Thoroughness is imperative.
5. For early work, whale-oil soap should be used in the proportion of 2½ pounds to the gallon of water where the scale exists, and one pound to the gallon when operating only against fungus. It should be first dissolved in a separate vessel, then strained into the barrel of the pump, and is more effective when applied hot.
6. Any good force pump provided with an abundant supply of hose, an extension pipe and a suitable nozzle, will apply the soap.
7. Soap can be used most effectively during the time between the swelling of the buds and the opening of the blossoms; even if a few blossoms are open, no harm will ensue. An early application will destroy the fruit-buds of tender trees. The tree should be sprayed until every part is saturated. The inside of the limbs, the twigs and crevices should have especial attention. One and a half gallons of the mixture is sufficient for a full-grown peach tree.

8. If undiluted crude petroleum be used, the least possible quantity of oil that will cover every part of tree should be applied with the very finest Vermorel nozzle. It is safer to use oil diluted to 25 to 30 per cent. with water. The Vermorel nozzle, either coarse or fine to suit the work, is best. While every part of the tree must be reached, no part should be covered twice with oil. A reliable combination pump only should be used in applying mechanical mixtures.

9. Treat for Lecanium and Pear Psylla early in April. San José scale and other purposes as late as possible before the buds open. First Apple, then Pear, then the hardier varieties of Plums, then the tender varieties, and last Peach, allowing sufficient time to complete the work. Crude petroleum should not be used at all on the foliage.

10. For summer spraying, use kerosene, 10 per cent. with water, on bright airy days, which will promote evaporation, or whale-oil soap, one-half pound to the gallon of water, whenever practicable.

This year whale-oil soap and crude petroleum have been furnished (through Mr. Fisher, Freeman, Ont.) by the Government on the same terms as last year, viz., one-half its cost laid down, cash on delivery.

Spraying.

With growth in spring comes the necessity for spraying our fruit trees and bushes, in order to successfully combat fungous and insect enemies. Former issues of the FARMER'S ADVOCATE, bulletins from Experimental Farms and spray-pump catalogues, some of which are to be found in almost every farmer's or fruit-grower's house, give explicit directions on how, when and what to spray. The following notes are intended as reminders, at this season, that the time for spraying has commenced:

Apples.—When the buds are swelling, apply Bordeaux mixture and copper sulphate solution, and just before the blossoms open, again apply Bordeaux, mixed with Paris green, for scab, codling moth, and bud moth.

Cherries.—For rot, aphid, and slug, apply Bordeaux when buds are breaking; kerosene when aphid appears, and hellebore when slugs appear.

Currants and Gooseberries.—At first sign of worms, apply Paris green (for the worms) along with Bordeaux (to check mildew). For later worms, apply hellebore, and repeat Bordeaux for mildew if necessary.

Grapes.—When buds are swelling, apply copper sulphate for fungous diseases, and Paris green for flea beetle.

Pears.—As buds are swelling, apply copper sulphate solution or Bordeaux, and just before blossoms open, repeat the Bordeaux and spray with kerosene emulsion, for psylla.

Plums.—When buds are swelling, apply Bordeaux for black knot, and when blossoms have fallen, Bordeaux, also kerosene emulsion.

Raspberries and Blackberries.—Before buds break, apply copper sulphate, and cut out badly diseased canes.

Strawberries should be sprayed for rust as soon as growth commences in spring, and every three weeks following until the fruit is well-grown.

FORMULAS.

Bordeaux Mixture.—Dissolve four pounds of copper sulphate in fifty gallons of water, and add four pounds of fresh lime. Strain out the lime and test for proper strength with ferro-cyanide of potassium. If the lime is deficient, a few drops of the cyanide will turn brown in the Bordeaux, when add more lime till the cyanide, when dropped in, remains colorless.

Copper Sulphate Solution is made of one pound

of copper sulphate dissolved in twenty-five gallons of water, and is for use only before foliage appears.

Paris Green.—For fruit, add four ounces to forty or fifty gallons of water, and for potatoes, add six to eight ounces to forty or fifty gallons of water. The Paris green may be added to the Bordeaux mixture the same as water, and thus apply the fungicide and insecticide together.

Hellebore.—Mix fresh white hellebore one ounce with three gallons of water.

Kerosene Emulsion.—Dissolve half a pound of hard soap in one gallon of boiling water; remove from the stove and add two gallons of coal oil, and churn until it becomes of a thick creamy consistency. Dilute with water, about twenty times its bulk, for use.

Care of Nursery Stock.

BY JOHN B. PETTIT.

One of the reasons why many do not have the success in the horticultural section of their farms that they desire and that they had anticipated when entering into the business, is they do not start out properly. A good many men are blaming the soil, or the seasons, or the stock, or something else, for their failures, and forget to consider at all that they themselves could possibly be at fault, and that it is not a case of "bad luck." It is the same with the fruit industry as with every other kind of work; the man that starts out right is more apt to succeed than he who cares little how he starts or whether he starts at all or not.

One very common error that is very easy to fall into is the careless handling of nursery stock after it is received from the nursery. It must be remembered that such stock has life, if it hasn't feeling, and that these tender plants need careful handling in order that the greatest success may attend our labors.

In the first place, purchase your stock of a reliable nurseryman, living as near your own place as possible. If the nursery is not more than twenty miles distant, go after the stock yourself instead of having it delivered at your residence by the nurseryman. Here is the reason: When you go yourself, you can select a cool and probably a cloudy day to go for it. You can take canvas, blankets, etc., sufficient to cover it up well to protect it from sun and wind, should you of necessity be compelled to go on a hot, drying day. The stock is taken out of the soil in your presence, and has to be out but three or four hours before you can get it home and heeled in the soil again. On the other hand, it must be remembered that the nurseryman has thousands of orders to deliver just at this time. He cannot wait for cool days. He sets his date for a certain "delivery," and the day before all the orders in that "delivery" are put up, checked and loaded on a wagon or wagons ready for the teamsters to make an early start next morning. Of course, as a rule, the loads are covered with canvas, but it is impossible to cover a large load of nursery stock so as to keep it from soon drying out on a hot, windy day. Then, often the whole "delivery" cannot be distributed in one day, and some of it has to go over another hot, dry night, into the second day, before it reaches its destination. Now, this is not imagination. I have seen it occur time and again, and have myself had charge of deliveries when it took two days to distribute the stock; and, try as I would, I could not keep it damp, and some of the last orders to be put off were very much wilted indeed, so much so that had I been the purchaser, instead of the deliverer, I would not have received them.

As soon as you get your stock home, give it a thorough wetting and then heel it in some cool, loose soil that will work in about the roots closely, and firm the soil about the trunks so the wind cannot easily dry it out and parch the roots.

When planting day comes, exercise the same care and precautions. Get your soil ready, strike out one furrow, and only one, at a time. Then get a bundle of trees, but do not do as I have seen done—drop them along the whole length of the furrow in the blazing sun and withering wind and leave them so until planted. Take a bundle, give the roots a soaking and then wrap a canvas or blanket about them and carry them along, taking out a tree as needed to plant. When that bundle is exhausted, take another in like manner.

Before planting, trim back all the branches two-thirds or more. Three or four of the strongest branches only should be left, and these should have but three or four buds left on each. People make a very serious mistake when they leave all the branches on just as they come from the nursery row. It is a great shock to the roots to be torn from their union with the soil, and to partly counteract this the head should be cut back. All split, broken and bruised roots should be cut off close to the wound, as a smooth cut heals more quickly than does a rough one.

In digging the holes in the furrow, make them large enough that the roots may go in in their natural shape, and do not twist and curl them up in order to save a little work at digging. I have seen men almost tie grapevine roots in knots in order to cram them in a little hole and get out of a little work. Such an act is very poor practice. Do not plant much deeper than the tree stood in the nursery row. There is one thing, however, that apparently cannot be planted too deep, and that is a "dwarf" pear tree.

In covering the roots, do not throw hard, dry clods against them, but, on the contrary, secure some damp, mellow soil and firm this about them so that when the tiny rootlets start the soil can be easily

penetrated. With careful planting and thorough after-cultivation, success with nursery stock is almost assured.

Lectures Before Horticultural Societies.

Below will be found a list of the dates and places where arrangements have been made to hold meetings of the Societies during April. The work of arranging these has been transferred from the Fruit Growers' Association to the Department of Farmers' Institutes, and hereafter all communications in reference to lecture work connected with these Societies should be addressed to G. C. Creelman, Superintendent of Farmers' Institutes, Parliament Buildings, Toronto. It has also been arranged that all speakers shall visit and address the children of the public and high schools in the afternoon of the date on which the meeting is to be held. It is hoped that in this way the pupils may be instructed in matters pertaining to horticulture and nature study, and that the meetings at night may also be helped by the advertisement given them in the schools.

Delegates.—W. N. Hutt, Southend, and Miss Blanche Maddock, Guelph.

Subjects.—Mr. Hutt—(1) Insect friends and foes, (2) Birds in relation to horticulture, (3) Pruning of trees and plants, (4) Beautifying the home, (5) Spraying mixtures and their application. Miss Maddock—(1) Fruits and vegetables as articles of diet, (2) Window gardening.

Lindsay	April 9th
Port Hope	" 10th
Cobourg	" 11th
Stirling	" 12th
Pictou	" 15th
Iroquois	" 16th
Cardinal	" 17th
Thornbury	" 18th
Owen Sound	" 19th

Mr. Hutt only.

Delegates.—Wm. Bacon, Orillia, and Miss Blanche Maddock, Guelph.

Subjects.—Mr. Bacon—(1) A talk on some really desirable plants—their season and care, (2) The bulbous family presented in a popular manner, (3) The veranda—its shade and environment. Miss Maddock—(1) Fruits and vegetables as articles of diet, (2) Window gardening.

Niagara Falls	April 22nd
Grimsby	" 23rd
St. Catharines	" 24th
Simcoe	" 25th
Oakville	" 26th

Delegate.—A. McNeill, Walkerville.

Subjects.—(1) The fertilization of flowers, (2) House plants, (3) Plants, trees and shrubs for the ordinary town lot.

Cayuga	April 8th
Port Dover	" 9th

Delegates.—A. McNeill, Walkerville, and Miss Laura Rose, Guelph.

Subjects.—Mr. McNeill—(1) The fertilization of flowers, (2) House plants, (3) Plants, trees and shrubs for the ordinary town lot. Miss Rose—(1) Why I have a garden, (2) Economic gardening.

Woodstock	April 10th
Paris	" 11th
Hespeler	" 12th
Guelph	" 13th
Elmira	" 15th
Mitchell	" 16th
Seaforth	" 17th
Clinton	" 18th
Kincardine	" 19th

Delegate.—Dr. James Fletcher, Experimental Farm, Ottawa, Ont.

Smith's Falls	Dates to be arranged later.
Perth	"

G. C. CREELMAN,
Supt. Farmers' Institutes.
Toronto, March 30th, 1901.

Common Sense Way of Planting an Apple Orchard.

The season of the year is just at hand when a great many farmers of this fair Dominion will be contemplating planting out an orchard.

As the average farmer rarely has this to do but once in a lifetime, he naturally has but little experience, and is only too glad to get a few of the very best pointers put prominently to the front by those who have gone through the ordeal.

The first thing to be considered is the locality, whether a high, medium or low position would be best? It has been decided that a high locality is preferable to a low one, but the writer would prefer a medium elevation, and thereby escape to a certain degree the drought and high winds that are sure to visit the high locality. But if a high locality has to be accepted, then a row of Norway Spruce or other shade trees should be planted on two sides at least, the north and west, about twelve or fifteen feet apart, so as to form a wind-break, as it is very discouraging to have a good crop of apples nearly all blown off by a big wind such as we had in this district last year. When the locality is decided on, the next and very essential thing is a good fence, as it matters not how good a lot of trees you plant out, they will be entirely ruined if not properly protected by a good fence. Why, the most modest cow in your herd would be delighted to spend an hour in your young orchard, eating the green leaves and breaking off the branches so that there would be nothing left but a ruined apple tree, an old cow, and an angry farmer to tell the sad tale.

I would prefer a wire fence to any other, then you would not be troubled by snowdrifts that would break your small trees and also form a harbor for mice.

Now that the locality is settled on, and the fence built, the next thing is the kind of trees to plant. That, of course, depends largely on where your market is to be. If you intend to grow for export, you will not require many summer or fall varieties, about sufficient for the use of your family and a few to spare.

Among the early varieties, I find the Yellow

Transparent, the Red Astrachan and Duchess of Oldenburg to give best satisfaction with me.

I am not in favor of giving big prices for new varieties with large names, but would pin my faith to such varieties as Northern Spy, Baldwin, Ben Davis, R. I. Greening, King, and American Golden Russet.

It might be that there are other varieties that would succeed in your locality, but these are reliable over a large territory. In planting, the holes for the trees should be dug round, and be about three feet across and twelve or fifteen inches deep; then a little of the top earth taken out should be placed in the bottom of the hole to imbed the roots in, tramp the earth solid about the tree until within a couple of inches from the surface, when it should be left loose.

When the trees are all planted put some long manure about each tree to protect it from drought.

Do not plant nearer than thirty feet apart each way, nor nearer than fifteen or eighteen feet from the fence, so as to give ample room for turning when working the land.

If you cannot go direct to the nursery for your trees, be sure you give your order to a responsible firm, as the great characteristic of some firms seems to be to send out inferior, wrongly named, highly-priced stock.

There should be a law to punish nurserymen for sending out trees that do not prove true to name.

There is a great deal more that could be said about cultivation, pruning, etc., but my aim has been to give a few useful ideas on planting, without the observance of which no one can reasonably expect to succeed.

P. ROWE.
Ontario County, Ont.

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.

DIARRHEA IN CATTLE.

A number of our cattle are affected with diarrhea. A two-year-old heifer, the first to take it, is almost dead. We called in a veterinarian to see her, but he said she was too far gone. She was scouring badly then and straining hard. In the morning she was some better again and able to walk around, but is down again now. We noticed her weakly about three weeks ago, and twice she was down and hardly able to get up. We first noticed her scouring about a week ago. She would be bloated at times, and had a great desire to eat, and failed fast. Those fed with straw are as much affected as those being more heavily fed.

Northumberland Co., Ont.

P. G. R.

[There must be some local cause for the diarrhea in your cattle. It probably is caused by poor quality of either food or water. Investigate carefully, and if a cause can be found, remove it. To check the diarrhea, give to an average sized animal the following dose every four or five hours until the diarrhea ceases: 2 ozs. laudanum, 6 drams each of powdered catechu and prepared chalk, shaken up with a pint of water and given as a drench. To smaller animals give less doses.]

J. H. REED, V. S.]

LUMP ON COLT'S FETLOCK—SCRATCHES.

1. I have a Roadster colt coming two years old. Last fall he ran against a plow, cutting fore fetlock on outside, which took about six weeks healing up. It has left quite a lump on place, which is hard to the touch. Would you advise me to blister to take down lump? He is not lame.

2. A horse has had scratches for nearly a year. I tried everything I could think of, but have not found a cure. The horse is in good condition and healthy.

Algoma, Ont.

J. MCK.

[1. Repeated blistering will have a tendency to reduce the size of the lump, but will probably not remove it entirely.

2. Dress the raw surfaces with butter of antimony, applied with a feather once daily for 4 days. Then poultice with boiled turnips 5 parts, powdered charcoal 1 part, continuously for three days, and then apply the following lotion 3 times daily: Sulphate of zinc and acetate of lead, of each 1 oz.; carbolic acid, 2 drs.; water, 1 pint. Don't wash at all.]

J. H. REED, V. S.]

LAME MARE.

I have a mare that got sprained in the stifle joint last September, and now has a lump in front of the stifle about the size of a man's hand. Before that she had a bog spavin. She worked in the fall, but has done nothing all winter. I blistered the two lumps about two months ago, but did no good. She is very lame yet. When standing she lets her leg sling. Can anything be done to cure the lameness.

SUBSCRIBER.

Bruce Co., Ont.

[From symptoms given, I would say that there is partial dislocation of the patella. Repeated blistering is all that can be done. It is probable this, with a long rest, will ease the symptoms considerably, but it is not probable the lump mentioned will be removed.]

J. H. REED, V. S.]

DERANGED DIGESTION IN CALF.

I have a calf, nine weeks old, which has been sick for about a week. Sometimes it will drink a little milk, but will eat nothing. It seems to try to chew its cud, but apparently has nothing to chew. Its eyes are sunken, and it grates its teeth most of the time. The calf was fed on milk from a cow that had been milking about six months, until it was four weeks old, when it was given skim milk once a day. When about four weeks old it began to eat a little roots and chop, but never would eat hay at all. It often ate the straw that was used for bedding. I have given it Epsom salts and boiled flaxseed since it was sick. What is the cause of the trouble, and can I do anything for it? The calf has been loose in a box stall all the time.

Essex Co., Ont.

G. E. L.

[A newly-calved cow gives milk of a consistency peculiar to the necessities of the calf. The milk of the cow that had milked six months lacked this quality, and, no doubt, had the effect of deranging the digestive apparatus of the calf. Give the calf one ounce of castor oil on an empty stomach. Feed it in moderate quantities for a few weeks on the new warm milk of a cow lately calved. In the milk three times a day give a powder made of the following: bismuth nitrate, 1½ ounces; pepsin scales, 3 drams; powdered nux vomica, 1 dram; all well mixed and divided into twelve powders. When the appetite returns, give a teacupful of lime water in the milk at each meal. Give no porridge of any sort in the milk, but allow the calf to eat dry bran and oat chop in equal quantities, clover hay, and pulped roots.]

Miscellaneous.

WIREWORMS IN SOD.

I have tried to find out how to kill wireworm in sod. I have a large sod field I was going to plant with potatoes this year, but don't know how to get rid of the worms. If you can give me information I would be ever so much obliged. The soil is a black mucky loam.

Grey Co., Ont.

DANIEL SARGEANT.

[If your correspondent's field of black muck which is badly infested with wireworms is still in sod, I would advise him to leave it in sod until next August before he plows it up. It would certainly be a dangerous thing to plow it up this spring and plant potatoes, for wireworms are particularly partial to potatoes, and frequently do much damage to that crop. If he wishes to break up the land this spring, I would recommend rye or barley as a crop, because these two crops seem to be much less attacked by wireworms than other plants. By plowing up land in August, the wireworms are disturbed and thrown out just at the time of the year when many of them are in the tender pupa condition, and experiments have shown that if plowed up in this condition a large proportion of them perish. I suppose there is no doubt about your correspondent being correct in identifying the insects he has found as "wireworms." The wireworms are all yellow in color, and are the larvae of the skipjack beetles, slender brown beetles which when laid on their backs have the power of springing into the air by means of a strong muscle beneath the neck. I ask this, because the larvae of a harmless fly have this year been found very numerous in many places, and have in most cases been sent with a request to know if they were young wireworms or cutworms. These larvae are brown and soft, about half an inch in length, and have short, fleshy tubercles along the sides. They are the larvae of the spring flies or March flies, clumsy black flies often seen in great numbers crawling over bushes in early spring. The larvae feed upon decaying vegetable matter, particularly exhausted manure when buried. J. FLETCHER, Entomologist, Central Experimental Farm.]

TRAPPING WIREWORMS BY HUNDREDS.

The early tomatoes in two hothouses had just been planted out in the soil of the houses—not in pots—and a few had fallen from attacks of wireworms. No time was lost in encountering the enemy. A few carrots and beets of extra size, and therefore not desired in the kitchen, were cut into wedge-shaped pieces, and one piece was stuck into the ground about 3 in. from each tomato plant, under the impression that the wireworms would prefer carrot or beet to tomato. This impression proved correct, for when the traps were taken up, three days after the setting of them, over 700 wireworms were caught, either in or close to the bits of carrot or beet, as many as fourteen being found in or near one piece. It was satisfactory to find that beet served as well as carrot, because the assumption is that the common mangel would do as well as either, and wireworm traps are thus cheap enough. The 700 wireworms were caught with 1,157 traps, the first time of taking them up, and as the traps were immediately set again, another haul or two may be expected. It is desirable to take up the traps with the point of a trowel, because many of the pests are to be found in the soil around a carrot or beet trap, though more have eaten their way into the vegetable. The work of cutting up the roots and sticking the pieces in the soil was that of only about three hours for one man.—B. M., in English Exchange.]

REGISTRY OF CALF.

I have a cow and bull (thoroughbred) from the same dam but by different sires. Can I breed with them and have the calf registered?

Northumberland Co., Ont.

A GREENHORN.

[Yes, if the cow and bull are first registered.]

FERTILIZER WITH CLOVER.

J. B. D., Kent Co., N. B.—"From the successful use of basic slag, which, I suppose, is the article for sale here by the name of 'Albert-Thomas phosphate,' on permanent pasture, in Northumberland, England, applied as a top-dressing in 1897, I am led to believe, by analogy, that the same material sown with clover seed will materially assist its growth, and when plowed down as a green fertilizer, so as to add humus to the soil, and again seeded with a variety of grasses, with a nurse crop of oats, barley or wheat, the first application of the slag will continue to show its benefit with the permanent seeding. Being impressed with this idea, it is my intention of plowing and sowing a 4-acre field that is now in sod and was pastured some, with oats and 10 pounds of Mammoth clover per acre, and a ton of slag on the four acres. In October, I will plow the green clover, and in the spring of 1902 again sow oats and seed down with grasses and clover for hay and pasture. As the field is a considerable distance from the barn and I am short of manure, I feel inclined to try this mode of dealing with it, but would like your opinion before doing so. 1st. Do you consider the slag will benefit the growth of either the oats or clover this season? 2nd. Do you think that the slag so sown this spring will benefit the growth of the final seeding? 3rd. Will a ton of slag be sufficient for 4 acres?"

[1. The results obtained from application of basic slag in Canada, so far as we have been able to learn, are so varied and contradictory, we cannot with any feeling of confidence advise as to the probable effects of its use. According to English authorities, soils must be suited to slag, those poor in lime and rich in organic matter being most favorable for its action. These authorities also state that leguminous crops are best suited to benefit from the slag. We would therefore expect clover to respond liberally to an application of the powder. We understand the slag is slow to dissolve, and does so largely from contact with the growing rootlets of plants. We would not look for much extra return in oats this year on account of the application of slag.]

2. We would expect the clover to be more luxuriant on account of the slag, and this plowed down will give an increased yield of oats in the final seeding. This would be an indirect result of the slag, but it being slow in dissolving, there should be expected a direct return from the slag for several years to come. We believe the best results from the slag, in building up the land, would be to defer plowing the clover down in 1902 until July, when it had acquired a full growth, then sow to oats, and seed down in 1903. This will lose a year, but gain much for the field finally.]

3. From 500 to 600 pounds per acre is considered a fair dressing.]

HESSIAN FLY IN BARLEY.

Being a reader of your valuable paper for the last few years, and receiving much information, I now ask for information about sowing barley on fall-wheat ground. I had a field of barley last year which seemed to be affected with the Hessian fly; same field had wheat on the year before. I have a fourteen-acre field to sow with barley this spring, and this same field had wheat on last year, and the wheat was badly cut with the fly. What can I do to save the barley this year? Would salt be a good thing to sow? How much should I sow to the acre? When should I sow the salt, before the grain comes up, or after it is up a little?

W. W.

Lambton Co., Ont.

[A description and life-history of the Hessian fly appeared in the FARMER'S ADVOCATE, August 1st (1900) issue, page 438. It is an unfortunate fact that there is no known remedy for the spring brood of Hessian fly. There are many peculiar circumstances in connection with the appearance of Hessian fly that entomologists have not yet been able to explain, and many more careful observations will have to be made before the full life-history of the pest is known. A dressing of salt, about 200 pounds per acre, applied after the barley is sown, and before the field is rolled, will help the barley, and therefore strengthen it against the attack of the fly.]

CHICKEN FENCE—STEEL SHINGLES.

1. I would like to hear, through your valuable columns, from some of your readers that have had experience with chicken fence. I want to fence half an acre for hens, with stock running on the outside. I want a permanent fence.

2. As I have to build my hogpen over this year, I would like to hear from some of your readers, who have had any experience with steel shingles, their cost compared with pine, and durability.

Elgin Co., Ont.

J. TODD.

[These questions are addressed to our readers, whom we hope will send us early replies for publication.]

WHAT CHOP TO FEED A BULL.

I have a fine breeding bull, two years old. I would like to know, through the ADVOCATE, what would be the best ground feed to feed him to keep him in good breeding condition.

F. K. M.

York Co., N. B.

[In addition to enough good hay, soiling crop or pasture to satisfy the bull's appetite, he should have, twice a day, two quarts of oat chop and one quart of pea chop or oil-cake and a quart of wheat bran. This should keep him in good vigor without producing over-fattening.]

CORN-AND-COB MEAL—STUBBLE-SHEARING SHEEP.

D. A. O., Vereker:—"Will you kindly let me know, in one of your issues, what strength and feeding value there is in corn cobs? Having heard quite a discussion about same—that when corn and cobs are ground together, the cobs are equal to their weight in good timothy hay—I would like to hear from some of your old subscribers and good feeders on that subject.

"2. Has any one of the ADVOCATE readers ever tried clipping the end of the wool instead of shearing? If ever done, what month is the work performed? I am thinking of trying it on a few of my sheep."

[1. Reasonably fine corn-and-cob meal has been found very satisfactory for stock feeding. Experiments by the Paris Omnibus Company showed that corn-and-cob meal gave better returns than pure corn meal. The addition of the cob meal to the corn meal prevents it from lying so heavily in the animal's stomach, which probably gives the cob meal its value quite as much as its food content. Prof. Henry reports in his admirable work, "Feeds and Feeding," experiments conducted at Kansas Experiment Station with steers fed on corn-and-cob meal as compared with others fed on corn meal alone. The test was with two lots of five steers each, the trial lasting 140 days. The result showed that corn-and-cob meal gave the best daily gains. The average gain of those fed corn-and-cob meal was 316 pounds, as compared to 292 for those fed corn meal alone. In the first case, 100 pounds of gain was made from 732 pounds of meal, while it required 795 pounds of pure corn meal to make 100 pounds of increase. The cattle were fed alike in all other respects.

2. We presume that what is called stubble-shearing is referred to. This is sometimes practiced in shearing sheep in spring that are intended to be shown at the fall fairs. It is not to be recommended, however, as a good judge, who knows his business, will not be deceived, but can readily detect the difference between old and new wool, and, other things being equal, will discriminate against unfair shearing. It is generally done in March or April, and usually the clipping is done as the sheep stands, either tied up or held by an assistant, the wool being clipped off about two or more inches from the skin on the average, but generally left longer on breast and flanks. With a little experience, the shearer can, by laying the sheep down in the usual way, cut out in the wool so as to leave an inch or two, and though the work may look rough, if the sheep are wet or washed in a few days after shearing, the wool curls and looks all right. This applies to long-wooled breeds of sheep. In the case of the Downs and other short-wooled breeds, it is better to shear earlier, for show purposes, and close, even if blanketing be necessary to protect them from the cold for awhile.]

CHEAP POULTRY HOUSE—WHAT CROSSES TO USE.

F. E. W., Manitoulin Id., Ont.:—"My father has taken your valuable paper for over twenty years, and he says he would not be without it now. I intend going into poultry-raising in the spring, but have no poultry house. 1. Would you please give me a plan of a cheap temporary poultry house for about 30 hens, and about what it would cost to build it, when lumber is \$6 a thousand feet. I want the cheapest that can possibly be built—that is, to be warm.

2. I intend breeding for market poultry more than eggs. I intend to cross the Brahmas or the Cochins on the Plymouth Rocks. Would it be a good cross, and which would you advise—the Brahmas or the Cochins?"

[1. In the FARMER'S ADVOCATE, February 1st number, page 90, were published descriptions and ground plans of two styles of poultry house that can be built for little money. It is very important to have a dry location. For a temporary house, such as is desired, a tight-fitting plank or inch floor will answer, but no draft should be allowed to get beneath the building to come up through the floor. Such a house should not cost more than twenty dollars, and perhaps fifteen would build it if F. E. W. can do the work himself during spare hours.

2. Having a good flock of Plymouth Rock hens, there would be little if any advantage in introducing other breeds with which to cross. The results of crossing are frequently uncertain, so that we would adhere to the Rocks by getting a first-class male of that breed to put with the breeding flock. This should have been done a month ago so as to get early chickens. There is yet time for early May hatches. If crossing has been finally decided upon, we would prefer the Brahma, either light or dark, to the Cochins.]

ANGORA GOATS AND MOHAIR IN CANADA.

W. D., Middlesex Co., Ont.:—"Would you kindly inform me, through the FARMER'S ADVOCATE, whether the raising of Angora goats, now so much talked of in the States, has attracted any attention in Canada? Also whether mohair has any commercial value this side of the line?"

[So far as we are able to learn, Angora goats have received no attention in Canada. There is no demand for mohair in Canada; the Liverpool market is the best market for this class of stock. Yarns made from mohair are mostly used for bright effects in dress goods, and for coat linings, etc. These yarns can be imported free into Canada, and on this basis could never be manufactured in this country.]

WEIGHT OF ENSILAGE—MIXTURE OF GRAIN TO SOW.

Could you please answer, through your paper, how much weight is in a cubic foot of ensilage in the silo?

2. Mr. McMillan reports 90 bushels and 70 bushels of mixed grain per acre. I would like to know how much this grain weighed to the measured bushel, and what was the mixture he sowed?
York Co., Ont. JOHN KENNEDY.

[1. A cubic foot of ensilage, towards the bottom of a deep silo, weighs from 40 to 45 pounds per bushel, according to the moisture and grain it contains.

2. The proportions of seed used in growing oats, barley, and wheat: Oats, Surprise, one bushel per acre; barley, Dakota two-rowed, one peck and one-half per acre; Goose wheat, one peck per acre. The weight of a measured bushel, as it came from the threshing machine, was about 45 pounds. The land upon which we grow the mixture is land upon which we grow a crop of corn the previous year. The preparation of the land for corn is clover sod. The first crop of clover is cut for hay, the second crop is plowed down in the fall. During the winter we spread on the land about 18 or 20 tons of manure, taken right from the stables and spread. In the spring the manure is wrought in on the surface with a common harrow first, then a spade harrow, until we get the land in fine tilth; then the corn crop is harrowed once or twice after the corn is planted, and the land is scuffed and kept perfectly clean. Then, after the corn is taken off, the land is not plowed, but is pulverized in the spring with a spring-toothed cultivator and wrought until the surface is in fine tilth. Our land is also well underdrained. All these conditions must be in good order to get good results. The straw we use for bedding is all put through the cutting-box.
Huron Co., Ont. JOHN McMILLAN.]

WINTER FODDER FOR EWES—COW PEAS.

I have about fifty ewes. Would you kindly advise me the best crop to sow to have for winter feeding? Would peas and oats be good if cut just before maturity, and housed same as hay, or can you suggest anything better? What are the characteristics of cow peas?
Prince Edward Co., Ont. FARMER.

[If you have a good prospect for a crop of clover hay of sufficient quantity, we can recommend nothing more suitable. Lacking that crop, a mixture of peas and oats, cut and cured before quite ripe, will answer an excellent purpose. We have wintered ewes very satisfactorily up to lambing time, on unthreshed peas alone, and never had stronger lambs or better success in raising them. Of course, they must be fed sparingly or the ewes will get too fat, and after lambing, some oats and bran should be fed, and less of the peas, as they are too heating and are liable to cause trouble in the udders of the ewes.

Prof. Zavitz, of the O. A. C., in reply to an enquiry as to cow peas, in the FARMER'S ADVOCATE of June 15th, 1899, wrote: "From our experience so far with the different varieties of cow peas which are grown successfully in the South, they seem to be entirely unsuited to our conditions; in fact, none of them have produced pods, and usually they have not blossomed. Even for plowing under, I believe we would obtain much better results by using either our common peas or clover. A U. S. bulletin of 1894 says: 'It is really not a pea, but a bean, clover of the South, king of land renovators, more valuable to the Southerner than clover to the Northerner. Draws nitrogen from the atmosphere, grows on light soil.'"

CEMENT FLOORS UNDER COWS—HULLLESS BARLEY.

J. B. J., Northumberland Co., Ont.:—"1. I am thinking of putting cement floors in my stables if they are not injurious for cattle? Could you give me a ground plan for stable, size 36x50, to accommodate 20 head of cattle? Also the location for silo and root house. What kind of cement would be the best and cheapest?"

"2. Last spring I bought ten pounds of hullless barley and sowed it on a mucky clay soil not too rich. It ripened about the time of early oats. I had four bushels. Do you think that it would be a good barley to sow this spring?"

[As a rule farmers who have cattle standing on cement floors see no objection to them, and claim they would use no other. In this issue we publish a plan and description of Mr. Penhale's barn, which is 36 feet wide and 76 feet long. This same plan will answer J. B. J. if shortened. It shows position and construction of root house and also refers to wooden platforms for the cattle to stand upon. Mr. Penhale intends to erect a round silo at one end of his barn immediately opposite the feed alley. Either Queenston or Thorold cement would answer well.

2. Hullless barley is about as heavy as wheat, and gives a fair yield on suitable land. Four bushels from 10 pounds is a good increase, showing the barley to be worthy of a trial.]

SPAN OF MULES WANTED.

Could you inform me where I could buy a pair of mules, about 1,000 to 1,100 lbs. each, and also what the cost would be? If you do not know of any, could you tell me where I would be likely to find them.
King's Co., N. B. GEO. JAMIESON.

[Mules are not readily picked up in Canada, but probably some of our readers can tell us where such a pair as is wanted in New Brunswick can be found?]

STARTING A FLOCK.

J. M., Bruce Co., Ont.:—"Would you kindly give a diagram of a sheep house, and say which would be advisable in starting a flock—to buy lambs or ewes?"

[We gave in last issue a plan of a model sheep house. This plan entire may not be suitable for the general farmer to adopt, but some features of it may be copied in the internal arrangement of a less pretentious building. As a rule, sheep do not require a warm building, except for the ewe flock when lambs are bred to come in winter or early spring. A dry, airy place is best for them, as long as cold drafts are avoided. A shed with the cracks between boards battened, and with wide doors, left open except in time of a drifting storm, is good enough as a general rule. Permanent racks around the side of the shed and a shallow trough nailed to bottom of rack to feed grain or roots in economizes space and answers fairly well. Whether to buy ewes or lambs to start, would depend some on the price they could be bought for. If lambs are bought, it means waiting a year longer for increase, as it is not wise to breed them to produce lambs before they are two years old. If ewes one or two years old can be got at a reasonable price, they will probably be the best investment; but if lambs can be got cheaper (relatively), the wool should nearly pay for their first winter's keep, and they will pick their living in summer largely in the lanes and rough places of the farm, helping to clean it of weeds.]

ADMINISTRATION OF ESTATE.

S. E., Frontenac, Ont.:—"Mrs. E. died intestate, leaving nine children (all grown-up), also a husband, not the father of the children. Part of those children provided and paid for the burial expenses, with the understanding that the house and lot owned by deceased would be sold to defray expenses. The party has been dead over a year, and the property remains unsold, and has been unoccupied all the time since demise of owner.

"1. Can the children who furnished the money for expenses, or any one of them, cause the property to be sold?"

"2. If so, how should they have to proceed?"

"3. How would the remaining money, after lawful debts are paid, have to be divided between children and husband?"

[1. Yes.

2. The husband ought to administer the estate. If he will not do so, then any one of the children who are creditors might apply for letters of administration, and having obtained same, proceed to sell the property. We assume, of course, that the personal property of the deceased was insufficient for payment of her funeral and testamentary expenses and debts. A year having elapsed since her death, it would be requisite, in order to the sale of the property, that the administrator should obtain the consent, in writing, of the heirs, or a judge's order, and register a caution notifying the public that such sale may be necessary.

3. One third would go to the husband, and two-thirds to the children, in equal shares.]

BREEDING BLOOD AND CLYDE MARES.

D. McG., Kent Co., Ont.:—"I have a blood mare, about eleven cwt.; would it be advisable to breed her to a first cousin?"

"I have also a Clyde filly that will be two years old in about a month; would it be advisable to breed her this spring?"

[1. Provided the stallion is a particularly vigorous one, and his breeding and general characteristics are all right, there should be no objection to breeding the pair referred to. It would be only when each possessed a similar weakness that they should not be bred, as in that case the defect would not only be perpetuated but intensified.

2. It is in very rare instances only that horse breeders have fillies served at two years old, and then only when they are exceedingly well matured. To breed any immature animal, but especially a female, is to check its development and decrease its mature weight, and not only that, but the offspring of an immature mother cannot be as strong as the produce of a fully-developed dam.]

GASOLINE ENGINE FOR SAWING WOOD.

Please let me know what you think about a gasoline engine, and if you think that it would answer to take into the woods to run a circular saw in cold, freezing weather. Are they long-lived?
Leeds Co., Ont. F. E. POLLARD.

[A gasoline engine should answer admirably to run a saw, as it needs practically no tending while it is running, and it runs smooth and strong. The engine that was made some years ago gave trouble in starting in very frosty weather, but the modern machine is made to overcome that inconvenience. It is also easily moved from place to place on a stone boat. The gasoline engine has not been in use long enough, to our knowledge, to test its enduring qualities, but the form of its construction and the simplicity of its machinery would indicate that it must wear a very long time at suitable work.]

SMUT IN BARLEY.

Will Robt. McLean's treatment for oats be also good for barley? It is on page 155, March 1st number. Kindly answer this query through ADVOCATE.
Oxford Co., Ont. H. K.

[The smuts that affect barley and oats are so nearly alike in character that the treatment for one will answer equally well for the other.]

SHEEP-DIPPING TANK.

S. W. S., Stormont Co., Ont.:—"Will you kindly give me a full description of a sheep-dipping tank, through the FARMER'S ADVOCATE, the proper size, shape, and how to construct?"

[The dipping tanks we have seen in use were made of 1½-inch plank matched with tongue and groove, and are about 5 feet in length and 20 inches in width at bottom, and about 24 to 26 inches wide at top, the ends as well as the sides flanging out at top. The depth need not be more than about 2½ feet if sheep are turned on their back in dipping. In the ADVOCATE of June 1st, 1900, page 322, was a description of a wooden tank, which is made by setting up an outside frame of 2x4 inch scantling of the height required, and the same for bottom, sheeting up on the inside, bottom and sides, with two thicknesses of matched flooring, one end of the vat slanting at an angle of 40 degrees, so that sheep can walk out (the floor being cleated) onto a drying platform, from which the drippings flow back into the vat. Galvanized steel tanks are made in Chicago and advertised for sale at \$12 to \$15. Dimensions—8 feet long at top, 4 feet at bottom; width on top 22 inches, at bottom 6 inches; depth 4 feet; capacity 200 gallons.]

HATCHING TURKEYS BY INCUBATORS.

Do you know of anyone who has used an incubator for the purpose of hatching turkey eggs, and with what success? We have been very successful in raising turkeys, and intend going into it more extensively this year than ever. We raised over one hundred the past year, and may send you our plan of handling young turkeys in the near future, for publication in the ADVOCATE.

Bruce Co., Ont. SAMUEL MILLAR.

I cannot say that hatching turkeys in incubators and raising them in brooders is being done to any extent. I know of no one who has adopted this method. Several years ago one of my patrons did do it with success, I believe, but he is now out of the business. Personally, I gave it a trial, and found the eggs to hatch splendidly. I had very good success in rearing the poults in brooder, too, but they became too tame, hung about the house and yards, and did not hunt for their living, thus costing too much to rear, and I did not think they grew to as fine a size as they would had they been reared by the hen. My experience led me to the conclusion that the old way is the best with turkeys.

Waterloo Co., Ont. J. E. MEYER.

INFORMATION WANTED RE DRIVEN WELLS.

I would like if you could give any information about a driven well. We live in a level clay flat. The river is about four acres from where we would like the well. I think we are about 25 feet higher than the water level. We can get water at 16 feet by digging. Information will be thankfully received.

Renfrew Co., Ont. D. M.

[Since we personally have driven no wells, we leave this question for those to answer who have, of whom there are many among the readers of the FARMER'S ADVOCATE.]

POUNDS OF BUTTER TO POUNDS OF MILK.

J. D. P., Perth Co., Ont.:—"How many pounds of butter will 3,791 pounds of milk, testing 3.6 per cent. of fat, make? I want this answered, please, for the purpose of settling a dispute."

[In careful creamery practice, where practically all the fat is taken from the whole milk, also from the cream, the butter made will run about 15 per cent. over the fat contained in the whole milk. Three thousand seven hundred and ninety-one pounds of milk containing 3.6 per cent. fat will yield 136.4 pounds of fat. Fifteen per cent. added to this will give about 157 pounds of butter. First-class manipulation and conditions may increase this to 160 pounds.]

COW LEAKING MILK.

I am a subscriber to the ADVOCATE, and would not be without it, as it is a grand journal for the farmer. I have a valuable milk cow, and am at a loss to know what to do with her, as the amount of milk she loses between the proper times of milking leaves her almost useless.

Huron Co., Ont. FARMER.

[Probably some ingenious dairyman has discovered a successful means of dealing with cases of this sort? We would like to hear from such, and publish their remedies. How would it answer to put a good calf with her, or two of them if she will allow them to suck?]

STILL MORE PLANS WANTED.

I take great interest in reading your paper, though I have only been taking it a few months. I intend raising my barn (36x90) this summer, and have stone stables put under it. Would you, or some of your subscribers, kindly give me a plan for the same, and oblige?

Simcoe Co., Ont. J. C.

[The barn described in April 1st, 1901, issue, page 223, has many features to commend it. J. C. can copy this, extending it 14 feet by adding 7 feet to either end, or he can use the 14 feet, with a little more added, across one end for a horse stable.]

ROARING IN MARE.

I have a mare, nine years old, that has a slight touch of the roars. If I were to raise a colt from her, would the colt be likely to have it?

Lampton Co., Ont. J. S.

[Roaring in either sire or dam is likely to be

transmitted to their offspring, although the foal of a lightly-affected mare may show no disposition to the affection.]

INTERNATIONAL STOCK FOOD.

I would like to know, through your columns, whether any of your subscribers have used and can recommend "International Stock Food"?

Peel Co., Ont. WILBUR FERGUSON.

[A member of the FARMER'S ADVOCATE staff recently visited the stock farm of Messrs. Conroy Brothers, Deschenes, near Ottawa, and was informed by the farm manager that they were having very satisfactory results from feeding "International Stock Food" to their hogs; that the hogs were doing badly when they commenced to use it, but began to improve from the time it was fed to them, and have kept in good health ever since, improving rapidly in condition and increasing satisfactorily in weight. This is the only instance that has come under our notice. We shall be pleased to hear from others who have used the food.]

MARKETS.

FARM GOSSIP.

East Grey Co., Ont.

March went out as a lamb, with bright, sunny days and frosty nights, but the days have not been warm enough to cause a good run of sap, and prospects are poor for maple sugar this year.

Feed is very scarce, and unless spring opens up very early there will be considerable suffering among stock. Straw is eagerly snapped up at \$5 per ton, and hay at \$10 and \$12 per ton. Hired help is scarce at present, wages range from \$18 to \$20 per month. Wheat is coming out in grand condition, but the trying time is coming, as it is generally heaved by frost in the spring. Farmers are getting more into the way of harrowing and rolling their wheat, by which it is greatly benefited. Hogs are in good demand at about \$6 per cwt.

Little or no grain is being marketed, but many are looking up their seed grain. Oats (good and fit for seed) bring 32c. to 35c.; barley, 50c. to 55c.; peas, 60c. to 65c. per bushel. Flax seed, which is more sought after than ever, brings 6c. to 8c. per pound. R. D. C.

Toronto Markets.

The small run of cattle sold readily at firm prices. Butchers' cattle in demand. Hogs scarce and higher. Run of calves heavy, demand good. The run of cattle 52 loads, 364 sheep, 664 hogs, 224 calves, 12 milk cows.

Export Cattle.—Choice picked loads of export cattle met ready sale at improved prices; choice from \$4.50 to \$5 per cwt.; light export are worth from \$4 to \$4.50; extra choice shipping cattle sold at \$5.25 per cwt. Mr. A. Zollner bought three loads of choice exporters, 1,800 lbs. each, at \$4.60 to \$4.75 per cwt. Mr. W. H. Dean bought eight loads of exporters, 1,200 to 1,350 lbs. each, at from \$4.50 to \$5 per cwt. Mr. I. Lunness bought two loads of choice export cattle, 1,250 lbs. average, at \$4.90 per cwt.

Butchers' Cattle.—Choice picked loads of butchers' cattle sold at \$1 to \$1.30 per cwt. These of good quality, equal to exporters, not so heavy, weighing 1,000 to 1,100 lbs. average, met ready sale at firm or slightly improved prices. Loads of good butchers' cattle suitable for the local trade are worth \$3.50 to \$3.80 per cwt. Medium-quality cows, heifers and steers, weighing 900 lbs. average, sold at from \$3.25 to \$3.40 per cwt. Common rough cows and bulls sold down to \$2.50 per cwt.

Feeders.—Heavy well-bred steers, weighing from 1,100 to 1,250 lbs. each, sold at \$4.25 per cwt.; while those of poor quality, rough, but of the same weights, 1,100 lbs. average, sold at from \$3.60 to \$3.80 per cwt. Light feeders, weighing 900 lbs. average, sold at \$3.50 per cwt.

Stockers.—Yearling steers, 500 lbs. up to 800 lbs., sold at \$3 to \$3.40 per cwt.; while those of inferior quality, mixed colors, black and whites, Holstein grades, sold at \$2.50 to \$3 per cwt.; the run not large and demand steady.

Bulls.—Choice export bulls sold at from \$4.25 to \$4.50 per cwt., average weights 1,400 lbs. Mr. H. Hunisett bought two bulls at \$3.75, average 1,500 lbs. Common to inferior rough butchers' bulls sold down to \$2.50 per cwt.

Sheep.—The market easy, and prices slightly lower. Best export ewes sold at \$3 to \$3.50 per cwt. Butchers' sheep sold at from \$2.50 to \$4 per head.

Lambs.—Moderate supply, sold at steady prices, at from \$4.50 to \$5.35 per cwt. for best quality, and at from \$2 to \$5 per head for spring lambs.

Calves.—Twenty calves on offer, and sold at prices ranging from \$3 to \$10 per head. Only choice calves wanted. Mr. Bicycle, from Bismarck, North Dakota, U. S., was on the market. He is taking 1,000 calves to the Western States, and paying from \$5.55 to \$4 per cwt. for choice calves of good quality. Some 300 are now collecting in the annex. Some very inferior, half-starved scrub calves sold at from \$1 per head.

Milk Cows.—Very few on offer; good dairy cows wanted. About 24 on offer, at prices ranging from \$25 to \$45 per head.

Hogs.—The market is particularly quiet, and the increased price did not bring out any quantity, only 600 on offer. Best select bacon hogs, singers, 160 lbs., not more than 200 lbs. live weight, off cars, unfed or watered, are now quoted at \$6.87, with prospect good for a further advance to \$7 in the next two weeks. The local demand is very good for all products. The English market firm and steady at the advance. Cables report market cleared of all stocks in hand, ready for the season's demand. It may be remembered that about this time last year we enjoyed all farmers to grow hogs as the most rapid ready-money maker on the farm. We again say that hogs will most assuredly go to \$7 per cwt. before the month is out. Our forecast for the year held good. We have seen hogs go to the highest point for many years, and again say grow hogs of the right sort, 160 lbs. to 200 lbs. live weight delivered, long, lean sides, good hams, a cross of the Tamworth on Yorkshire being most acceptable for all purposes.

	Extreme comparative prices to-day.		Same date last year.	
	April 9, 1901.	March 26, 1901.	April 9, 1900.	March 26, 1900.
Export cattle.....	\$ 5.00	\$ 4.50	\$ 5.25	\$ 4.35
Butchers' cattle.....	4.40	4.40	4.35	4.35
Bulls.....	3.25	3.25	3.40	3.40
Stockers.....	3.25	3.25	3.60	3.60
Feeders.....	4.25	4.25	4.15	4.15
Sheep.....	3.50	3.60	4.00	4.00
Hogs.....	4.87½	6.50	6.00	6.00
English market firm and steady at the advance.	5.00	6.00	6.12½	6.12½
Lambs, spring, each.	5.00	6.00	6.12½	6.12½
Milk cows.....	45.00	45.00	45.00	45.00

Grain Market.—The farmers' market was more active today, owing to better roads, with large receipts of grain of all sorts.

Wheat.—Easier, 500 bushels of white selling at 69c. per bushel; red and white winter wheat, at 68c. per bushel; 500 bushels of Goose wheat, at 67c. per bushel.

Barley.—Steady, in good demand, selling at 45½c. per bushel.

Oats.—100 bushels sold at 35c. per bushel.

Rye.—Sold at 51½c. per bushel.

Hay.—There were 20 loads on offer, and sold at from \$13 to \$15 per ton.

Straw.—Seven loads sold at \$9 to \$9.50 per ton.

Butter.—In better supply, and prices unchanged. Best

choice dairy pound prints and rolls quoted at 15c. per lb.; creamery, 21c. per lb.

Cheese.—Very dull, prices easy, 10c. per lb. Dealers are not willing to disclose quantity in store, which is supposed to be large.

MARKET NOTES.

At last there is a determined effort made by our Aldermen who are unconnected with the live-stock trade to improve the conditions of the Western Cattle Market. Mr. Alderman Sheppard, with Mr. Alderman Woods, visited the market, accompanied by Mr. Commissioner Coatsworth, who outlined to the cattlemen and dealers the improvements contemplated. First, that a much larger building for tie-up purposes, bulls, etc., be erected in an extension of the present shed. To take in the front part known as Stanley Park, and erect commodious offices fronting King street, which could be leased to the cattle dealers, the front pens to be used only for sale purposes, the present as storage and delivery.

DEATH OF MR. ANDREW AIKENS.

Mr. Andrew Aikens, one of Canada's pioneer cattle exporters, died on March 23rd, at his home in Cooksville, from the result of injuries received when his team ran away in Toronto Junction. Mr. Aikens was a well-known figure at the Western Cattle Market, having been in partnership with the late Mr. Con. Flanagan, who was killed in the Murray Hill accident, on the Grand Trunk Railway, three years ago. They were probably the largest exporters of cattle to the Old Country. They also controlled two of the feeding byres at Messrs. Gooderham's for a number of years.

Chicago Markets.

Stock Yards, April 10.—Estimated receipts: Cattle, 22,000; hogs, 25,000; sheep, 16,000.

Receipts for the week so far, compared with a week ago, show an increase of 2,500 cattle, no change in hogs, and an increase of 2,000 sheep. Compared with corresponding time a year ago, show an increase of 17,000 cattle, a decrease of 25,000 hogs, and no change in sheep.

Beef Cattle.—The receipts to-day were comparatively liberal, and the market was 10 cents lower than on Monday for fair to medium and pretty good cattle. The choice to extra cattle, however, sold at generally steady prices, and there was a good export and shipping demand. Beef steers, choice to extra, sold at \$5.50 to \$6.00; medium to good, \$5.00 to \$5.35; inferior to fair, \$3.87 to \$4.65.

Butcher Stock.—The export class of cows and heifers sold steady at \$4.15 to \$4.75; good kinds, showing flesh, at \$3.50 to \$4.00; common and medium kinds, \$2.25 and \$3.25, mostly at \$2.75 and \$3.10. Bulls of the export grade sold mostly at \$4.00 and \$4.25, fancy ones higher; fair to good, \$3.00 to \$3.75. Veal calves sold mostly at \$5.25 to \$5.50, with some choice bunches going to local butchers at \$5.75 to \$6.00.

Stockers and Feeders.—The market for young cattle was slow. The very choice 975- to 1,100-lb. selected high-grades, of good color and well bred, sold at \$4.60 to \$4.80; plain heavy feeders, \$3.75 to \$4.25; medium stockers and feeders, \$3.75 to \$3.90.

Sheep and Lambs.—The good shorn stock was in fair supply, but very poor demand. The market for woolled lambs was rather slow and weak. Some shorn Western sheep, 137 lbs., were delivered to an exporter on a contract made several weeks ago at \$4.75. Export shorn sheep, \$5; ewes, \$4 to \$4.75; woolled exporters, \$5 to \$5.25; shorn lambs, \$4 to \$5.25; woolled lambs, \$5 to \$5.40.

Hogs.—Following are extreme range of prices for hogs, paid on the Chicago market on days mentioned.

	Mixed and Butchers'.		Heavy.	Light.
	195-245 lbs.	245-400 lbs.		
April 3.....	\$5.90 to \$6.15	\$5.90 to \$6.20	\$5.85 to \$6.10	\$5.85 to \$6.10
April 4.....	5.90 to 6.15	5.90 to 6.22½	5.85 to 6.10	5.80 to 6.05
April 5.....	5.85 to 6.10	5.85 to 6.15	5.80 to 6.10	5.75 to 6.05
April 6.....	5.80 to 6.10	5.80 to 6.15	5.80 to 6.10	5.75 to 6.10
April 8.....	5.90 to 6.15	5.90 to 6.20	5.85 to 6.10	5.75 to 6.22
April 9.....	5.80 to 6.10	5.80 to 6.15	5.75 to 6.10	5.70 to 6.35
April 10.....	5.75 to 6.05	5.75 to 6.10	5.70 to 6.10	5.70 to 6.35

Mixed and Butchers.—The quality was very good. Prices averaged 6c. to 10c. lower than on April 8th, and the market was weak at that. Packers bought good mixed hogs at \$5.90 and some selected 210-lb. butcher hogs of excellent quality sold at that price.

HORSES AT AUCTION.

	Poor to fair.		Good to choice.
	\$150 to \$250	\$250 to \$350	
Carriage teams.....	60 to 110	125 to 505	\$300 to \$700
Drivers.....	70 to 112	130 to 255	125 to 505
Draft horses.....	36 to 62	125 to 200	130 to 255
Saddle horses.....	50 to 70	90 to 140	125 to 200
Export chunks.....	50 to 70	70 to 107	90 to 140
Chunks, 1,100 to 1,400.....	25 to 45	50 to 100	45 to 55
General-use horses.....	30 to 35	45 to 55	45 to 55
Southern chunks.....	5 to 10	20 to 40	20 to 40
Plugs and scrubs.....			

British Beef for British Soldiers.

As we go to press, a cable dispatch from London, Eng., states that the British Government has decided to exclude all foreign-grown beef from army contracts, beginning with June 1st. If the report turns out to be correct, it is interpreted as not barring colonial-bred beef, as it would be inconceivable that Canada or Australia should send their soldiers to shed their blood in South Africa in defence of the Empire, but should be debarred from furnishing part of their food supplies. Chicago is perturbed over the rumor, as it would be a severe blow to the Armour, Swift, and other dressed-meat concerns. The United States now exports \$40,000,000 worth of live animals to Great Britain, and \$200,000,000 worth of animal products, and it is thought that not only would a large slice of this trade be lost, but the Government action would cause a general prejudice in Britain against American cattle and beef. At Washington it is thought to be a sequel to the decision against the shipment of horses from New Orleans, for use in the South African campaign.

Buffalo Markets.

East Buffalo, April 11.—Cattle.—Market without special feature.

Calves.—Moderate demand; choice to extra, \$6 to \$6.25.

Sheep and Lambs.—Dull; 28 loads on sale; market lower; lambs, choice to extra, \$5.90 to \$6; one load at \$6.10; good to choice, \$5.25 to \$5.90; clipped lambs, \$5.25 to \$5.40; sheep, choice to extra, \$5.25 to \$5.50; good to choice, \$5 to \$5.25.

Hogs.—Slow on light hogs and pigs; the total offerings were 20 loads; heavy, \$6.15 to \$6.20; mixed, \$6.15; Yorkers, \$6.10 to \$6.15; pigs, \$5.80 to \$5.90; roughs, \$5.25 to \$5.50; stags, \$4.50 to \$4.60.

Good Prospects for Horses.

Dealers in high-class London (Eng.) harness horses are said to be taking time by the forelock, in anticipation of an unusually brilliant season in 1902. A large influx of wealthy Americans and colonials are expected to take up their quarters in the West End, and the best types of big, upstanding brougham horses will, no doubt, prove in demand. It seems also likely that, with the Court more in London than hitherto, this demand may prove of a lasting character.

British Cattle Market.

London, April 9.—United States cattle, 63d.
Liverpool, April 9.—Canadian cattle, 63d. Trade slow.



THE CHILDREN'S CORNER.

Sing a Song of Springtime.

Sing a song of days of spring,
Softly fall the showers,
Forty thousand raindrops bring
Half a million flowers.

Buds a-nodding as you go,
Emerald plumes a-dancing,
Here and there a bird in air—
Isn't it entrancing?

Gaily spring the blossoms up
Through the mould, right bravely;
Flaunts the golden crocus-cup,
The hyacinth stands gravely.

Every bud its message brings,
Peeping through the bowers;
Sing a song of days of spring,
Welcome to the flowers.

What the Creek Said.

It was a very merry little creek, and chattered away at a great rate as it ran along through the fields and woods. It sang quaint songs to the ferns, and laughed outright as, once in a while, it leaped up to kiss some flower that leaned over to look at itself in the water. One morning while it was dancing along, a little boy came running down the dusty road. The sun was hot, and little Carl was in a hurry to get under the cool shade of the trees. Just then an old man dropped a basket of apples he was carrying. The apples rolled this way and that, and the poor old man could hardly stoop to pick them up.

"If it wasn't so hot I'd help him," thought Carl, as he hurried on.

After a while he saw in a field a cow having a good time eating the young grain. "That cow has no business there," said Carl, "but I can't stop to drive her out." At last he reached the wood. How cool and pleasant it was beside the running water.

"Well, little creek," said Carl, "here you are! It must be very nice to live in the woods and have nothing to do all day. You are the crookedest little creek I ever saw," he went on. "What makes you go from one side to the other so much? I jumped across you just now, and now I have to jump back again. What does make you so crooked?"

The little creek laughed as it again ran across Carl's pathway. "Why," it said, "sometimes there is a poor little flower that looks dry and miserable, so I just take a turn and give it a drink. Then there is a young tree whose roots are thirsty. I know it will grow up to be a fine tree if I give it a little help, so over I go to that side. Then I come to a pasture, and those thirsty cows look at me so longingly that before I know it I have slipped under the bars, and the next thing the cows are standing in the water, and how they do enjoy it!"

"I shouldn't think you would enjoy it," said Carl. "I should think it would stir you all up and make you muddy."

"Oh, but I do enjoy it!" replied the creek. "I can get clear again: these things don't last long, and it is so nice to have everything love you, and to feel that you are helping where you can."

By this time Carl was quite tired, and very hungry, so he said: "Well, I must say good-bye, and go home to dinner now. I'll come to see you some other day."

After awhile he came to the road again. The cow was still in the field. The sun was hot—hotter than ever—but Carl remembered what he had learned about going out of his way to help, so he climbed the fence, drove out the cow, and put up some bars which had been carelessly left down. When he got home it was with such a happy little face that his mother stooped down to kiss him. Then his father came in, looking so hot and tired that Carl ran out to get him a cool drink from the well. The tired man put his hand on the curly head with a grateful smile that was better than any words of thanks.

The little creek and the little boy are still making a great many turns, but they are both helpers. If the birds and the trees and the flowers love the little stream, so is Carl loved by those lives which grow along his pathway.

"It was only a little thing for Nell
To brighten the kitchen fire,
To spread the cloth, to draw the tea,
As her mother might desire—
A little thing, but her mother smiled,
And banished all her care;
And a day that was sad closed bright and glad,
With a song of praise and prayer.

"Twas only a little thing to do,
For a sturdy lad like Ned,
To groom the horse, to milk the cow,
And bring the wood from the shed;
But his father was glad to find at night
The chores were all well done.
I am thankful, said he, 'as I can be,
For the gift of such a son.'

"Only small things, but they brighten life,
Or shadow it with care;
But little things, yet they mould a life
For joy or sad despair;
But little things, yet life's best prize,
The reward which labor brings,
Comes to him who uses, and not abuses,
The power of little things."

COUSIN DOROTHY.

How to Keep Children from Turning-in Their Feet.

Little tots who are inclined to "toe-in" when they begin to walk can have this fault quickly rectified if attended to in time. The mother or nurse should rub, at least twice a day, the outer side of the little legs with a firm upward stroke.

This can be done regularly when putting baby to bed, and at such other times as convenient. When the little one climbs into your lap for a "cuddle" or a story is a good time. Hold the little foot in your hand in the correct position.

Recollect, do not rub down, and not on the inner side of the leg. The object is to nourish and strengthen the outer muscles, which are proportionately weak.

Begin below the ankle and rub to the knee, slowly and gently, but not too lightly. This treatment, faithfully persevered in, will soon correct the trouble.

You.

The Chinaman praiseth his T's,
The mandarin praiseth his Q,
The gardner praiseth his turnips and P's,
But I praise U.

The mariner loveth the C's,
The billiardist loveth his Q,
The husbandman loveth his cattle and B's,
But I love U.

The foolish have need of the Y's,
The actor needeth his Q,
The pilot hath need of two excellent I's,
But I need U.

The hunter seeketh the J's,
The shepherd seeketh his U;
The college boys seek their final "B-A's,"
But I C Q.

—St. Nicholas.

Three o'Clock in the Morning.

What do the robins whisper about
From their homes in the elms and birches?
I've tried to study the riddle out,
But still in my mind is many a doubt,
In spite of deep researches.

While over the world is silence deep,
In the twilight of early dawning,
They begin to chirp and twitter and peep,
As if they were talking in their sleep,
At three o'clock in the morning.

Or do they tell secrets that should not be heard
By mortals listening and prying?
Perhaps we might learn from some whispered word
The best way to bring up a little bird—
Or the wonderful art of flying.

It may be they gossip from nest to nest,
Hidden and leaf-enfolded;
For do we not often hear it confessed,
When a long-kept secret at last is guessed,
That "a little bird has told it?"

Perhaps—but the question is wrapped in doubt—
They give me no hint or warning.
Listen, and tell me if you find out
What do the robins talk about
At three o'clock in the morning?

—Our Dumb Animals.

A Faithful Clerk's Reward.

"James," he began, as the clerk entered the private office, "the new year is close at hand."

"Yes, sir."

"How long have you been with us?"

"Twenty years, sir."

"Ah! Twenty years. You came in from the country with all your worldly possessions tied up in a cotton handkerchief."

"I did, sir."

"You left home determined to achieve success."

"Yes, sir."

"You believed that honesty and integrity would be rewarded, and that faithful service would meet its reward."

"That's the way I reasoned, sir."

"Ah! I remember the morning you applied for a situation. I liked your looks and the way you talked."

"Thanks, sir."

"Now, James, my partner goes out with the new year. I've been thinking of you."

"Y-yes, sir."

"Of your long and faithful services."

"Yes, sir."

"And I'm going to reward you. I'm glad it's in my power to do so. I shall commence the new year alone."

"Exactly."

"With limited capital."

"Ah!"

"And it will, therefore, be necessary to reduce all salaries. On all the others I shall make a cut of 15 per cent. Owing to your long and faithful services, I shall make the cut in your case only 10. That's all, James, and I hope you will try and get down half an hour earlier in the morning, and also be a little more economical with the gas and fuel."

Chemist—Pills, eh? Anti-bilious?
Child—No sir, uncle is. —Punch.

THE QUIET HOUR.

God's Care for the Individual.

"There are who sigh that no fond heart is theirs,
None loves them best—O vain and selfish sigh!
Out of the bosom of His love He spares—
The Father spares the Son, for thee to die:
For thee He died—for thee He lives again:
O'er thee He watches in His boundless reign.
Thou art as much His care, as I beside
Nor man nor angel lived in Heaven or earth:
Thus sunbeams pour alike their glorious tide
To light up worlds, or wake an insect's mirth:
They shine and shine with unexhausted store—
Thou art thy Saviour's darling—seek no more."

We hear so much in these days about "Nature," spelt with a capital N, of course. Nature's laws are said to be unalterable; therefore, we are assured, prayer is useless. Nature is, we are told, "careful of the type and careless about the individual." One might think that the great Creator had handed over His universe to the tender mercies of a heartless goddess, and that He could not or would not interfere on behalf of His creatures. Such a hard, unyielding, hopeless belief is enough to take the spring out of anybody's life; but it is not true. Thank God, it is utterly false! God can and will work out the great destinies of nations and, at the same time, make all things work together for the good of each individual soul. How beautifully this is shown in the case of Joseph. He was sent to Egypt to save the lives of many thousands of people who would otherwise have died of starvation. We might call that the *great* issue, but God did not use him as if he were a mere instrument without feelings; he received just the training and discipline needed to develop a grand character—a character that could hardly have come to perfection under his father's indulgent care. His training, though severe, was tender too. Both in the house of Potiphar and in the prison, we are told that "the Lord was with Joseph." He was worthy of trust, and it was given him freely and unreservedly, as it always is to a thoroughly trustworthy person. Any man who makes his master's interests his own, and is reliable in small things and in great, will win for himself the trust and confidence of all who know him. Why? Because the Lord is with him.

God is not careless of the individual. Is it possible to give particular care to each one of the millions upon earth? Surely nothing can be impossible to Him who is able to tell the number of the stars and call them all by their names. He cares for the lilies of the field, watches over each sparrow, feeds the young ravens, and shall He be careless of the children for whom He suffered so much? He does not only care for His sheep as a flock, but calls each one *by name*. Think of the gracious message: "I have called thee by thy name; thou art Mine"; and again, "I have graven thee upon the palms of My hands." Can anything that concerns us be insignificant in His eyes, who takes the trouble to number the very hairs of our head? The names of the tribes of Israel were engraved on twelve stones, and Aaron was commanded to bear their names "upon his heart" when he went into the holy place. What a beautiful picture of the way our Great High Priest bears each of our names upon His heart, for "He ever liveth to make intercession for us."

Never get discouraged, or fancy that you are of no importance in this great universe. God is watching over you and considering your petitions as carefully as though He had no one else to think of but you.

"The grasses are clothed
And the ravens are fed
From His store;
But you, who are loved
And guarded and led,
How much more
Will He clothe you, and feed you, and give you His care!
Then leave it with Him: He has everywhere
Ample store.
Yes, leave it with Him,
'Tis more dear to His heart,
You well know,
Than the lilies that bloom,
Or the flowers that start
Neath the snow.
What you need, if you ask it in prayer,
You can leave it with Him, for you are His care—
You, you know!"

We are told to consider the lilies, and see how God clothes each one, more magnificently even than Solomon. Think also how He clothes the animals and birds, putting on a heavy winter coat of hair or feathers, and removing it when it would be oppressively hot. If the telescope opens our eyes to the vastness of the universe, making us feel too insignificant to be noticed at all by the great Creator, on the other hand, the microscope reveals God's wonderful care over the very least of His creatures. You may be

"Unknown to earth, but up on high
No hero doth unknown e'er lie,
No life is ever spent in vain:
Each sacrifice its crown will gain.
Upon the angels' golden book,
If we some day be blest to look,
We'll find each noble deed writ down;
Each resting-place to them is known;
And when the silver trumpet calls,
They'll take their place on Heaven's walls."

HOPE.

The Three Students.

The following incident occurred in Paris in 1841, on a cold, foggy December night, the twenty-fourth of the month. A tall man, leaning on a stick, was making his way slowly and painfully along Mazarin street. His clothing, an insufficient protection against the biting north wind, which was bowling furiously, consisted of a pair of thin summer pantaloons, an old coat, buttoned up to his chin, and a broad hat, which was pulled down over his face so as to leave nothing visible except a long beard and thin white locks of hair falling upon his stooping shoulders. Under his arm he carried an object, oblong in shape, wrapped up in a checked handkerchief. He crossed the bridge and the Square of the Carrousel, reached the Palais Royal, and walked round the garden, stopping frequently; then, as if the floods of light and the savory odors which issued from the restaurants, where many a merry feasting was in progress, had the effect of giving him a vertigo, he hurried away with tottering steps towards the Cour des Fontaines. Here he looked up at the lighted windows, and then, stopping under a small shed, put his stick against the wall within reach of his hand, unfastened the checked handkerchief and displayed a violin. With trembling hands he tuned the instrument, and folding the handkerchief, placed it under his chin, laid the violin tenderly upon it, and began to play. His strains, however, were so melancholy and so discordant that some street urchins who had stationed themselves in front of him took to their heels, exclaiming that such music was fit to raise the devil; a dog near him began to howl dismally, and the passers quickened their pace. At last the player, in despair, sat down on a step, laid his violin across his knees, and murmured sadly: "I can play no more. Oh, my God, my God?" A deep sob escaped him, and the next instant three young men came tripping down the dark, narrow street. They were singing a merry song which was then popular among the conservatory students, and, not perceiving the violinist, ran full against him, one of them nearly knocking him over, another kicking his hat along the sidewalk, while the third stood still and looked on with amazement. As the old man got up and came out of the shadow, with an air of mingled dignity and humility, the newcomers exclaimed anxiously: "Pardon us, sir! Have we hurt you?" "No," replied the player, stooping painfully to pick up his hat, but one of the young men sprang towards it and handed it to its owner, and another, seeing the violin, asked: "Are you a musician?" "I once was," replied the poor man, while tears rose to his eyes and rolled slowly down the deep wrinkles in his cheeks. "What is the matter? You are in trouble; can we do anything to help you?" cried the three comrades in a breath, and the musician looked at them earnestly for a minute, then held his hat towards them as he answered: "Give me alms. I can no longer earn my living by playing, for my fingers have grown stiff. My daughter is dying of consumption and of poverty." There was an accent of deep distress in the speaker's words, and his hearers were touched with pity; they hurriedly thrust their hands into their pockets and brought forth their whole contents. Alas! the first man had but fifty centimes, the second thirty, and the third a piece of resin—total, eighty centimes. It was very little for the relief of so much misery! They looked at each other sadly. "Friends!" cried one suddenly, "something must be done—this man is our colleague, a brother musician. You, Adolphe, take the violin and accompany Gustave, while I will take charge of the funds." It was no sooner said than done. The three men turned up their coat-collars, drawing their hair across their foreheads, and pulling their caps down over their eyes. "Now, all together!" cried the leader, "in honor of the Christ-child in his manger. Begin with your prize piece, Adolphe, so as to draw a crowd." Beneath the practiced touch of the

young virtuoso, the poor man's violin resounded joyously, and the "Carnival of Venice" rang out with wondrous brilliancy. Windows were thrown open, people crowded round the player, applause sounded on every side, and silver pieces were dropped into the old man's hat, placed conspicuously under the street lamp. After a minute's pause the violinist played a prelude; Charles, the leader, whispered: "It is your turn now, Gustave," and the young tenor sang "Viens, gentille dame," in a strong, clear, melting voice. The audience, in an ecstasy of delight, cried, "Again! Again!" The crowd kept increasing every moment, and the collection with it. Charmed at the success of his plan, Charles said to his companions: "We will finish with the trio from 'William Tell.' Adolphe, old fellow, play the accompaniment, and at the same time practice your bass notes, while I will do my best with the baritone. Now, Gustave, you have but to open your mouth and a fortune will fall from heaven." The trio began. The old musician, who had all this time stood motionless, hardly believing his eyes or ears, and dreading to wake up and find that a dream had been mocking him, suddenly drew himself up to his full height, seized his stick and began beating time with such masterly precision that the young singers gathered fresh inspiration and fairly electrified their hearers. As the song ceased, the applause rang through the air, and money dropped from the windows and from every pocket, so that Charles was kept busy picking up the coins. The concert over, the crowd dispersed slowly, and wondering remarks were heard on every side. "Those are not street musicians," said the people, "they would make one forget that M. Frisquet is

gaily, they continued their way down the street. Noble, generous hearts! They have, no doubt, forgotten that December night. But if you are curious, my readers, to know how far old Chappner's prophecy was fulfilled, I will be so indiscreet as to reveal the names of the three conservatory students, even at the risk of offending their modesty. But who knows? Perhaps these lines will meet the eyes of the old Alsatian's daughter, and she will be glad to know the names of her benefactors. The tenor's name was Gustave Roger. The violinist was Adolphe Hermann. The collector was Charles Gounod.

"The Confidante."

Common to all feeling human hearts is the sentiment of the old Latin saying that "Of no worldly good can the enjoyment be perfect unless it is shared by a friend." Truly

"Friendship's another element of life:
Water and fire not of more general use,
To the support and comfort of the world,
Than friendship to the being of our joy."

But friendship is for the sharing, and thereby the lessening, of sorrow, as well as for the fellowship, and thereby the increase, of joy; for it is a notable and blessed ordinance of human nature that in our hearts the emotion of joy is enlarged and that of pain diminished by mutual participation. What may, in the best sense of the word, be called sentimental friendships, are perhaps most common among the gentler sex, and prevail especially in young life. And very beautiful are such fusions of being. The twin-spirits are never happy apart; all their occupations, their duties, their pleasures,

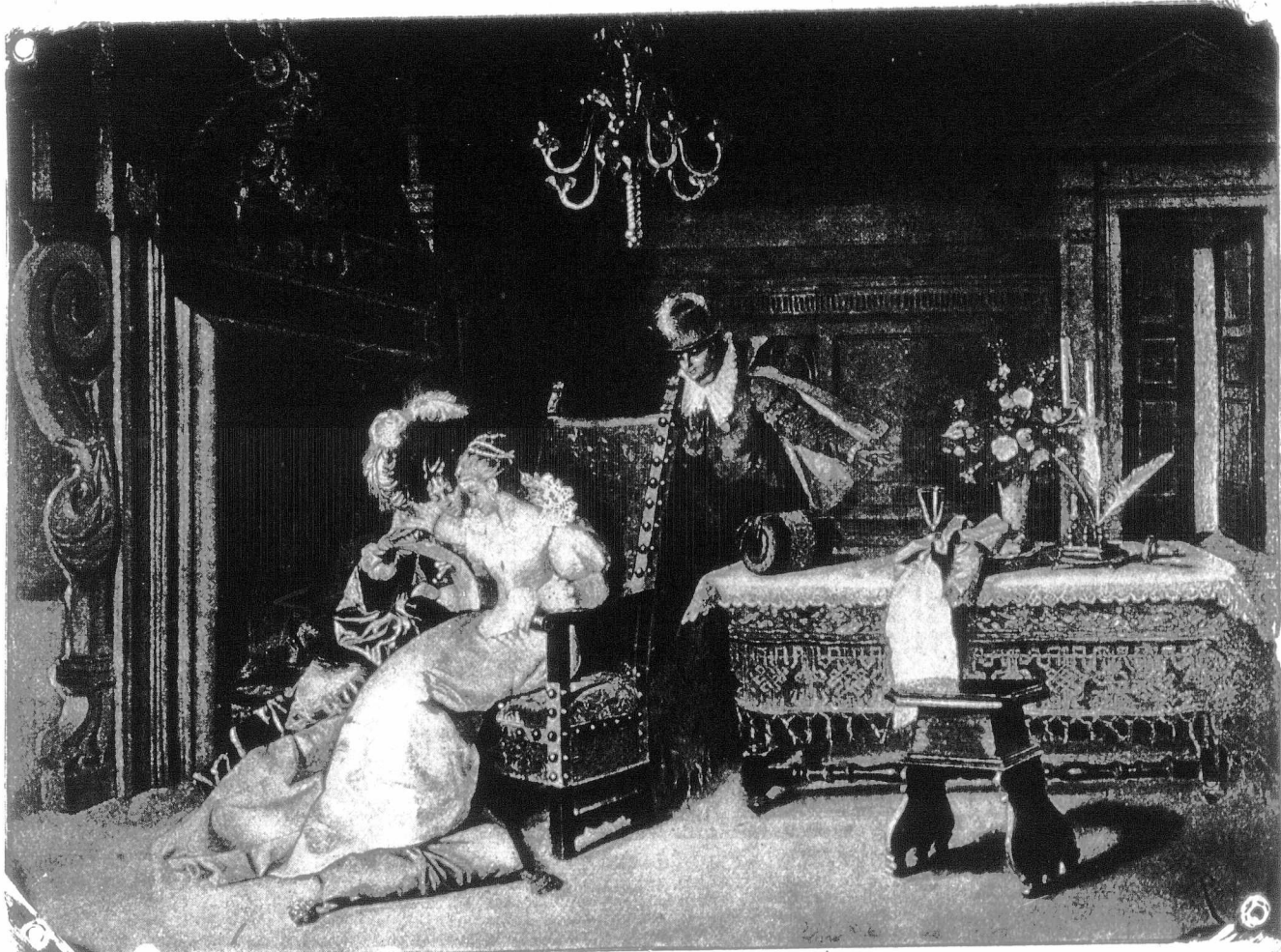
their reading, their studies—everything that admits of companionship is pursued in common, and all the while the deepest as well as the most trifling thoughts and feelings are exchanged, and become equally the property of both. The friends are "like a double cherry, seeming parted, but yet a union in partition, two lovely berries moulded on one stem, with two seeming bodies, but one heart." Such would be an ideal instance of maiden friendship. The young ladies of our picture we may fancy to be bound by a tie of this nature. One of them has received an epistle that gravely concerns her happiness, and is now sharing the secret of its contents with "her other self." The frilled and feathered gallant in the background betrays rather an unseemly curiosity with reference to the subject of the confidence—so much so that we cannot help suspecting that he has a personal interest at stake. Possibly jealousy may prompt him to discover who has been writing so seriously to the lady in whose estimation he would fain stand first; or, more probably—for his expression is almost too complacent for that of a jealous person—he is himself the author of the epistle, an amorous valentine, and he desires to learn its effect upon her whose charms it celebrates and whose sweet pity it invokes. His clandestine behavior in the circumstances may be justified on the plea that "all's fair in war," for if he is a lover not yet accepted, he is practically laying siege to his lady's heart, and may be pardoned for the use of all current military expedients to insure its capture.

The artist has bestowed particular care upon the accessories of his picture. The rich and stately furniture of the apartment and the elegant draperies have received masterly treatment at his hands.

April Time.

April is here!
There's a song in the maple, thrilling and new;
There's a flash of wings of heaven's own hue;
There's a veil of green on the nearer hills;
There's a burst of rapture in the woodland rills;
There are stars in the meadow dropped here and there;
There's a breath of arbutus in the air;
There's a dash of rain, as if flung in jest;
There's an arch of color spanning the west;
April is here!

—Selected.



(From the original painting by Pio Ricci.) "THE CONFIDANTE."

dead. What a lot of money they made! They can have a fine supper now! And the old fellow with the bludgeon—whirling round like a windmill. I believe they were artists who had laid a wager. I have been to the Grand Opera, I tell you, and they sang no better there. How he scraped the old cracked fiddle—it gave me a tickling in my spine." When the confusion had subsided, the three young men approached the old musician, and, in a voice which trembled with emotion, he exclaimed: "Tell me your names, that my daughter may remember you in her prayers!" "My name is Faith," said the first artist. "And mine is Hope," said the second. "Then I am Charity," added the third, bringing up the hat, which was overflowing with money. "Ah, gentlemen, gentlemen!" cried the old man, "let me at least tell you who it is that you have helped so generously. My name is Chappner, and I am from Alsace. For ten years I was leader of the orchestra in Strasbourg, where 'William Tell' was often given. Alas! ever since I left my home, misfortune, sickness and sorrow have been gathering to overwhelm me. You have saved my life, young gentlemen, for with this money I can go back to Strasbourg, where I have friends who will take care of my daughter, and her native air will perhaps restore her to health. Your youthful talents, which you so nobly and so simply devoted to my service, will always be blessed. I predict that you will one day be famous." "Amen," replied the three friends, and linking their arms together

Boys and Girls in Their Homes.

A reader who has noted with interest some of the remarks upon domestic and educational subjects offered in our columns, asks a very pertinent question: "Are not boys in danger of becoming too exacting when, as in many homes, mother and sisters alike, with one common consent, seem to make them and their requirements a first consideration?"

Most certainly we consider that such a course is not only unfair towards the girls and injurious to the boys, as boys, but it is one which cannot fail to leave a baneful influence upon their after-lives. What kind of husbands and fathers will these boys make who have always had the selfish side of their nature appealed to, who have looked upon their sisters as "just girls," to be used and jeered at as inferior beings, with no claims upon them for courtesy and kindness? Thank God! there are wise parents who look fairly and squarely at the question, and have the interests of their sons and daughters too deeply at heart to make any such mistake in the training of the children whom God has given them; and why should not boys as well as girls be taught to be neat and orderly? A writer in this connection says:

"The simple matter of a boy being trained to be orderly may seem of very slight moment in determining the happiness or unhappiness of his future home, but at least every housewife with a careless husband will appreciate its importance in practical living. A lad accustomed to have his sisters or the servants pick up whatever he chooses to leave about will come some day to be a constant vexation to the tidy soul of his spouse, when he might almost as easily have been taught to aid rather than to destroy the neatness and order of his home. The mother who allows her son always to consider his own interests, and never to feel that the comfort and wishes of those about him are his affair, is preparing a husband who will some day render miserable, through sheer thoughtlessness, any sensitive woman who links her destiny with his."

This subject is admirably treated in a paper by Mrs. Mary Lowe Dickinson, in which she introduces her readers to a dozen or more of girls gathered around the fire on Christmas Eve discussing the topic, "Being a Girl, and What is the Use of It?" "These girls," she says, "looked serious enough for a moment when the topic was read to them, and then pounced upon it, giving it now gentle taps, now harder hits, and again, a sturdy knock that sent it for a moment almost out of sight." Some of their remarks were not only very practical and very true, but also very amusing. Then, again, there were others which showed that they had been keen observers and thinkers. "I think," said a quiet girl who had not spoken before, "that our brothers manage to find plenty of uses for us." "Yes, of course, there are always ways enough in which we can contribute to the upbuilding of the character of the masculine members of the family, but whether such upbuilding is of real use to boys or girls is a question. It is of no use if we make the boys exacting." Said another: "Yes, my mother brought us up to feel as if she depended upon us to help bring up the boys, though the girls were the younger, and the boys were not taught to take any special trouble for us. We girls never planned a good time that we were not advised to arrange that the brothers should go, and even to give things up altogether when the boys preferred to stay at home. Even then we must not speak our minds, lest we oppose or aggravate our brothers. We lived in terror lest we should drive them away from home because we failed to make home attractive and agreeable for the boys. Of course it's worth while being a girl, just to be the guardian angel of a boy, or three or four boys; but I always wondered why the boys were not taught to consider the disposition of their sisters, and urged to make home happy for the girls." "Ah! your little rebel, you are reading too many books, hearing too much talk!" "I am not quoting books at all. I am giving my actual experience. The man and the boy in our house were all important. If they were unsociable, gruff or impatient, they 'did not feel well'; if they disdained the food, something else was provided, when we girls would have been told promptly that, sick or well, we should be gentle and courteous, and gratefully accept whatever fare was provided for us. It made me question seriously as to whether it was worth while to be a girl, when in every way the boy is of so much more account."

In the summing up by the white-haired friend who had invited the discussion, it was claimed that the above experience was surely exceptional; that "ordinarily, the girl baby, the tiny toddling girl just out of arms, or the little maiden growing up sweet and gay upon the hearthstone, is all the more tenderly cherished because of her helplessness appealing to the manly and protective instinct in her brother. Ordinarily, the young girl is the queen of the home, for whom all are glad to work, to whom all pay willing tribute, and whom all delight to spoil." For ourselves, we consider that both sides are fairly stated, but we take exception to the use of the word "ordinarily" as applied to either, although we are in full accord with it as used in this final sentence: "Ordinarily, and rightly, the young girl will answer for herself the question as to 'what is the use of being a girl,' by counting the constantly-multiplying ways in which she can be of use to those she loves, a charm and delight to her friends, and that there is no use in being a girl unless one learns what God meant the girlhood of the age to be." And what is expected of our girls

should be even in larger measure expected of our boys, with their wider opportunities and often too freely accorded privileges. "To whom much is given, of him shall much be required." H. A. B.

Have You Written Home?

When I was leaving for Australia, every day, for weeks before I sailed, there came to me letters from all parts of the country, entreating me to inquire for sons and daughters who had gone away and of whom nothing had been heard for months, sometimes for years. What pictures I saw in those letters! The little cottage where grow the roses about the porch; and every day as the postman passes there comes the mother to the door; the roses have faded from her cheeks and the light has gone from her eyes. She hears the words so often spoken: "Nothing for you to-day, ma'am." I see her creeping back to her little kitchen, and, setting her arms against the old, blackened mantelpiece, she rests her head. The firelight glistens in the tears, and her heart swells with pain. Lads and maidens, vow to God that you will never hurt the mother so. "Say that wherever you go," said one to me one day. "I remember how I used to be out at the plow with my father, and many a time I have seen him walk along the furrow quite quiet, with his lip bitten and the tear creeping down his cheek. I knew he was thinking of his boy who had gone away, and he had not heard from him for many a month." The half of true religion lies in this sacred and tender love to father and mother.—*Mark Guy Pearse.*

Have you had a kindness shown?
Pass it on.
'Twas not given for you alone—
Pass it on.
Let it travel down the years.
Let it wipe another's tears,
Till in heaven the deed appears.
Pass it on.

God Careth.

Something round which it may twine
God gives every little vine.
Some little nook or sunny bower
God gives every little flower.
Some green bough or mossy sward
God gives every little bird.

Night and day, at home, abroad,
Little ones are safe with God.

The Wee One.

BY MARTHA BURR BANKS.

Down at our house is a wee one,
And nobody ever could see one
More sweet and complete from the tips of his feet
To the soft fluffy down on the top of his crown.
Oh, the hue of his eyes is the blue of the skies,
And the guile of his smile like the laugh of the day,
Merry and winning and glad some and gay,
While his cheeks are like clover, with pink flushing over
From the break of the dawn to the set of the sun,
There is nothing you'll see that is fairer than he,
Our own little, dear little wee one!

Two fat little fists has the wee one,
And he always can show you a free one
To tear at your hair and to make havoc there,
And a dimple he'll find you still further to bind you;
And his two little teeth lately out from their sheath
That will bite with delight on your finger or knuckle,
Or make tiny dents on your watch or your buckle,
While his feet growing bolder will drum on your shoulder,
But who minds the scars when they're every one done
By that mischievous mite, that witching young wight,
Our own little, dear little wee one!

Ah, many a friend has the wee one,
And he knows if you happen to be one;
He'll gurgle and coo and he'll frolic with you,
Or stretch out his arms with his prettiest charms,
And fret when you wake him to get you to take him;
He'll hoax you and coax you and cut up his capers,
Toss over your treasures and tumble your papers,
You have to attend him, you have to befriend him,
But who can help loving that bundle of fun,
That giver of joy, that bright little boy,
God bless him, our dear little wee one!

Sugar Weather.

When snow-balls pack on the horses' hoofs
And the wind from the south blows warm,
When the cattle stand where the sunbeams beat
And the noon has a dreamy charm,
When icicles crash from the dripping eaves
And the furrows peep black through the snow,
Then I hurry away to the sugar-bush,
For the sap will run, I know.

With auger and axe and spile and trough,
To each tree a visit I pay,
And every boy in the country-side
Is eager to help to-day.
We roll the backlogs into their place,
And the kettles between them swing,
Then gather the wood for the roaring fire,
And the sap in pailsful bring.

A fig for your arches and modern ways,
A fig for your sheet-iron pan,
I like the snaky old kettles best,
And I stick to the good old plan.
We're going to make sugar and taffy to-night
On the swing-pole under the tree,
And the girls and boys for miles around
Are all sworn friends to me.

The hens are cackling again in the barn,
And the cattle beginning to bawl,
And neighbors who long have been acting cool,
Now make a forgiving call;
For there's no love-feast like a taffy-pull,
With its hearty and sticky fun,
And I know the whole world is at peace with me,
For the sap has commenced to run.

—P. McArthur, in *Youth's Companion*.

Ingle Nook Chats.

"The year's at the spring;
And day's at the morn;
Morning's at seven;
The hillside's dew-pearled;
The lark's on the wing;
The snail's on the thorn;
God's in his heaven;
All's right with the world."

MY DEAR GUESTS,—

Easter has once more passed away, but all about us, in the bursting buds, the peeping blades of grass, and the fresh life springing everywhere, we see fit emblems of that joyous resurrection-time. Our very blood, that during the long winter coursed so languidly, now pulses with renewed vigor through our veins, and thrills us with a spirit that finds vent in glad words upon our lips: "The lark's on the wing; God's in his heaven; all's well with the world."

Have you sown your flower-seeds yet? If not, what share do you mean to take in the beautifying of old mother earth? You know the Quaker poet tells us that "men and angels sing his worth who toils to leave, as his bequest, an added beauty to the earth"; so, plant some seed or good perennial, and thus share in blessing and being blessed.

Jennie McFaden and "Essex" have acknowledged receipt of prizes. I am glad the former found our Nook pleasant enough to entice her back again. Try our hospitality still further, Jennie, and bring a friend along with you.

M. D. asks the rules for joining our club. It is free for all who wish to compete in any of the contests, and they may do so by observing the rules given when the contests are announced. One rule to be always observed when writing anything that may possibly be published is: *Write with ink, on one side only of paper.*

I wish to thank my numerous friends for their kind remarks regarding the Nook; their number makes it necessary to offer only general thanks.

"Mind and Pen."—Your request was attended to with pleasure. "Helen" and others may use *nom de plume* if desired. Our club now numbers 145 members, all of whom will be pleased to hear of

OUR COMPETITIONS.

Contest VIII. has elicited so many responses that judging will be a difficult matter, but we hope to be able to give the result next issue. Quite a few papers for No. IX. are already in, but the contest is open until May 5th. Something in the essay line will prove an agreeable change, and I am sure you will all find pleasure in

CONTEST X.

"Canadians who have become famous." We offer three prizes for the best articles on the above subject, competitors to be divided into three classes, viz.: Class I., those over 18 years old; class II., over 14 and under 18; class III., 14 years and under. No article may contain more than about 500 words. Two or more persons may be discussed in one article if desired. All work must reach Pakenham by June 5th. Address, as before, to
Ingle Nook Chats, Pakenham, Ont.
THE HOSTESS.

ADDITIONAL CONUNDRUMS.

With what can you fill a barrel to make it lighter? Holes.—*HARVEY E. POTTER.*

Why is blind-man's buff like sympathy? Because it is a fellow feeling for another.—*NOLA LYON & A. L. MCD.*

Why is a young dog that is chasing a cat and cannot catch her like the Catskill Mountains? Because he is a slow pup, and the mountain is a slope up.—*LILLY ROGERS.*

Which is the strongest day of the week? Sunday, the rest are week days.—*C. W. McFARLANE.*

What would contain all the snuff in the world? No one knows (nose).—*EUNICE DUNNING & HAROLD LYON.*

What does a husband do who misses the train by which he promised his wife to return? He catches it when he gets home.—*EUNICE DUNNING.*

In what respect did Paul the Apostle resemble a horse? He loved Timothy.—*MORAG.*

Who introduced salt pork into the navy? Noah, when he took Ham into the Ark.—*ANNIE C. GIBSON.*

What animal makes the best sausage? Ground hog.—*EVA V. STEPHENS.*

Why are Irish boys like butter? Because they are little Pats.—*OLIVE HOLLAND.*

Why is a short negro like a white man? Because he is not a tall (not at all) black.—*H. B. LYON.*

What do we often catch, yet never see? A passing remark.—*N. E. LYON.*

A woman in a red cloak was crossing a field in which a goat was feeding; what transformation took place? The goat turned to butter (bult her), and she became a "scarlet runner."—*VIOLET METCALFE.*

Home Sunbeams.

"Mildred is a perfect sunbeam in the home," said a dear old lady, speaking of her granddaughter, some time ago, and ever since we have looked at that young girl admiringly. For it was not spoken of one whose life is so surrounded by luxury that she has never known care or hardship, but of one who is bravely earning her own way. Nor was it the fond remark of a dotting grandmother who had Mildred only as an occasional visitor, and so saw her only in her happiest moods. It was the verdict of one who lived under the same roof, and who, in her declining health, needed much care and tenderness; but her face lighted as she spoke the dear name, and in that brightening face was a wonderful tribute to a girl's beautiful character.

So many girls—girls with heart, conscience, and the best of intentions—are anything but sunbeams. Some of them are whirlwinds; they keep the house in a commotion with their comings and goings, their plans and projects which sweep everything else out of the way. Some of them are like a fog, and settle down upon the household in a dull, depressing way whenever the sky is clouded. But the sunbeam girl—who is a genuine sunbeam in her own home—is rarer than we wish she were. May her tribe increase!—*Erechange.*

"These firemen must be a frivolous set," said Mrs. Spilkins, who was reading a paper.

"Why so?"

"I read in the paper that after a fire was under control, the firemen played all night on the ruins. Why didn't they go home and to bed like sensible men instead of romping about like children?"

George—What a fine building that is across the way.

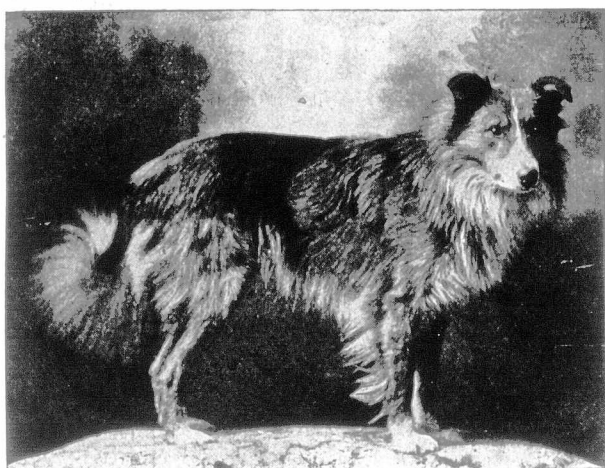
Charles—Yes, yes; but the owner built it out of the blood, the aches and groans of his fellow men; out of the grief of crying children and the woes of wailing women.

George—Ah! A rumsoner, of course. Yes, yes!

Charles—Oh, no; he's a dentist!

HOW TO GET A FIRST-CLASS COLLIE

Twelve
New
Subscribers



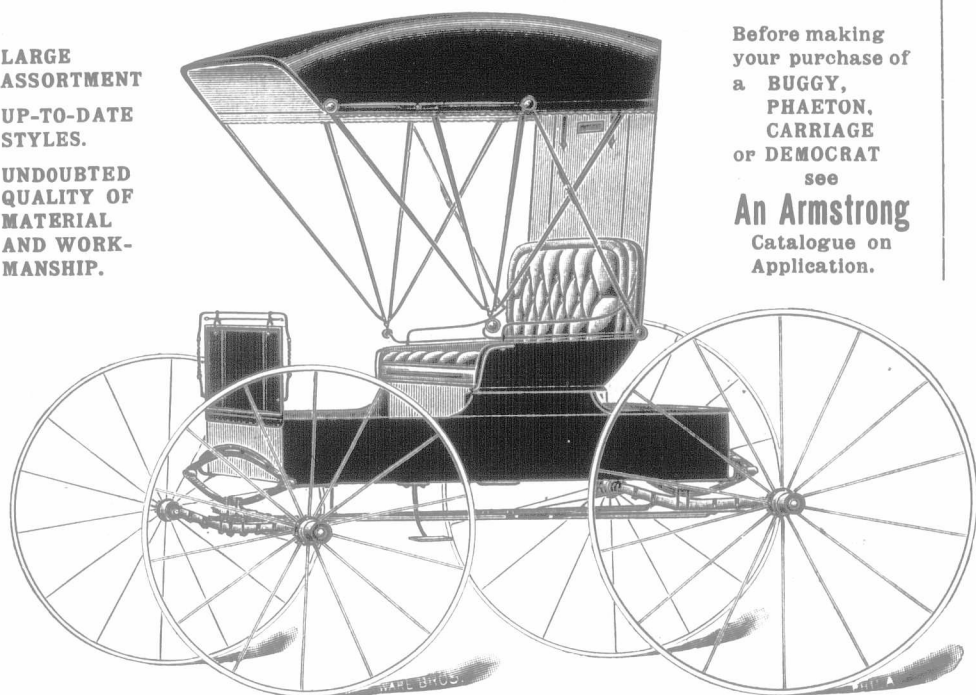
Twelve
New
Subscribers

TO ANY SUBSCRIBER sending us the names of 12 NEW yearly paid-up Subscribers we offer a young COLLIE, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States.

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

Armstrong Buggies

LARGE
ASSORTMENT
UP-TO-DATE
STYLES.
UNDOUBTED
QUALITY OF
MATERIAL
AND WORK-
MANSHIP.



Before making your purchase of a BUGGY, PHAETON, CARRIAGE or DEMOCRAT see An Armstrong Catalogue on Application.

The J. B. Armstrong Mfg. Co., Limited
(THE GUELPH CARRIAGE GOODS CO.),
GUELPH, CANADA.

ESTABLISHED 1834.

To Rent—A small fruit farm near Windsor (only 1 mile from the Detroit River), with a pear orchard of 6 acres on it; also some currants, gooseberries and raspberries. Good buildings on it suitable for a dairy. For terms, apply to BOX 464, WINDSOR, ONTARIO.

GOSSIP.

The Canadian Horse Show and Military Tournament, to be held in the Armories, Toronto, April 24th to 27th, promises to be the best event of the kind ever seen in Canada. Reduced railway rates are provided for. Write Mr. Henry Wade, Parliament Buildings, Toronto, for programme.

NOTICES.

Hersee's Reliable Stock Food.—It is not what animals consume, but what they digest and assimilate, that causes them to build up flesh, strength and other products for their owners' use. A stock food that tones up the system does more good than mere feed, because it causes the animals to thrive, and only a thrifty animal can make economical use of its diet. Edwin Hersee, Woodstock, Ont., advertises a well-constructed stock food in this issue.

Farmers' Co-operative Store.—The People's Wholesale Supply Co., of Toronto, have worked up a first-rate exchange business with farmers, taking their butter and eggs and supplying them in exchange substantial goods of good value at small-profit prices. Their advertisement in this issue refers to their supply of harness, and other stable requirements, as well as boots, etc., that are all referred to in their illustrated catalogue, which can be had at 144 King St., Toronto.

GOSSIP.

HIGH PRICES FOR SHORTHORNS.

The joint auction sale at Chicago, on April 5th, of drafts from the Shorthorn herds of Messrs. C. B. Dustin & Son, Summer Hill, Ill.; C. C. Norton, Corning, Iowa; I. M. Forbes & Son, Henry, Ill.; J. F. Prather, Williamsville, Ill.; and S. E. Prather & Son, Springfield, Ill., was a very successful affair, the 46 head offered selling for an average of \$719. Messrs. Dustin's 5 head averaged \$1,216; Norton's 10 head, \$683.50; Forbes' 15 head, \$613.33; J. F. Prather's 9 head, \$780.55; and S. E. Prather & Son's 7 head, \$562.55. The highest price in the sale, \$2,100, was paid by F. Bellows, Maryville, Mo., for Dustin's Victoria of Hill Farm 6th, a red 3-year-old cow, sired by imp. Lavender Lad, and her cow calf. Secret of Hill Farm 4th, of same herd, brought \$1,315, the second highest price for a female. The highest-priced bull sold was J. F. Prather's imp. Fearless Archer, a red four-year-old by Scottish Archer, bought by Mr. Alexander Bruce, for South America, at \$1,650. The following purchases were made by Canadian breeders: Imp. Queen of Riches, by W. D. Platt, Hamilton, at \$750; Trout Creek Lady, at \$570, and Missie of Anoka, at \$450, by W. C. Edwards, Rockland; and Solstice, by Robert Miller, Stouffville, at \$500. Mr. Norton's red two-year-old bull, Golden Victor, by Salamis, was purchased by Geo. Harding & Son, Waukesha, Wis., at \$1,025, and Merry Marshal, a roan yearling, by imp. Merry Hampton, in Mr. Dustin's consignment, brought \$1,205, the highest price for a bull in the sale. C. A. Saunders, Manilla, Iowa, being the purchaser.

IT PAYS TO ADVERTISE IN THE
FARMER'S ADVOCATE.

Our Farmer's Library

A RECENT bulletin prepared by Prof. J. B. Reynolds, of the Ontario Agricultural College, gives a list of meritorious books on Agriculture, Live Stock, Dairying, and Fruit Growing, from which we have made a selection and added a few others. How to obtain, see below:

SOIL AND CROP.

THE FERTILITY OF THE LAND.—Roberts. 372 pages. \$1.25.
A BOOK ON SILAGE.—Woll. 185 pages. \$1.00.
SOILS AND CROPS.—Morrow & Hunt. \$1.00.
FORAGE CROPS.—Thos. Shaw. \$1.00.
SOILING, ENSILAGE, AND BARN CONSTRUCTION.—F. S. Peer. 247 pages. \$1.00.

LIVE STOCK.

VETERINARY ELEMENTS.—A. G. Hopkins, B. Agr., D. V. M. \$1.00. A practical book for stockmen and agricultural students.
THE STUDY OF BREEDS (CATTLE, SHEEP, AND SWINE).—Prof. Shaw. 400 pages; 60 engravings. \$1.50.
HORSE BREEDING.—Sanders. 422 pages. \$1.50.
LIGHT HORSES—BREEDS AND MANAGEMENT. 226 pages. \$1.00.
HEAVY HORSES—BREEDS AND MANAGEMENT. 219 pages. \$1.00. } Vinton Series.
CATTLE—BREEDS AND MANAGEMENT. 270 pages. \$1.00.
SHEEP—BREEDS AND MANAGEMENT. 232 pages. \$1.00.
CATTLE BREEDING.—Warfield. 386 pages. \$2.00.
THE DOMESTIC SHEEP.—Stewart. 371 pages. \$1.75.
THE SHEEP.—Rushworth. 496 pages. \$1.50.
PIGS—BREEDS AND MANAGEMENT.—Sanders Spencer. 175 pages. \$1.00.
FEEDS AND FEEDING.—Henry. 600 pages. \$2.00.
PONIES—PAST AND PRESENT. 50 cents.

GENERAL AGRICULTURE.

AGRICULTURE.—C. C. James. 200 pages. 30 cents.
FIRST PRINCIPLES OF AGRICULTURE.—Voorhees. 207 pages. \$1.00.
AGRICULTURE.—Storer. 1,875 pages, in three volumes. \$6.00.
CHEMISTRY OF THE FARM.—Warrington. 183 pages. 90 cents.
FARMYARD MANURE.—Aikman. 65 pages. 50 cents.
IRRIGATION AND DRAINAGE.—King. 502 pages. \$1.50.
IRRIGATION FOR THE FARM GARDEN AND ORCHARD.—Henry Stewart. \$1.00.
SUCCESSFUL FARMING.—Rennie. 300 pages. \$1.50, postpaid.

DAIRYING.

AMERICAN DAIRYING.—H. B. Gurler. 252 pages. \$1.00.
THE BOOK OF THE DAIRY.—Fleischmann. 330 pages. \$2.75.
MILK AND ITS PRODUCTS.—Wing. 230 pages. \$1.00.
TESTING MILK AND ITS PRODUCTS.—Farrington & Woll. 255 pages. \$1.00.
DAIRYING FOR PROFIT.—Mrs. E. M. Jones. 50 cents.

POULTRY.

ARTIFICIAL INCUBATING AND BROODING.—Cypher. 146 pages. 50 cents.
PRACTICAL POULTRY-KEEPER.—Wright. \$2.00.

APIARY.

THE HONEYBEE.—Langstroth. 521 pages. \$1.50.

FRUIT, FLOWERS, AND VEGETABLES.

VEGETABLE GARDENING.—Green. 224 pages. \$1.25.
FLOWERS AND HOW TO GROW THEM.—Rexford. 175 pages. 50 cents.
THE PRINCIPLES OF FRUIT-GROWING.—Bailey. 514 pages. \$1.25.
BUSH FRUITS.—Card. 537 pages. \$1.50.
HORTICULTURIST'S RULE BOOK.—Bailey. 312 pages. 75 cents.
SPRAYING OF PLANTS.—Lodeman. 399 pages. \$1.00.
THE NURSERY BOOK.—Bailey. 365 pages; 152 illustrations. \$1.00.
AMATEUR FRUIT-GROWING.—Samuel B. Green. 5x7 inches; 134 pages, with numerous fly leaves for notes; bound in cloth, and illustrated. 50 cents.

PLANT AND ANIMAL LIFE.

THE STORY OF THE PLANTS.—Grant Allen. 213 pages. 40 cents.
THE STUDY OF ANIMAL LIFE.—J. A. Thomson. 375 pages. \$1.75.
INSECTS INJURIOUS TO FRUITS.—Saunders. 436 pages. \$2.00.

HOW TO OBTAIN THESE BOOKS:

We will furnish present subscribers any of the above books for cash or as premiums for obtaining new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each, according to the following scale:

Books valued at from	to	for 1 new subscriber.
\$.30	to	\$.65
".90	to	1.25
" 1.50	to	1.75
" 2.00	to	2.50
" 2.75	to	3.50
" 6.00	to	5.00

We can furnish any of the above books at the regular retail price, which is given opposite the title of the book. By a careful study of the above list, any farmer can choose a select list of books suited to his needs, and for a small outlay in cash, or effort in obtaining new subscribers for the ADVOCATE, secure the nucleus of a useful library.

Cash to accompany names in every case. Subscriptions credited a year in advance from date received.

The WILLIAM WELD CO., Ltd., LONDON, ONT.



DEERING HONORS



AT THE PARIS EXPOSITION OF 1900.

Four High Decorations from the French Government.

MORE AND GREATER HONORS THAN WERE EVER ACCORDED ANY EXHIBITOR AT AN INTERNATIONAL EXPOSITION.

THESE CONSIST OF

DECORATION OF OFFICER OF THE LEGION OF HONOR.

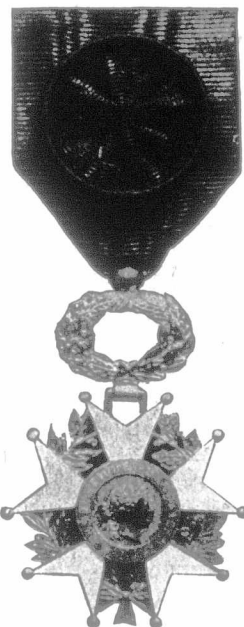
DECORATION OF CHEVALIER OF THE LEGION OF HONOR.

(TWO DECORATIONS OF THE LEGION OF HONOR.)

DECORATION OF OFFICER OF MERITE AGRICOLE.

DECORATION OF OFFICER OF MERITE AGRICOLE.

(TWO DECORATIONS OF MERITE AGRICOLE.)



SPECIAL CERTIFICATE OF HONOR.

THE GRAND PRIZE.

SIX GOLD MEDALS.

SIX SILVER MEDALS.

ELEVEN BRONZE MEDALS.

INCLUDING SEVENTEEN DEERING COLLABORATOR MEDALS.

The decoration of the Legion of Honor is the highest distinction that can be conferred by the French Government. The Order was instituted by Napoleon Bonaparte, when First Consul in 1802, and is only conferred in recognition of distinguished civil or military achievements.

The decoration of Merite Agricole (Agricultural Merit) is only second in importance to the Legion of Honor. The first order is Chevalier, and two of the highest order of Officer were conferred on Deering.

Deering Harvester Company,



Main Office and Factory: CHICAGO, U. S. A.

Canadian Branch Houses: TORONTO. MONTREAL. LONDON. WINNIPEG.



Oil Spraying In Winter with the Spramotor. The best time to exterminate orchard pests is before they are hatched. Winterspraying does that. A mixture of oil and water put on in the winter will prevent any kind of bug, fly, worm or parasite ever seeing the light of a spring day. A certain cure for San Jose scale. We publish a fine book all about winter spraying and every other kind of spraying which we will gladly mail free to anyone writing for it. THE SPRAMOTOR CO. London, Ont.

The Common Sense Bolster Spring

FOR TRANSFORMING COMMON WAGONS INTO FIRST-CLASS SPRING VEHICLES.



THE BEST FARM WAGON SPRING IN THE WORLD.

Table with 2 columns: Capacity (1,500 to 3,000 lbs) and Price (\$5.00 to \$12.00)

The only truly graduated bolster spring in the market. They always afford a spring for light and heavy use. Every set of springs guaranteed to give entire satisfaction. If your dealer does not handle them, write us direct.

WINDSOR BOLSTER SPRING CO., Windsor, Ont.

NOTICE.

Reliable Seeds. It is folly to sow a low-producing or even an ordinary kind or variety of grain, because the very best does not make us money too fast. In barleys, Mandescheuri has led for years in comparative tests over wide areas. Spelt is an old grain, but for a long time has been unknown to our farmers. It is a great producer of good food for stock in grain and long fodder. There is no advantage in growing peas just for the bugs to eat; why not grow a heavy yielder that bugs will not molest? Grass peas, for instance. See E. Hersee's seed advertisement in this issue. He lives in Woodstock, Ont.

GOSSIP.

Wm. Stewart & Son, Metic, Ont., advertise in this issue eggs for hatching of eight breeds of fowl, also ducks and turkeys. Their stock has been very successful in winning prizes, as the reading of the advertisement will show. They have also an up-to-date herd of Ayrshires. H. Bennett & Son, St. Williams, Ont., write: "We have some grand young Berkshire sows, sired by our last imported boar, Windsor Model. These pigs have lots of quality, and long, deep sides. The eggs we are offering are from some of the best stock to be procured in Canada and the United States." See their ad.

In the quiet little churchyard of Killearn, under the shadow of the Campsie hills, in presence of a large number of sorrowing farmers and others, the funeral took place, on March 23rd, of Mr. John Galbraith, formerly of Croy-Cunningham, in the parish mentioned, the eldest of a firm of brothers who have acquired a name on this side of the Atlantic as Messrs. Galbraith Brothers, of Janesville, Wisconsin. The deceased, who was only fifty-two years of age, succeeded to the tenancy of the farm on the death of his father, the late Mr. Alexander Galbraith, a gentleman who was much respected in West of Scotland agricultural circles, a first-class judge of draft horses, and whose name is generally identified with two noted Clydesdale sires, Toppman and Tintock, but more particularly the former. Mr. John Galbraith, who was predeceased by his brother James a few years ago, bought for the firm in the Old Country when the export trade was so active, and many good Clydesdale stallions and mares in America reflect credit on his judgment.

The American Jersey Cattle Club offers the following prizes for Jerseys exhibited at the Pan-American Exposition:

Herd, consisting of bull with four heifers in milk, all owned and females bred by the exhibitor—1st, \$75; 2nd, \$40; 3rd, \$20; V. H. C.; H. C.

Bull, with two of her produce, one of which shall be a female in milk—1st, \$35; 2nd, \$20; 3rd, \$10; V. H. C.; H. C.

Bull, under two years, shown with dam or full sister in milk—1st, \$35; 2nd, \$20; 3rd, \$10; V. H. C.; H. C.

Breeder's young herd, consisting of bull under two years, with two yearling heifers and two heifer calves, all bred and owned by exhibitor—1st, \$35; 2nd, \$20; 3rd, \$10; V. H. C.; H. C.

Five cows in milk, owned by exhibitor—1st, \$75; 2nd, \$40; 3rd, \$20; V. H. C.; H. C.

Sweepstakes: best cow, any age, \$50; best bull, any age, \$50.

In addition to the above, the Club will duplicate the Exposition prize list for Jerseys 50 per cent.

J. B. Hogate & Son, of Sarnia, Ont., write: "Last week we sold to Mr. J. P. Draper, F. Carrick, Jas. Parker, and Robt. Thomas, of Carmachie, Ont., the Clydesdale stallion, Handsome Robin (No. 10201). This horse is one of the last importations, landing at Sarnia on the 25th of March. He is a dapple brown, stands 17 hands high, 7 years old, commanding good style, and goes like a Hackney. This is the second horse sold to these same parties in the last two months. Among the other stallions in this last shipment was the English Shire horse, Victor Regent, by Harold, the well-known stallion who won first at the Spring Horse Show at London, England, for a number of years. He is a black, 17 1/2 hands high, 5 years old, weighing about 2,100 pounds, and is a good mover for a big horse. Lord Hastings (Vol. XXIV.), Prince George (10402), and a number of other stallions which we have on hand, are all for sale, and can be seen at our stables in Sarnia. We handle nothing but the best that the market affords, and can show more horses of a breeding age than any other barn in Canada. This is our third importation within the past year. See ad. in this issue, and for particulars write to Edward R. Hogate, Western Stables, Sarnia, Ont."

Look up the list of advertisements of eggs for hatching in this issue. The outlook for the poultry business is bright. It's a game that all can play at with success, and there's millions in it.

Mr. C. A. Archibald, Truro, N. S., sends us photographs of two handsome Shorthorn heifer calves, the get of his champion bull, Robert the Bruce, which speak well for his character as a sire, being of fine form and quality. Mr. Archibald writes: "Stock keeps moving here a little. Am shipping by next boat to the West Indies, 6 head of cattle, 2 of them bulls, a Shorthorn and an Ayrshire. Our stock seems to suit them, as I shipped the same party a pair (a heifer and a bull) some four years ago."

MAPLEWOOD HACKNEY STUD.

The advertisement in this issue of Maplewood Hackney Stud, at Attica, N. Y., shows the character of the stock handled and bred at that leading stock farm owned by Frederick C. Stevens, but one requires to visit that "Home of the Champions" to thoroughly appreciate the character of the stock kept. Horse-lovers who cannot visit the farm, which is about 25 miles east of Buffalo, should write the manager, E. T. Gay, for a catalogue, in which a number of the leading stallions and mares are illustrated in single cuts and in groups. There are also given pedigrees of 26 stallions, 85 brood mares, and 41 unregistered animals. These include Hackneys, Standard-bred and French Coach mares, Welsh and Shetland ponies. Many of the unregistered animals are grand specimens from Standard-bred dams and Hackney sires. The catalogue is a beautiful production, indicating well the character and magnitude of Maplewood establishment.

TRING PARK JERSEY SALE.

The 7th annual auction sale of Jerseys from the Tring Park herd of Lord Rothschild was held March 28th, a distinguished company of Jersey breeders being present. The American Jersey Cattle Club still decline the entries of English Jersey cattle in their books, so that there was no competition from the United States. There were, however, gentlemen representing that country and Canada.

The arrangements made for the sale were perfect, and the animals were brought out in beautiful condition. Such a display has never been seen even at the Royal Counties Show, where the best of this breed are exhibited, and many people present admitted it was the finest show of Jersey cattle they had ever seen. The perfect officers of the young cows, none of whom exceeded three years old, surprised everyone; some of them had calved since the catalogue was printed, and their calves were brought in with them. One of the features of the sale was the extraordinary prices paid for the calves, there being no less than thirty-three born during 1900, thirteen of which were bulls, and many were born in the last three months of the year. Only the old cows are retained in the herd, nine of which are over ten years old. These animals were shown to the public in the sheds.

The result of the sale was highly gratifying to Lord Rothschild, and exceeded the result of any previous sale held at Tring Park. The average on this occasion was £31 10s. 10d. (\$171.50) for the 71 head sold, 14 being bulls. The highest price was £30 guineas (\$682), for Oxford Sunrise,

NOXON'S:

A Line Without an Equal on the Globe

Binders
Rakes
Disc Harrows
Spring-Tooth Harrows

Mowers
Reapers
Harrows

Drag Harrows
Cultivators
Seeders
Hoosier Drills
Pulpers.

Write for catalogue A, and calendar F.

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

GOSSIP.

N. M. Blain, St. George, Ont., writes: "The demand for Tamworths still continues. I have had good luck with March litters, including a litter of 13 from the sweepstakes sow at Guelph and one of 14 from that good sow, Minnie F. I am using nothing but the ADVOCATE as an advertising medium, and it is giving me the best results it ever did."

D. A. GRAHAM'S SHORTHORN SALE.

The dispersion auction sale of the herd of Shorthorn cattle and grade Shorthorns, property of D. A. Graham, Ivan, Ont., on April 3rd, was successful and satisfactory. There was a good company of farmers and breeders present, the bidding was brisk, and Capt. Robson as auctioneer did good work. The red seven-year-old cow, Ruby 2nd, No. 1 in the catalogue, brought \$135, the highest price of the day, and was secured by Donald Ferguson, Glanworth, who also got Red Rose at \$110. T. H. Medcraft, Sparta, secured three, including Maid of Ivan at \$110.

The cattle were in nice condition, but not highly fitted. The grades were a superior lot, and sold exceedingly well, five cows bringing from \$71 to \$83 each. Two of the highest-priced of these dairy Shorthorn grades were purchased by Mr. A. W. Smith for the Ontario Agricultural College farm, the two bringing \$155. The sale, including 25 steers, amounted to a total of close to \$3,000. Following is a list of buyers and prices of the registered cattle:

Ruby 2nd, 7 years; Donald Ferguson, Glanworth	\$135
Red Rose, 5 years; Donald Ferguson	110
Maid of Ivan, 1 year; T. H. Medcraft, Sparta	110
Dora Thorne, 2 years; T. E. Robson, Ilderton	105
Lady Minto, 3 years; John Patterson, Denfield	100
Lily Bell, 4 years; R. McEwan, Byron	85
Matty M, 2 years; T. H. Medcraft	85
Lucey Gray, 1 year; R. H. Siddall, Denfield	85
White Princess, 4 years; John Scott, Ivan	85
Pansy Blossom, 1 year; T. H. Medcraft	65
Primrose, 2 years; R. H. Siddall	60
Crimson Rose, 9 months; B. D. Docker, Wal-lacetown	55
Lady Jane, 3 months; John Wise, St. Thomas	35

Bulls.

John Bowers, 9 months; Jos. Ardell, Thorn-dale	60
Yellow Jacket, 1 year; G. McGugan, Pop-lar Hill	56
Johnny Cantock, 1 year; Donald Ferguson	55
Starlight, 1 year; Newton Gray, Poplar Hill	45

Built for Business!

That's the idea. There's nothing fancy; nothing foolish about them; just straight, practical, lasting, honest goods. The



CYPHERS . . INCUBATORS

are positively warranted to last TEN YEARS, without repairs, and are guaranteed **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 Cyphers 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.

Freeman's Fertilizers Free.

GRAND INTRODUCTORY OFFER. No farmer in the Maritime Provinces can afford to discard this wonderful offer. It is not every day that fertilizers can be got for nothing. Write quick to

CHAS. A. McDONALD, Poplar Grove,
Gen. Agt., Maritime Provinces. **MABOU, C. B.**

GOSSIP.

H. Cargill & Son, Cargill, Ont., write: "Geo. Snell, of Yeovil P. O., Ont., visited us recently, and purchased the imported Shorthorn cow, Lady Mary, a nice smooth heifer of good size, quality, and true feminine character, safely in calf to imported Golden Drop Victor. He also selected the bull calf, Newton Prince, out of imp. Tulip Princess (third-prize heifer in her class at Perth Show and sale in 1900, sired in Scotland by Newton Stone (75129), a son of the far-famed prizewinning bull, Corner Stone (68406). Newton Stone (75129) is showing well as a sire, having got the second-prize bull calf at Perth Show and sale, spring of 1901. Newton Prince is a very promising calf of splendid quality, a broad, level back, thick-fleshed and good lines. Mr. Snell is a fresh addition to the ranks of Shorthorn breeders, we understand, and as he is starting out right, we shall expect to hear of him in the future."

EGGS.

White Rocks, White Leghorns and Black Minorcas (superior laying strain, perfect in color). Couple of White Leghorn cockerels for sale. Eggs, \$1 for 13. **JAS. A. McEWEN, Melbourne, Ont.**

\$3000 STOCK BOOK FREE.

POSTAGE PREPAID.

This Book is 6 1/2 by 9 1/2 and contains 188 LARGE COLORED ENGRAVINGS that cost us over \$3000.00. It gives a history and description of each breed of Horses, Cattle, Sheep, Hogs and Poultry. It contains a valuable and very finely illustrated Veterinary Department.

MAILED FREE if you answer 4 questions:

1st—Did you ever use **International Stock Food** for Horses, Cattle, Sheep, Hogs, Cows, Calves, Lambs or Pigs? 2nd—Is it for sale in your town in 25 lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. Write to International Food Co., Minneapolis, Minn.

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 attoments, 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

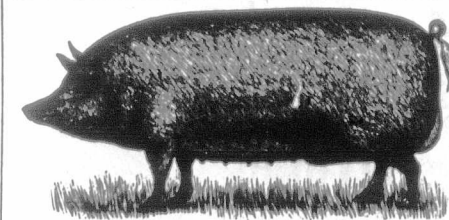
HOPE, GRAVELEY & CO.,

536 Hastings St. VANCOUVER, B. C.

GOOD ROADS MACHINERY CO. (Reg.)

JOHN CHALLEN, Mgr., HAMILTON, CAN.
"CHAMPION" Road Graders, Rock Crushers, Road Rollers, Street Cleaners, Macadam Spreading Wagons, Road Plows, Wheel and Drag Scrapers. Twentieth Century Catalogue now ready.

GOOD ROADS MACHINERY CO., HAMILTON, CANADA.



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.

H. GEORGE & SONS, Crampton P.O., Ont.

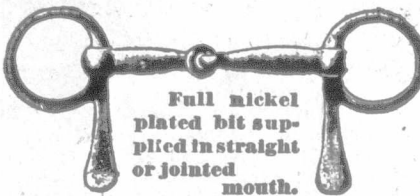
PLEASE MENTION FARMER'S ADVOCATE.

STOCKMEN!
Hersee's Reliable Stock Food . . .

Makes your horses, cattle, hogs and calves grow and do well—and that's what you want. Yes, and sell well. And is cheap to use. Stock book free.

EDWIN HERSEE, Mfr.,
Woodstock, Ont.

IT PAYS TO CARE FOR YOUR HORSE.



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 EMBROCATION CO'Y.

337 D. ST. PAUL ST., MONTREAL.



FARMERS' 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.

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.

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. CORBOUR STATION, G. T. R.

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.

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.

JOHN BRIGHT, Myrtle, Ontario.

Hogate & Co'y, TORONTO, ONTARIO.

I landed from Scotland, March 25, with a fine importation of STALLIONS. All of a breeding age. We handle no second-hand horses from the United States, but buy direct and sell to all parts. Write now and where you can buy the cheapest. Horses on hand from 3 to 7 years old, weighing from 1,600 to 2,100 lbs. For particulars write:

E. R. HOGATE, Sarnia, Ontario. PLEASE MENTION FARMER'S ADVOCATE.

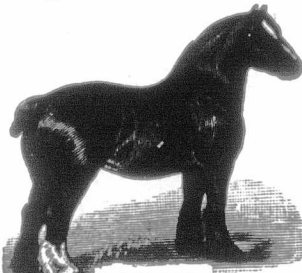
HERSEE'S Reliable Seeds

ARE POPULAR EVERYWHERE.

Barley (Mandescheurt), low price. Speltz, 80 to 100 bush. per acre, bush. 56 lbs., \$1.75. Grass Peas (bug-proof)—grow this by all means. Low price. 10 Pkts. Garden Seeds, 25c., postpaid. Catalogue free.

E. HERSEE, SEED MERCHANT AND GROWER, Woodstock, Ontario.

Clydesdales--Hackneys.



WEIMPORT, breed, and develop the highest class of stock from the best studs in Scotland, Canada, and the United States. Clydesdales headed by Lord Charming and Prince Delectable; Hackneys headed by Square Shot.

A Few Choice Yearlings of Either Breed can be spared.

D. & O. SORBY, GUELPH, ONT.

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

ROBERT NESS & SONS, Howick, Que. FOR SALE: Model Standard-bred Trotting Stallion, 6 years old, from imported stock. Apply: BOX 341, MAYFAIR, ONT.



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 W. R. COLEMAN, Cookstown, Ont.

For Sale: 3 Shorthorn bulls of first-class breeding, sired by such noted bulls as Scotland's Fame (imp.) and Bold Britain, bred by John Isaac, Markham. Also some choice cows and heifers. F. A. GARDNER, Britannia, Ont. PERK COUNTY.

CENTRE WELLINGTON SHORTHORNS

Herd consists of Scotch and Scotch-topped females, with Lord Stanley 4th—22678—at the head. Stock all ages for sale. Farm adjoins the town. Box 66. H. E. WEBSTER, Fergus, Ont.

SHORTHORN BULLS.

One extra good 16-months-old roan bull, sired by Rantin Alex—28910—dam by British Heir—18559—Fit to head a first-class herd. Also two well-developed May calves.

C. & G. W. BLYTH, MARDEN, ONT. 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.

GOSSIP.

Readers will see change of ad. of W. E. Shearer, of Bright, Ont. He offers eggs, at a very reasonable price, from his excellent laying Barred Rocks. This would be a fine opportunity for any farmer's son or daughter to get a setting of these and begin raising a pure-bred flock of poultry. There is good money in it for a clever boy or girl.

SOME GOOD SHORTHORN SALES.

On March 26th, H. F. Brown, Minneapolis, Minn., sold, at auction, 45 head of Shorthorns, at an average of \$328.45. The Canadian-bred two-year-old heifer, Ury, bred by John Isaac, sired by Arthur Johnston's Indian Wave, and bought by Mr. Brown at W. D. Flatt's sale at Chicago last August for \$775, topped the Minneapolis sale at \$1,460; W. I. Wood, Williamsport, Ohio, being the purchaser. Imported Lily of the Valley 17th, bought at Mr. Flatt's Chicago sale for \$900, made the second highest price, \$1,260, and went to Geo. M. Woody, Clyde, Iowa. She was three years old in January last, bred by the Duke of Richmond and Gordon, and sired by Musgrave. The highest price for a bull at this sale was \$500, for the red yearling, Scottish Victor, bought by Geo. E. Ward. On March 29th, Messrs. B. O. Cowan, T. B. Rankin and G. T. Haggard sold, at Kansas City, drafts from their herds. Mr. Cowan's 27 females averaged \$329.45, the highest price being \$790, for the red yearling Mysie 53rd, bought by Col. G. M. Casey, Shawnee Mound, Mo. The 7 bulls averaged \$148, and the whole 34 head, \$292. Mr. Rankin's 12 head averaged \$128, and Mr. Haggard's 3 head, \$155.

March 28th, W. B. Riggs, Mt. Sterling, Ill., sold 36 head at an average of \$268.50. The four-year-old bull, Golden Prince 4th, brought the highest price of the offering, \$625, and was bought by C. F. Rice, Indianola, Ill.; and the top price for a cow, \$575, was paid for Lady Gloria 4th, a red three-year-old by Baron Gloster.

March 27th, Ira Cottingham, Peoria, Ill., sold 41 head for an average of \$230; the highest price, \$705, being paid by Martin Flinn, for Ermina 2nd, a five-year-old cow.

BIRMINGHAM SHORTHORN SHOW AND SALE.

At the 23rd annual exhibition and sale of Shorthorn cattle, held last month, the entries numbered 611 animals, chiefly bulls. In the section for bulls over 2½ years, Mr. Sidney Hill's Longford Lavender was placed first, and Mrs. Jolliffe's Ruddiger, out of Rosedale Rosette, second. Bulls from 10 to 21 months were led by Mr. John Handley's Admiral Douglas, a white one, bred by the exhibitor, and sired by Lord James Douglas. Mr. Heaton's Tommy Atkins, a roan, was second, and Mr. Deane Willis followed in third place with Treasure Trove. Bulls over 18 months and not over 21 months found a first winner in Mr. J. A. Preece's Duke of Manchester, by Scottish Beau. Mr. Jos. Beach's Red Star, by Salamander 2nd, was placed second, and Mr. Handley had the third winner in Sir Samuel, by Lord James Douglas. Bulls over 15 and not under 18 months were headed by Mr. Hosken's Crystal Star, by Jubilee Prince, and Mr. J. W. Barnes' Advocate, by Balmoral Pearl, was second. Bulls 12 to 15 months were led by Lord Lovat's Com-mander-in-Chief, by Royal Star, a sappy red; then came Philosopher, from the same herd, and by the same sire, and Mr. Hosken's Chief-tain, by Monocrat, was third. In the section for bulls between 9 and 12 months old there were nearly 100 entries. The winners were Mr. Hosken's Cornish Knight, Sir Nigel Kingscote's Kingscote Duke 15th, and Mr. John Gill's Thorn Farm Ingram. The special prize for the best group of five was awarded to Mr. J. A. Preece, and the reserve to Mr. Leopold de Rothschild. The sale, partly owing to the absence of South American buyers, was not as successful as in some former years. One hundred and seventy-five guineas was the highest price, and was reached in two instances. Once for Mr. Hosken's Cornish Knight, bought by Earl Powis, and again for Lord Lovat's Victor, secured by Mr. Dudding. Lord Lovat's Commander-in-Chief, first in his class, went for 100 guineas to Mr. Miller, and four others brought from 100 to 125 guineas.

SPRINGHURST SHORTHORNS.

Mr. Harry Smith, Hay, Ont., has issued a very complete private catalogue of his high-class herd of Scotch-bred Shorthorn cattle, numbering 51 head, including representatives of a number of the most popular Scotch families, and headed by the two imported bulls, Knuckle Duster, of the Bruce Augusta family, which, it is said, has produced more prizewinners at the Smith field Show than any other in Great Britain, and Royal Prince, of Mr. Manson's Kilblean Beauty tribe, by Mystic Archer, a son of Scottish Archer, and of a Marr Missie dam by the great Cruickshank bull, William of Orange, while the dam of Royal Prince was by Merry Mason, bred by Mr. Parr, and a son of William of Orange. The list of females in the herd embraces members of the Cruickshank Queen of Beauty tribe; the Sittyton Butterflies and Village Blossoms, direct descendants of the imported cow of that name for many years in Mr. Smith's herd, that was the dam of the World's Fair champion bull, Young Abbotsburn; the Cruickshank Buckingham tribe, bred from imp. Airy Buckingham by Master of Arts; the Duchess of Gloster family, also a favorite tribe in the Sittyton herd; and the choice Lancaster tribe, highly prized by Mr. Cruickshank. Besides these straight Cruickshank families, are a number of other Scotch-bred sorts, rich in the blood of many of the most noted bulls bred in the Sittyton, Uppermill and Kinellar herds, among which are the Bruce Augustas; the Woodend Diamonds, with half a dozen Cruickshank crosses; Beauties, for many years bred at Uppermill; Jealousies, from Nether Auguston; Lay Bees, from the same source, and formerly in the Kinellar herd, and Miss Ramsdens, as bred also by Mr. Campbell, of Kinellar, and Minas, from the same herd; Kilblean Beauties, topped by Uppermill sires; Sunflowers, from Woodend; Van Duchesses, showing a succession of a half dozen Sittyton-bred sires, and from which came the first prize Toronto-winning cow, Vanity; and Stratballans, a favorite Scotch-bred family that has produced many first-prize Provincial winners in Canada. The pedigrees of the Springhurst cattle show a strong array of high-class sires, and the prize-winning record of the herd at leading shows in Canada is among the very best. Springhurst is conveniently situated, close to the Exeter station, on the London and Wingham branch of the G.T.R., 30 miles north of London. Parties interested in the best class of Shorthorns will do well to apply for the catalogue and see the herd.

HORSEMEN! THE ONLY GENUINE IS



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. SUPERSEDES 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.

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. -on F. A. Gardner, Britannia, 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.

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—Picking, 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.

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

Large herd of Scotch and Scotch-topped Shorthorns of the most popular Aberdeen-shire 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.

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.

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. Catalogues on application.

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

Newcastle Herd of Shorthorns and Tamworths

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

COLWILL BROS., Newcastle, Ont.

WANTED—Cheese and Butter maker for the Bridgetown Cheese and Butter Factory, Bridgetown, Nova Scotia. Apply to Secretary, enclosing references.

PLEASE MENTION FARMER'S ADVOCATE.

MAPLEWOOD HACKNEY STUD.

PROPERTY OF FREDERICK C. STEVENS, ATTICA, NEW YORK.

Champions of two continents.

The magnificent **LANGTON PERFORMER**, the peerless **CLIFTON 2nd**, and the sensational **FANDANGO**, all in service for the coming season.

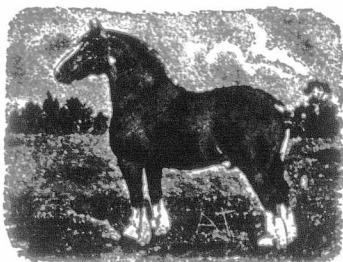
Magnificent young Stallions and Mares for Foundation Stock, sired by the above champions, and out of mares equally famous, now offered for sale. MAPLEWOOD is truly "THE HOME OF THE CHAMPIONS."

FOR FURTHER PARTICULARS, ADDRESS:

E. T. Gay, Manager, Attica, N. Y.

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



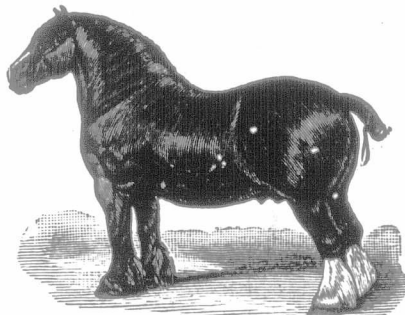
CLYDESDALES,

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.

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

ALEX. GALBRAITH, JANESVILLE, WISCONSIN.

CLYDESDALE STALLIONS FOR SALE.



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.

Dalgéty Bros., 463 King St., LONDON, ONT.



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.

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

LATELY IMPORTED A FRESH LOT OF

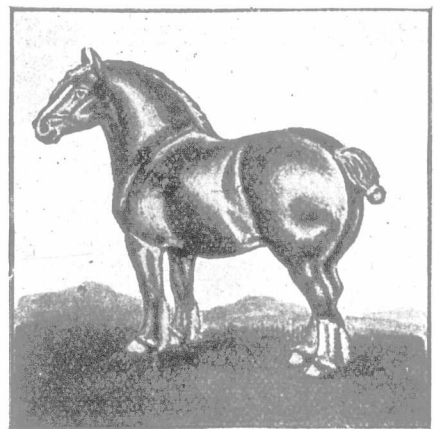
Clydesdale Stallions,

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.



Please Mention The Farmer's Advocate.

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. Boyer; also Clydesdale stallions ready for service, and fillies of breeding age. Imported *Myrolos*, dam or granddam sired by *McGregor* (187), and bred by Andrew Mitchell, Barcheskie, Scotland, their sires high-class, imported stallions, all registered; owned by F. Boyer. Write for catalogues to

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

ROBERT BEAVISTO,
Auctioneer,
CHARLOTTETOWN.

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 *Banker*; *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.

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

SEND FOR ILLUSTRATED PRICE LIST



Barb, plain twist and all kinds of wire at less than wholesale prices. Nails at prices which will astonish you. Four-prong Manure Forks, only 50c. each. Long-handled, round-pointed Shovels, solid steel, 50c. each. Solid steel Hammers, 35c. each. Combination Cobblers', tinkers' and harness-makers' outfit (should be in the possession of every one), only \$2 the complete outfit. Deep-well Pumps, only \$6.50. Clusters Pumps, \$2.50. Revolvers, 32 calibre, double action, only \$2.90, postpaid anywhere in the Dominion. Haying Outfits at lowest prices. Belting of all kinds, both rubber and leather.

Wilkins & Co., 166 AND 168 KING STREET EAST, Toronto.

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.

Shorthorns and Leicesters.

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28850, and Duncan Stanley = 16364 =. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS,
CALEDONIA, ONT.

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.

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.

SPRINGBANK FARM.

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

om **JAS. TOLTON, WALKERTON, ONT.**

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.

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

PLEASE MENTION FARMER'S ADVOCATE

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:

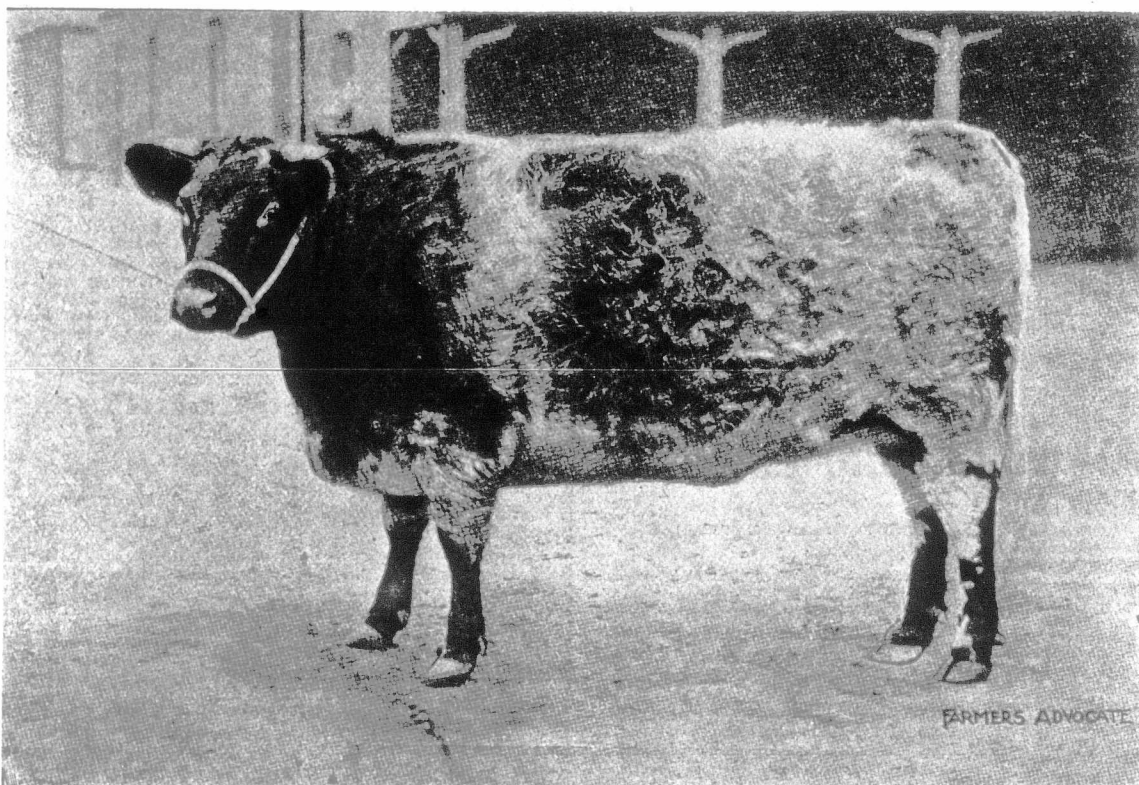
Imp. Lord Banff.

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.



CICELY.

Bred by Her late 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.

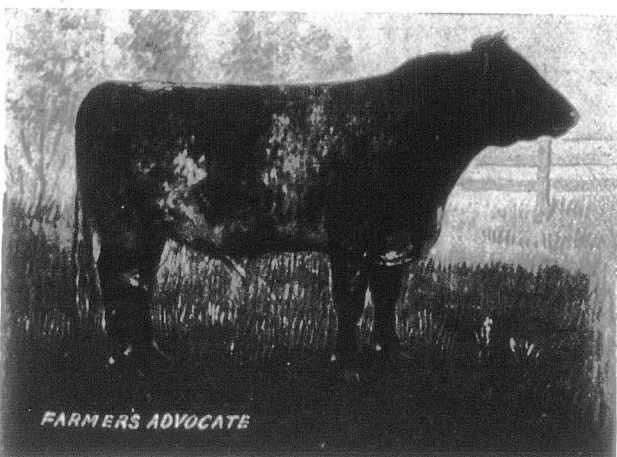
We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

W. D. FLATT,

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.



FARMER'S ADVOCATE

IMP. FASHION'S FAVORITE.

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.

FOR SALE — Three Beautifully-bred Clydesdale Stallions

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

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

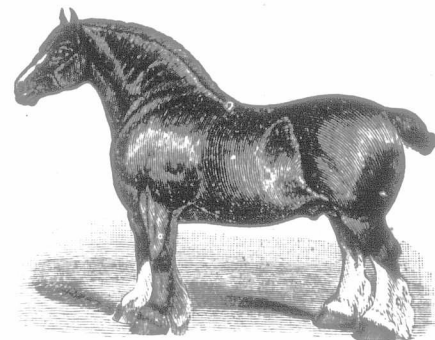
Dam Roseabella (12921)	Sire Prince of Erskine (9647)	W. S. Park
2 Rose of Inchcoursie (7823)	Lord Montrose (7973)	J. McElbion.
3 Susie of Inchcoursie (784.)	Joh ny (414)	Wm. Ketch.
	Black Samson (65)	A. K. Leitch.

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 Darnley (222).

LORD MONTROSE (7973), by Knight Errant (4483); dam Lady Jane (424), by Model Prince (1226).

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)	Jas. Lockhart.
2 Lady Dorothy (18688)	Balmedie Prince (7454)	J. Cranston.
3 Maggie of Kirrimnoch (5827)	Darnley (222)	Sir W. Stirling-Maxwell.
4 Jean of Kirrimnoch (5826)	Strathclyde (1338)	J. McIsaac.
	Young Conqueror (957)	Jas. Smith.
	Cairn Tom (117)	Mr. Cochrane.

BALMEDIÉ DORIS won the following prizes: only times shown—1896, Second Prize as a three-year-old at Royal Northern, Aberdeenshire, 1897, Second Prize as a yearling mare at Royal Northern, Aberdeen, 1898, Second Prize as a 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, Darnley (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 Darnley (222); dam Princess (6385), by Prince of Wales (673), is one of the Champion Clydesdale Stallions of the day, both in the show-yard and at the stud, his progeny having taken First Prizes at the Highland and Agricultural Society, Royal English, and other leading shows.

STRATHCLYDE, in 1887, as a one-year-old colt, gained Third Prize at Kilmacreech, 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 1899, as a three-year-old stallion, he gained First Prize and Challenge Cup at Royal Northern Summer Show, Aberdeen, and the Jubilee Show of the Royal Northern Society, Aberdeen.

BALMEDIÉ 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 1, 1898. Bred by David Walker, Coullie, Udny, Aberdeenshire, Scotland.

Dam Jess of Coullie (13647)	Sire Prince of Carruchan (8151)	J. McCaig.
2 Balfarg Jess (5395)	Mount Royal (8065)	D. Mitchell.
3 Dainty of Kingsdale (2648)	Corsair (1419)	Sir W. Stirling-Maxwell.
4 Jess 2nd (5557)	Scotsman (750)	J. Meiklem.
5 Jess (5557)	Stirling Tom (1537)	K. Moubray.
6 Mettle (830)	Sir Collin Campbell (778)	K. Loran.
	Stirlingshire Champion (830)	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 Cup twice at the Glasgow Stallion Show.

MOUNT ROYAL, won the following prizes—1888, First at Perth; 1889, First at Perth; 1890, First and Challenge Cup for best entire, any age, Royal Inverurie; First and Lord Aberdeen's Special Prize for best entire, any age, Turriff; 1891, First and Challenge Cup for best animal, male or female, and Champion Cup for best entire, any age, Royal Northern, Aberdeen; First at Royal Northern Summer Show, Aberdeen; Fourth, Highland Society's Show, Inverness; 1893, rich at Highland Society's Show, Stirling; 1892, First, Royal Northern Summer Show, Aberdeen; Fourth, Highland Society's Show, Inverness; 1893, Glasgow Premium; Selkirk and Galashiels Society's Premium horse; 1896, Windygates Society's Premium horse. His stock has gained First Prizes at Handly, Keith, Banff, Turriff, Inverurie, Fyvie, Aberdeen, Glasgow, Edinburgh, Dundee, East Kilbride, Kirkintilloch, Girvin, Kirriemuir, Montrose, Forfar, Arbroath, etc. He is sire of Royal Garty (9844), the Cawdor Cup winner in 1895 and 1896.

GOSSIP.

Messrs. Stubbs and Moore, veterinarians, of the Department of Agriculture, have been testing cattle in Ontario for export to the United States. Those desiring to have cattle tested for this purpose should make application to the Department of Agriculture, Ottawa, so that arrangements can be made as speedily as possible to send an official veterinary to do the work.

At the sale of Shorthorns held by E. S. Donahy at Newton, Iowa, March 22nd, A. Alexander, Morning Sun, Iowa, purchased the 6-year-old cow, Emma 17th, with a heifer calf at foot, for \$1,530, the highest price of the sale. Five other cows sold for \$500 to \$700 each. The 3-year-old bull, Royal Prince 4th, sold for \$450 to W. M. Lambing & Son, West Liberty, Iowa. This was the highest-priced bull. The 62 head sold averaged \$217.30, the 48 females making an average of \$215.40.

EARL MINTO'S PRIZE.

His Excellency the Governor-General has presented to the Canadian Horse Show, for competition at the show (April 24th-27th), a prize of \$50 in money and a cup or medal, value \$25, for four-year-old Canadian-bred geldings or mares suitable for riding or cavalry purposes, to be sired by a Thoroughbred stallion, such sire to be approved by the judges. The competitors shall not be less than fifteen hands, and not over fifteen-three. Name of sire and pedigree and description of dam, as far as obtainable, shall be given with entry. All competitors shall be examined by the committee's veterinary before entering the ring, and certificate of soundness handed the judges. The competitors shall be undocked and shown on line, but the judges may require them to be also shown under saddle.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS, RECEIVED DURING MARCH, 1901.

This class of records are uniformly made under personal, critical and official supervision of representatives of State Experiment Stations. Reports of thirty-eight were received during this month, all of which are for periods of seven days. Summarized:—Fourteen full-age cows, average 7 years 1 month 25 days, 37 days after calving: Milk 422.9 lbs., butter-fat 14,265 lbs., equivalent butter 80 per cent. fat 17 lbs. 13.3 ozs., equivalent 85.7 per cent. fat 16 lbs. 10.3 ozs. Six four-year-olds, average 4 years 9 months 4 days, 31 days after calving: Milk 401.8 lbs., butter-fat 13,119 lbs., equivalent butter 80 per cent. fat 16 lbs. 6.4 ozs., equivalent 85.7 per cent. fat 15 lbs. 4.9 ozs. Eleven three-year-olds, average 3 years 5 months 11 days, 23 days after calving: Milk 368.8 lbs., butter-fat 12,631 lbs., equivalent butter 80 per cent. fat 15 lbs. 12.6 ozs., equivalent 85.7 per cent. fat 14 lbs. 11.8 ozs. Seven classed as two-year-olds, average 2 years 2 months 21 days, 38 days after calving: Milk 282.7 lbs., butter-fat 9,380 lbs., equivalent butter 80 per cent. fat 11 lbs. 11.6 ozs., equivalent 85.7 per cent. fat 10 lbs. 15.1 ozs. While these averages are high, they include no records that may be regarded as phenomenal; the average of four is above 20 lbs. butter 80 per cent. fat. Two three-year-olds produce over 18 lbs. each, and one two-year-old reaches 16 lbs. 10.8 ozs.

Shorthorns for Sale.

Two excellent bulls, sixteen months old; roan in color; well bred and well grown; at reasonable prices.

D. ALEXANDER, - BRIGDEN, 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.

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.

JOHN DRYDEN,
BROOKLIN, ONTARIO,

OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine.

GOOD QUALITY AND CHOICE BREEDING:

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.

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. PATON, Manager,
Unionville Station, G. T. R.

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, Ill.



The Finest Spray is produced with **RIPPLEY'S** Compressed Air 5 gal. Sprayers. Tested to 60 lbs. pressure. Has safety valve—can't burst. Throws a continuous stream 35 feet if desired. Guaranteed to be 4 1/2 gal. Comp. Air sprayer made, or money refunded. Made both in copper and galv. iron. Write for circulars. Nothing else so good for white-washing poultry houses, stables, etc. We also make Lice Killers, Fly Removers and Feed Cokers. Agents make big money selling these and our other specialties. Write for special terms and prices to dealers and agents.
RIPPLEY HARDWARE COMPANY,
Grafton, Illinois.
Canada Factory, London, Ontario.

Glover Leaf Lodge HERD OF Shorthorns

A number of choice young bulls, heifers and cows, excellent milking strains. Correspondence invited.
R. CORLEY, Belgrave P. O., Ont., and G. T. R., Wingham, C.P.R.

JAS. DORRANCE,
SEAFORTH, ONTARIO.

BREEDER OF
Shorthorn Cattle and Berkshire Pigs
Young stock always for sale.

ASHTON FRONT VIEW STOCK FARM.

Six Shorthorn Bulls for sale, from 8 to 15 months old; all of choice breeding. Also Cotswolds of all ages for sale at all times. Visitors welcome.
A. J. WATSON, Castlederg, Ont. C. P. R. Station and Telegraph Office, Bolton; or G. T. R., Palgrave.

FOR SALE: 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 boars and sows from 3.5 to 7 months old. Orders booked for spring pigs. Pairs and trios supplied not akin.

H. J. DAVIS,
BOX 290, -om WOODSTOCK, ONT.

Maple Lodge Stock Farm
ESTABLISHED 1854.

SHORTHORNS—Grand young bulls and the first-prize milking strains. Imported Knuckle 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,
-om MAPLE LODGE P. O., ONT.

FOR SALE: SHORTHORNS

SHORTHORNS—Young bulls and heifers. Leicesters and Southdowns, both sexes. Berkshires—Young boars fit for service, young sows in pig and ready to breed. Also choice seed peas. Write for catalogue or come and see.
E. JEFFS & SONS, Bond Head.

SHORTHORNS FOR SALE

Young stock of both sexes, reds and roans.
JOHN R. HARVIE, ORILLIA, ONT.

Shorthorns and Shropshires FOR SALE.

Red bull (1 yr.) by Collynie Archer (imp), from Rosebud family. Roan bull (1 yr.) from imp. Countess family. Red and white bull (17 mos.) from imp. Rosebud family. Eight Shropshire ewe lambs, well covered.
WM. D. DYER, COLUMBUS, ONT.
BROOKLIN STATION, G. T. R.

Good Young Bulls

Of best Scotch breeding, and a desirable lot of HEIFERS of the low-down, blocky type. Royal Prince = 31241 = (bred by J. & W. B. Watt), a worthy son of Imp. Royal Sailor = 18959 =, heads the herd.
H. K. FAIRBAIRN,
Thedford P. O. and Station, Ont.

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. Henry Moody's account two 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.**

THE TEST.

Here are the results of the test, under Inspector Corbell's Supervision:

	10th July, 1900. U. S. Separator No. 1.	11th July, 1900. Alpha No. 1.
Milk received.....	9,446 lbs.	9,571 lbs.
Average temperature.....	72 deg. F.	72 deg. F.
Per cent. of fat in milk.....	3.80 per cent.	3.80 per cent.
Duration 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.
Butter-fat saved by the Alpha on 9,571 lbs. milk, as compared to the U. S. performance..... **3 3/100**
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, spoilt 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.

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.

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.
30¢ per hundred; name of factory printed on each envelope, if ordered in lots of 1,000.

The J. E. CREALY DAIRY CO., Ltd.,
LONDON, ONT.

Hillhurst Shorthorns.

Three Collie-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. om- HILLHURST STATION. COMPTON CO., P. Q.

W. G. Pettit & Son,
FREEMAN, ONT.

IMPORTERS AND BREEDERS OF

Scotch Shorthorns
and Shropshire Sheep.

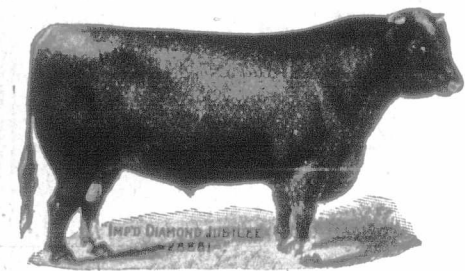
OFFER FOR SALE:

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.
6 Home-bred bulls, 9 to 18 mos. old.
20 " " heifers, 1, 2, and 3 yrs.

Our imported bulls are now getting in good shape. All our heifers of suitable age are bred to Pure Gold (Imp.), by Cyprus, and Scotland's Pride (Imp.), a Cruikshank Clipper, by Star of Morning.

Catalogues on application. All our imp. cattle were registered in the American Herd Book before the \$100.00 fee for recording was put on.

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, om

J. & W. B. Watt, SALEM, ONT.,
(Post and Telegraph Office.)

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 Bulls, Matchless, Missles, Mildreds, Stamfords and English Lady, upon which we have employed such bulls as *Barnston Hero* 324, *Young Abbotsburn* 6236, *Challenge* 2933, *Perfection* 9100, *Lord Lansdowne* (imp.) 2712, *Clan Stuart* 14381, *Canada* 19536, *Stittyon 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.

NOTICES.

Cyphers Incubators.—Mr. C. J. Daniels, Toronto, writes us as follows: "The Government has just ordered 19 large Cyphers brooders, capacity 100 chicks each, and seven 220 Cyphers incubators. I have sold more incubators and brooders to farmers this year than in ten previous years, and they tell me they saw them advertised in the FARMER'S ADVOCATE, and they know the goods must be right." Mr. Daniels reports great success in hatching turkeys by Cyphers incubator. One farmer's wife reported having gotten 34 turks from 36 eggs.

Seed Potatoes.—A change of seed in potatoes is generally looked upon as beneficial. This is undoubtedly true when the change is for a better sort than one has previously grown. Messrs. Morris, Stone & Wellington, Fonthill Nurseries, at Fonthill, Ont., offer for sale in this issue several varieties of tested excellence. Write them for circular.

Standard Disinfectant.—To rid horses, cattle, sheep, hogs and dogs of lice, ticks, fleas, and all skin diseases, a safe, cheap, healthful and effective application is Standard Disinfectant (oil of tar), manufactured by the West Chemical Co., Toronto. It is strongly antiseptic, and therefore of great value in the stables for use in cases of contagious abortion, hog cholera, and other germ diseases. It is also useful in healing wounds to which animals are subject, such as kicks from horses, hooks from cattle, sore shoulders, neck, back, etc. It is also good in cases of scratches or cracked heels, ringworm, etc. This firm also put out a blank pedigree form, that every breeder or owner of pure-bred stock should have. These are furnished free to those who apply for them. The address of the West Chemical Co. is 17 Queen St. East, Toronto.

How to Spray.—"A gold mine on your farm" is the suggestive title of the annual catalogue issued by the Spramotor Co. The cover is a very catchy one, showing how judicious spraying brings down a shower of gold from the trees by the improvement effected in the fruit crop. That immense quantities of fruit go to waste every year, for want of spraying insect and fungous pests, is now beyond any question, and fruit-growers who have made a study of their business do not need convincing on that point. They are ever on the lookout, however, for fresh information as to the time, methods, materials and apparatus for spraying; and all the treatises issued upon this subject, we have seen nothing equal in completeness to the little work now before us. Readers interested in growing fruit of any kind, either on a large or small scale, should drop a card to the Spramotor Co., of London, Ont., for a copy. It will repay careful study.

Progressive and Prosperous.—Readers of the FARMER'S ADVOCATE interested in the increasingly important question of life insurance will be repaid by a careful study of the annual statement of the Manufacturers' Life, which appears elsewhere in this issue. It contains a record of continued progress, coupled with safe and economic management. During the past year, in the face of the very keenest competition, the Company received applications for insurance amounting to over \$3,000,000, and issued policies for \$2,679,705. In 1900 the income exceeded the expenditure by nearly half a million dollars, a good saving on one year's transactions. The assets are now over two and a quarter millions, whereas six years ago they were only about \$800,000, and during the same time the income has increased from \$296,000 to over \$666,000, while each year the expense rate has shown a very marked decrease. For example, during the past two years the income increased \$140,000, while the expenses only increased \$2,000. Only life-insurance men can fully appreciate how difficult it is to accomplish such a gratifying result as this. The high character of the securities is another point well worth noting, which is shown by the fact that at the end of the year there was but \$500 interest overdue on two and a quarter million dollars of invested assets, certainly a splendid showing, upon which the management might well be congratulated, as was remarked at the annual meeting by Dr. Jas. Mills, President of the Ontario Agricultural College, Guelph, and a tribute to the work of Mr. J. F. Junkin, managing director.

N.-W. Territory Heard From.

Elkton Ranche, DeWinton, Alberta,
N.-W. T., Canada, Nov. 13, 1900.

Having had very satisfactory results from GOMBALD'S CAUSTIC BALSAM, I thought it might be worth while writing to you and asking you whether you have any representative in this part of the world. C. DAVIDSON.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

We are offering 8 young bulls for sale, of first-class quality, and AI breeding. om
Wm. Grainger & Son, - Lonsdale, Ont.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topman = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply om



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. om

JAS. McARTHUR, GOBLE'S, ONT.
Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met. om

Tomatoes, Cucumbers and Cabbages

should be forced rapidly during their early periods of growth by a liberal use of

Nitrate of Soda.

When judiciously applied, these crops will be ready for market two weeks or more ahead of those not properly treated. The best results of *Nitrate of Soda* are obtained when used in combination with phosphates and potash salts.

For particulars and for list of dealers address John A. Myers, 12 R John St., New York City. No expense to you



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 Kitchman 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.

SHORTHORNS AND BERKSHIRES.

Young bulls, six to twelve months old; cows and heifers. Berkshires (various ages, either sex), and Embden geese. om
MAC CAMPBELL,
Northwood, Ont.

SHORTHORNS.

6 choice young heifers, 4 imported cows. Also 16-months-old home-bred bull. om

A. P. ALTON & SON,
Burlington Junction Station. Appleby P. O.

GEO. RAIKES, BARRIE, ONT.
Breeder of

Shorthorns and Shropshires.

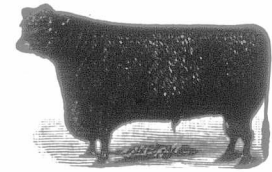
Young stock of both sexes for sale. om

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. om

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. om

HARRISBURG STN., G.T.R. G. W. CLEMONS,
GALT STN., C.P.R. ST. GEORGE P.O., ONT.

Maple Glen Stock Farm.

The home of officially tested, Advanced Registry, dairy test and showing-winning herd of SYLVIA HOLSTEINS, of Carmen Sylva now for sale. Price is in keeping with breeding and performances. om

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 Piefertje. Some are from imported or officially-tested dams. Also a few heifers for sale.

M. RICHARDSON & SON,
Haldimand Co. Caledonia, Ont.

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. om

A. C. HALLMAN,
Waterloo Co. New Dundee, Ont.

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. om
H. GEORGE & SONS, CRAMPTON, ONT.

GOSSIP.

At the dispersion sale of the small Jersey herd of Mrs. Greenall, Walton Hall, England, March 15th, the cow, Longueville Brownie 5th, sold for \$525, and the entire herd averaged close to \$200 each.

Hector Cowan, Pauline, Iowa, held a successful sale of Shorthorns on March 20th, the 12 head selling for an average of \$242, the 31 females averaging \$277. Martha 6th, an imported five-year-old cow, brought the highest price, \$935, and was bought by E. R. Shangland, Marathan, Ia. Nancy Lee sold for \$700 to Claus Johnson, Rolfe, Ia.

Walpole Bros., Rock Valley, Iowa, sold 48 head of Shorthorns by auction in the following week at an average of \$192.50. The highest price, \$425, was made by the yearling heifer, No Mistake, bred by John Davidson, Ashburn, Ont., and sired by Sittytown Hero. Indian Lass, a yearling, sold for \$395, the second highest price, to G. E. Ward, Hawarden, Ia.

A. W. Smith, Maple Lodge, Ont., writes: "We have recently added to our herd of Shorthorns the young imported Cruickshank bull, Sir Wilfred (imported by Messrs. Cargill), to assist imp. Knuckle Duster. The youngster is very promising, has the right kind of covering of flesh and hair, an excellent head and shoulders, thick at the heart and crops, good back and loin, and by deep, full quarters, a rich red in color. Got by the Sittytown Victoria bull, Scottish Victor (68557), by Scottish Archer (59893), dam, one of Mr. Cruickshank's Strawberry tribe, by Mr. Bruce's Mazurka by Rosenoble (61661); grandam, British Leader (60417), by William of Orange (50694), etc.

The following paragraph from the London Live Stock Journal indicates pretty clearly the impression the action referred to has created on the other side of the sea:—"Considerable disappointment has been occasioned among breeders of Shorthorn cattle by the report that the American Shorthorn Breeders' Association have decided to make a charge of £20 for the admission of such imported animal into the Herd Book for the breed in the United States. Considering how severely breeders in this country are already handicapped by transport charges, quarantine costs, etc., it is difficult to see any necessity for this additional impost. The plea for it, we suppose, is that it is intended to prevent the importation of moderate and inferior animals, but here it will be generally regarded as a form of protection to American breeders, and it will certainly have an adverse influence on the export trade. A similar policy was adopted by the Hereford breeders in the United States some years ago, and it had undoubtedly that effect. As the trade in Shorthorns was likely to grow into considerable dimensions just now, it is to be regretted that any measure should be adopted to check it, and if the reported adoption of this policy is correct, it is to be hoped that it will soon be abandoned."

HOLSTEIN BUTTER TESTS OF 1900.

The current official year for Advanced Registry tests began May 16, 1900. The tests are all conducted under the supervision of Experiment Stations. The best weekly records for the period thus far are the following:

- Lilith Pauline De Kol 43434, owned by H. D. Roe, Augusta, N. J.; age 4 years 5 months; product of butter-fat 22,538 lbs.
 - Katy Spofford Corona 50663, owned by E. H. Knapp, Fabius, N. Y.; age 3 years 1 month; product of butter-fat 20,822 lbs.
 - Susie De Kol 33888, owned by A. A. Cortelyou, Neshanic, N. J.; age 7 years 8 months; product of butter-fat 19,216 lbs.
 - Aaltje Posch 4th 23176, owned by Jas. Bettie, Norwich, Ont.; age 10 years 10 months; product of butter-fat 19,009 lbs.
 - Roxie Wayne 25207, owned by H. D. Roe, Augusta, N. J.; age 9 years 9 months; product of butter-fat 18,441 lbs.
 - Duchess Clothilde 24893, owned by Gillett & Son, Rosendale, Wis.; age 9 years 7 months; product of butter-fat 18,424 lbs.
 - Clothilde Artis Topsy 37522, owned by Don J. Wood, West Exeter, N. Y.; age 6 years 3 months; product of butter-fat 18,387 lbs.
- Here are seven Holstein-Friesian cows which have each produced, in a seven-days test, an average of 19.38 lbs. butter-fat, equivalent to 24 lbs. $\frac{7}{8}$ ozs. of butter 80 per cent. fat.

BRITISH COLUMBIA STOCK SALE.

The consignment of pure-bred stock purchased in Ontario in February, for the Dairy-men's Association of British Columbia, was sold by auction at New Westminster on March 15th, by L. W. Paisley, the capable and accomplished auctioneer, from Chilliwack, and brought fairly good prices. The catalogue included 25 Shorthorns, 3 Ayrshires, 5 Southdown sheep, 5 Shropshires and 4 Oxfords, 11 Berkshire pigs, 2 Tamworths, and about 100 head of poultry, composed of B. Plymouth Rocks, S. L. and White Wyandottes, and Light Brahmas. The 8 Shorthorn bulls brought from \$160 to \$265, the latter figures being paid by Mr. Alex. Ewen, of Westminster, for Lucky Jim, a light roan 9-months calf, bred by Jeffrey Bros., Whitby. The second highest price, \$180, was paid for Prince of Malton, a red 16-months bull bred by W. J. Watson, Malton, and bought by George Banford, Chilliwack. The 20 females sold at prices ranging from \$85 to \$145, the highest price being paid for Kate Carnegie, bred by Wm. Paterson, Denfield, and bought by John Chapman, Chilliwack. The Ayrshire bull, Stanley, 5 years old, bred by Jas. McCormack, Rockton, and sired by Jock Morton, sold for \$130 to Mr. McClure, Matsqui, and the two Ayrshire cows brought \$130 and \$135. Two Southdown rams brought \$30 each, and 2 ewes \$24 and \$24. The Shropshires sold at from \$30 to \$45, with the exception of one ewe, from \$20 to \$35 each, the Berkshires \$20 to \$30, and the Tamworths \$18 and \$20 each. The poultry was eagerly bid for, and sold well, trios bringing from \$1 to \$7.50, the highest price being realized for the Wyandottes. The expenses of the importation were necessarily heavy, though very much less than they would have been but for the reduced rates granted by the C. P. R. for breeding stock, and the advance received over the cost will not be much, but it was estimated that when all claims are settled there would be a balance in favor of the Association that would about cover the loss on the first sale, held during the fair week last fall.

Pyramid Pile Cure

Physicians Recommend It, Druggists Sell It, Everybody Praises It.

If we could sell one package of Pyramid Pile Cure to every person in America who is troubled with piles and who would gladly give the 50 cents to be rid of piles, we would have about ten million dollars. The only reason that we don't sell that many packages this year is that we will not be able to get ten million people to try it. Just one application will prove its merit, and amply repay the cost of the whole box.

The effect is immediate. Comfort comes at once, and continued treatment will cure any case, no matter how bad.

Pyramid Pile Cure soothes the inflamed surface the instant it touches it, heals it, reduces the swelling, and puts the parts into a healthy, active condition. There is no substitute for it. Nothing compares with it.

We have never heard of a single case that it failed to cure; we have heard of thousands that it has cured quickly and completely.

Here are a couple of letters recently received:—

From Geo. C. Geick, Owens Mills, Mo.: "Some time ago I bought a package of Pyramid Pile Cure for my wife, who had suffered very much. The first trial did her more good than anything she has ever tried. It is just what is claimed for it."

From Richard Loan, Whipple, Ohio: "I have used the Pyramid Pile Cure, and am entirely pleased and satisfied with results. It does the work and no mistake."

The proprietors of the Pyramid Pile Cure could publish columns of similar letters, but these are enough to show what it will do in different cases.

All druggists sell Pyramid Pile Cure, or will get it for you. It is 50 cents per package, and made only by the Pyramid Drug Co., of Marshall, Mich.—Adv't.

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. In writing, state age, etc., preferred.

GEO. RICE,
Oxford Co. **Currie's Crossing, Ont.**

WHERE ARE THE BEST HOLSTEINS?

Have you read of Lilith 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.
H. Stevens & Sons, Lacona, Oswego Co., N. Y.

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 45774, by Nell's John Bull, dam a 20 lbs. 12 ozs. cow, Nettie of St. Lambert 43675, by King of St. Lambert. Write for prices.

P. H. LAWSON, Nilestown, Ont.

FOR SALE:

One Jersey bull (16 mos.); also one bull calf. Correspondence solicited.

W. N. HASKETT, "Avon Manor," Markdale, Ont.

W. WILLIS & SONS, Newmarket, Ont.,
Breeders of Jerseys (St. Lamberts),
Offer for sale, cheap, 2 very fine young bulls, fit for service, out of prizewinning cows, to make room for more coming.

SUNNYLEA FARM.

For sale: Jerseys—6 yearling bulls; females any age. Tamworths—30 boars and sows, different ages. Shropshire sheep—rams and ewes of good breeding. Prices reasonable.

H. E. WILLIAMS, Knowlton, P. Q.

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. **om. BROCKVILLE, ONT.**

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.

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

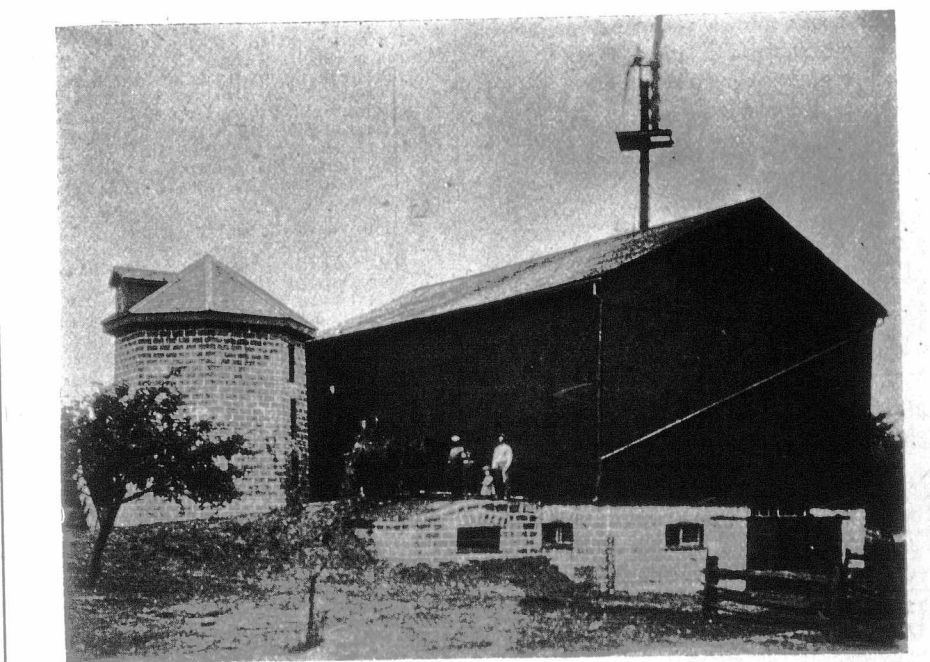


A Splendid Silo, Root House, and Barn Walls

THE PROPERTY OF MR. THOS. N. DUNN, MANAGER OF THE STRATHROY CANNING CO., OF STRATHROY, ONT.

ALL BUILT WITH THOROLD CEMENT IN JULY, 1899,

UNDER THE SUPERINTENDENCE OF JOSEPH W. HARRIS, OF KERWOOD, ONT., OUR SALES AGENT FOR STRATHROY, KERWOOD AND WATFORD.



Size of barn basement walls 1 foot thick, 52 x 30 x 8 1/2, on an 18 x 18 inch footing. Used 65 bbls. CEMENT, and labor—2 men for 16 1/2 days. Size of root house 26 x 11 x 5 1/2, inside measure. Walls 1 foot thick; arch 10 inches thick. Is giving complete satisfaction. Size of silo 16 feet 8 inches inside diameter by 27 feet high. 18-inch walls at bottom, 11-inch at top. It has been filled to the top with corn cobs and husks from the canning factory, and has kept in good shape.

ESTATE OF JOHN BATTLE, THOROLD, ONT.
MANUFACTURERS OF THOROLD CEMENT.

The National Cream Separator



MANUFACTURED BY
THE Raymond Mfg. Co'y
OF GUELPH, Limited.

REPORT FROM WATERLOO COUNTY.

TO THE RAYMOND MFG. CO., Guelph, Ont.:

GENTLEMEN,—I wish to make a statement that should be of some encouragement to your firm just at this time when your Company is investing a large amount of capital in shops and machinery for the purpose of manufacturing the "National" Cream Separators. I bought a "National" in December, 1898, and received some practical instructions at the O. A. College, Guelph, in the way of making good butter and putting it in neat form for market. The first year I had nine cows and sold \$45.00 worth of butter from each cow, besides keeping the house in butter and having the skim milk fresh, sweet and warm for the calves. In 1900 I received higher prices for the butter, and made \$52.00 per cow from 12 cows, or a total of \$626.73. I market my butter in Toronto and Woodstock, and can find ready sale for more than I can make. Although I am a farmer, I use a Babcock tester, and find the "National" is profitable to a farmer, whether he makes the butter at home or sends the cream to the creamery. I use a Babcock tester, and find the "National" cannot be beat at close skimming. Wishing you success, and hoping you will be able to supply your agents with machines as fast as we need them, I am,

Respectfully yours,
Tavistock, March 20, 1901. **CHAS. I. ZEHM.**

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

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

New Century Disk Harrow.—The Thom Implement Works, Watford, Ont., advertised in last issue their Improved New Century Disk Harrow, with reversible in and out throw, buggy-spring seat and all the latest improvements. Write them for particulars. See new adv't.

Toronto Incubator.—The season for hatching chickens is now on, and the poultry business promises to be one of the most paying. The incubator is an essential in raising chickens on a large scale and at a minimum cost. See the advertisement in this number, and write for particulars.

Choice Vegetables
always bring high prices.
To raise them successfully, a fertilizer containing at least 8% Potash should be used.

Our books furnish useful information on all subjects relating to crop raising. They are sent free.



GERMAN KALI WORKS
93 Nassau Street,
New York.

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 Cookade.

om **ALEX. HUME & CO., Menie, Ont.**

CHOICE AYRSHIRE BULLS.

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

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

Maple Cliff Dairy and Stock Farm.

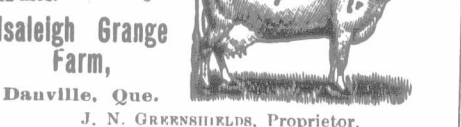
BRIDGERS OF
AYRSHIRE CATTLE, IMPROVED BERKSHIRE AND TAMWORTH PIGS.

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.

om **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. GREENHILDE, Proprietor.

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, 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, Alma, and Mossom Boyd, Bobcaygeon. THOS. INGRAM, care Mercury Office, GUELPH, ONT.

FOR SALE:
IMPORTED AND HOME-BRED AYRSHIRES, including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productivity. Come or write.
WM. WYLIE, - HOWICK, QUEBEC.

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.

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.
om **T. D. McCALLUM, Danville, Que.**

Ayrshire Bulls: Write to **J. YUILL & SONS, Carleton Place,** for special prices on Ayrshire bulls from 14 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.

GOSSIP.

A dispersion sale of the herd of Shorthorn cattle belonging to the estate of the late Robt. Garne, of Gloucestershire, England, is announced to be held on May 2nd. The fine old flock of Cotswold sheep will be sold privately.

B. H. Bull & Son, Brampton, Ont., make a change in their advertisement of Jerseys, in which they offer a number of yearling bulls and bull calves, besides some cows and heifers.

A bulletin just issued by the Buenos Ayres (Argentina) Chamber of Commerce says that the foot-and-mouth disease and the inundations have caused more losses to Argentine farmers than has been the general belief. It is estimated that in the last year about 14,000,000 sheep perished, including almost the whole product of 1900. The loss in wool is estimated at 35,000,000 kilos. Cattle also suffered, but less than sheep.

At a combination auction sale of Aberdeen-Angus cattle, at Kansas City, March 20th and 21st, 105 animals, drafts from four herds, made an average of \$235.15, sixty females averaging \$270. The highest price for a bull was \$545, and for a female \$650, the latter price being paid by C. H. Gardiner, Blandinsville, Ill., for the yearling heifer, Black Cap 15th; \$605 was paid for the 5-year-old cow, Dorcas, by E. H. Eymann, Harrison, Ill.

F. Bonnycastle & Sons, breeders of Shorthorn cattle, Cotswold sheep, Berkshire pigs, and Barred Rock fowls, Campbellford, Ont., write:—"We are having very good success in making sales, thanks to your valuable paper. We have taken many other agricultural papers from the States and Canada, but do not think any of them can compare with the *FARMER'S ADVOCATE*. We are having first-rate luck with our lambs. They are coming very large and strong. We have only lost one so far. We sold five ewes and ten ewe lambs lately to Geo. Harding & Son, secretaries of the American Cotswold Association."

Robert Miller, Stouffville, Ont., writes:—"I have recently sold an imported Mysie bull, rising two years old, to R. W. Forrest, M. D., Mt. Albert, Ont.; a milking Shorthorn cow, Emma G., to E. L. Warner, Hamlet, N. Y.; a splendid bull about twelve months old, of the Cruickshank Village tribe, to J. & E. Chinnick, Chatham, Ont.; a good two-year-old heifer to Louis A. Armstrong, Falmouth, N. S.; a bull calf, of a good milking strain, to D. S. Noble, Cape Breton, N. S.; and ten grand Shropshire ewes, two years old this spring and in lamb to a Mansell ram, to James S. Ray, Louisville, Ky."

F. L. Green, Greenwood, Ont., reports the butter record of his Jersey cow, Queen May of Greenwood, for the week ending March 20, in which she made 17 lbs. 14 ozs., salted, well worked and printed, ready for the market. She is a broken-colored cow, sired by Hugo's Bonanza, and out of Coquette's Nora. Her daily feed during the test was 25 lbs. of a mixture of ensilage and cut straw, in the proportion of 2 of ensilage to 1 of straw, by measure; 14 lbs. of a mixture of 6 parts bran to 4 parts middlings, about 10 lbs. mixed hay, and 8 to 10 lbs. mangolds.

Chas. Rankin, breeder of Shorthorn cattle and Oxford Down sheep, Wyebridge, Ont., writes:—"I have sold an imp. cow, calf (Morning Baroness and Morning Star) to Mr. S. Dymont, of Barrie, Ont. Morning Baroness is a very handsome young cow, of fine form and full of quality, also a capital breeder. She was sired by Dawn of Morning (66304), sired by the same bull as Mr. Cochrane's \$1,500 bull, Joy of Morning. Morning Star was sired by Belisarius (74031), who was got by the Uppermill Princess Royal sire, Prince Horace (66058), a son of the great old Cruickshank Orange Blossom sire, William of Orange (50691), dam Annie Bullen, by the richly-bred Missie bull, Mount Royal (63031) a Marr Missie by the Cruickshank Clipper bull, Criterion (57123). I have also six fine imported calves, and eleven others sired by Gladiator (imp.); one of these is from the same dam as Dorrotha, which took first place in September, second in December and first in the herd at the Chicago International fair."

Messrs. H. Cargill & Son, Cargill, Ont., write:—"We sold recently to W. J. Shean, of Owen Sound, the two-year-old imported Shorthorn bull, Marengo (Heidon) Duke (72900). As his name signifies, he has for sire the great bull, Marengo (69068), probably the greatest prizewinning bull of modern times, he having won the championship at four different shows in 1898, including the Royal at Birmingham. He also won six firsts and one third prize in 1896; four firsts and three seconds in 1897. He is the principal herd bull in the large herd of Mr. Philo L. Mills, of Ruddington Hall, Nottingham, England, probably the largest herd of Shorthorns in England. On the dam's side, he is of Bates extraction, belonging to the Heydon Rose family. Mr. Mills claims he is meeting with great success crossing Scotch bulls on females of Bates breeding. Marengo's Heidon Duke is lengthy, on short legs, with good level lines above and below, plenty of substance, a good bull's head. Taken all together, he should prove a good sire, and we think the breeders in Mr. Shean's neighborhood should feel it their duty to patronize him and thus encourage Mr. Shean in his laudable enterprise of establishing a first-class herd of Shorthorns in their vicinity."

Are you Ready for the Harvest?
This is the question every thinking farmer should be asking himself to-day. If you are not ready, now is the time to get ready. To be unprepared at the commencement of the Harvest Season is a condition no wide awake farmer will allow himself to fall into. To-day is the time you should provide yourself with "The Best in the World" harvesting machinery. The discriminating buyer will find, by examining the construction, the work in the field, and the history of the machines that may be offered him, that McCormick machines do the cleanest work and the best work; that McCormick machines work under unfavorable conditions where no other machine will give satisfaction; and that McCormick machines are so constructed that they are the most durable and will live the longest and do the most work, thus giving the purchaser the greatest value in the quantity of work they will do during the life of a machine, which will average two or three times as great as some of the "cheap" machines. -A-1-

ELLWOOD Steel Wire Fences.
Six styles, all heights, for every fencing purpose on Farms, Ranches, Orchards, &c.
Strong, Humane, Cheap, Durable.
FULLY GUARANTEED.
Heavily Galvanized Best Steel Wires. We have agents everywhere. ELLWOOD FENCES are easy to get, easy to pay for, easy to put up. If you cannot find an agent write to the makers.
Ellwood Standard Style.
AMERICAN STEEL & WIRE CO., Chicago or New York.

GOSSIP.
A "BIG FOUR" COMBINATION SALE.
June 5th is claimed as the date for a combination sale at Chicago of Shorthorns from the noted Canadian herds of W. D. Flatt, Hamilton; H. Cargill & Son, Cargill; Hon. M. H. Cochrane, Hillhurst; and W. C. Edwards & Co., Rockland.

\$6,000 FOR A HEREFORD BULL.
The sale of the famous four-year-old prize-winning Hereford bull, Protector (9660), for shipment to America, is reported; Mr. F. A. Nave, Attica, Ind., the breeder of the champion bull, Dale, being the purchaser, and the price \$1,200, or \$6,000. Protector was bred by Mr. Allan Hughes, of Wintertown. In 1898 he won first prize at the Royal Show, when he was sold to Sir Joseph Pulley, his late owner, and in 1900, as a three-year-old, he was again first at the Royal at York. He is a son of the famous Albion (15027), out of Newton Plum, by the illustrious Rudolph (6670).

TREDINNOCK 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.** Farm close to St. Anne Station, Quebec. G.T.R. & C.P.R., 20 miles west of Montreal.

EUROPEAN ADVERTISEMENTS.
FAMOUS ALL OVER THE WORLD ALFRED MANSELL & CO., LIVESTOCK 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.** Oxbles—Sheepcote, London.

HAMPSHIRE DOWN SHEEP GREAT ENGLISH PEDIGREE SALES, July, August & Sept., 1901
Waters & Rawlence, Salisbury, Eng. will sell by public auction, during the season, upwards of

50,000 Pure-bred EWES, LAMBS AND RAMS, including both rams and ewes from the best registered prizewinning flocks in the country. Commissions carefully executed. Address—**Waters & Rawlence, SALISBURY, ENGLAND.**

J. E. CASSWELL'S Laughton, Folkingham, Lincolnshire, England. **LINCOLNS**
Breeder of Lincoln Long-wooled sheep. Flock No. 46. 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 \$51 each; 14 of the best averaged \$93 each, this being the highest sale of the season in the Argentine. Ram and ewe hoggs and shearlings for sale; also Shire horses, Shorthorns, and foxes. Telegrams: "Casswell, Folkingham, Eng." Station; Billing-boro, G. N. R.

IT NEVER SAGS
The old style poultry netting could never be properly stretched. It was made of lightest wire and being "blimsy" had to have a rail top and bottom to make it worth anything. That made it expensive and less effective. Our Patent "**ACME**" Poultry Netting avoids all these deficiencies. It is made of strong wire with extra heavy struts, top and bottom and in the middle. Stretch a well and stays stretched. Note the gradual mesh; from 1 1/2 in. at bottom to 3 in. at top. Made from 24 in. to 72 in. high. If you please, anybody seeking a good netting. We make Lawn and Farm Fencing, Gates, Staples, etc. Catalogue Free.
The Page Wire Fence Co., Ltd., Walkerville, Ont.

EUROPEAN ADVERTISEMENTS.
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.

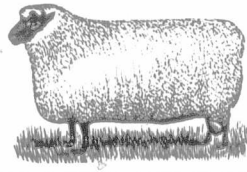
KENT OR ROMNEY MARSH Annual Ram Sale
The annual show and sale of registered Kent or Romney Marsh rams, consisting of selected specimens from leading flocks of the breed, will be held
on
Friday, Sept. 27th, 1901
at
ASHFORD, KENT, ENGLAND.
Catalogues and full information from
W. W. CHAPMAN,
Secretary Kent or Romney Marsh Sheep Breeders Association, Fitzalan House, Arundel Street, Strand, London, England.

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, Teaura, Idaho. om
J. H. & E. PATRICK, Ilderton, Ont.
ESTABLISHED 1865.
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. om
Henry Arkell & Son,
Phone and telegraph, **Teeswater, Ont.**
W. H. BEATTIE, Wilton Grove, Ontario,
IMPORTER AND BREEDER OF
Shropshire sheep, collie dogs, White Holland and Mammoth Bronze turkeys, and Barred Rocks.

SMITH EVANS, GOUROCK, ONT.

Breeder and importer of registered Oxford Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-o



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. TORONTO.

LITTLE'S PATENT FLUID
NON-POISONOUS SHEEP DIP AND CATTLE WASH
THE ORIGINAL

Non-Poisonous Fluid Dip

Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large breeders.

For sheep. Kills ticks, maggots; cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.

Cattle, horses, pigs, etc. Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly. Heals saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection.

No danger, safe, cheap, and effective

Beware of imitations. Sold in large tins at 75 cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.

SOLD BY ALL DRUGGISTS. SEND FOR PAMPHLET.
Robert Wightman, Druggist, Owen Sound. Sole agent for the Dominion.

LARGE ENGLISH FOR SALE

YOUNG boars and sows carrying the blood of Baron Lee 4th, Bright Star (imp.), Enterprise and Highclere, on Bow Park, Teasdale and Snell females, with Allandale Boy 5875 and Royal Lad 3rd 4307 heading the herd.
S. DYMENT, BARRIE, 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.

Large English Berkshires

Windsor Model (imp.) and Royal Star (imp.) at the head of our herd. Choice young boars and sows, sired by above boars. B. P. Rock eggs, \$2 per setting of 15, from prizewinning birds. Write for prices.
H. BENNETT & SON, St. Williams, 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 13 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.
DURHAM & CAVAN, East Toronto, Ont.

FOR SALE:
YORKSHIRES AND HOLSTEINS

Best type and quality. Young stock constantly on hand. Prices right.
R. HONEY, Warkworth, Ont.

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

Are You Ready for the Harvest?

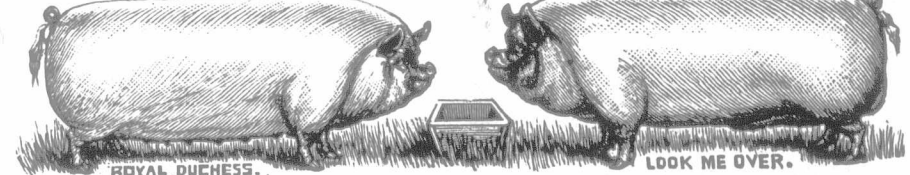
W. A. CAVANAUGH, Gen. Agt., WINNIPEG, MANITOBA.
W. J. CUMMINGS, Gen. Agt., REGINA, N.-W. TERRITORIES.

WRITE FOR CATALOGUE, "PRIDE OF THE NEW CENTURY."

P. W. Stanhope, Toronto, Ontario.

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.

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, Fairview, Ont.

OHIO IMPROVED Chester White Swine.

OLDEST ESTABLISHED REGISTERED HERD IN CANADA.
Choice young stock, 6 weeks to 6 months old. Pairs and trios not akin. Registered pedigrees. Express charges prepaid. Safe delivery guaranteed.
E. D. George, Putnam, Ont.

OAK LODGE YORKSHIRES

ARE THE CORRECT TYPE TO BRING THE GREATEST PROFIT.

YORKSHIRES AND BERKSHIRES

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
JAS. A. RUSSELL, Precious Corners, Ont.

TAMWORTH SOWS AND BOARS

nearly ready to ship. Also a few ready for service, of both sexes.
P. R. Hoover & Sons, Green River, Ont.

Brethour & Saunders, Burford, Ont., Can. PLEASE MENTION FARMER'S ADVOCATE.

JOS. FEATHERSTON & SON, IMPORTERS AND BREEDERS OF Improved Large Yorkshire and Essex Swine

We have some fine young pigs to sell, from imp. sows and by the celebrated boar, Whitton Star. He took first prize at Toronto and London fairs in 1899 and 1900. We have some more imported sows to farrow, bred to him, and have some nice young pigs from our home-bred sows, and got by the imp. boar, Nottingham Monarch, a sire of great promise.

YORKSHIRES AND POULTRY.

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.
A. B. ARMSTRONG, Codrington, Ont.

Improved Yorkshires FOR SALE.

of the most popular families. All ages and both sexes now ready for immediate shipment. Write for what you want. Prices reasonable—consistent with quality.
E. DOOL, Hartington, Ont.

MARCH BOARS AND SOWS

from Thrif y Maid, the sweepstakes sow at Guelph Fat Stock Show, and from Jessie K. and Minnie P. Sired by Advance and French, my stock boars. The pigs are choice, and prices right.
NORMAN M. BLAIN, Brant Co. St. George, Ont.

SEVERAL YOUNG TAMWORTH SOWS AND BOARS

FROM prizewinning Brahmas, Cochins, Langshans, Rocks, Wyandottes, Leghorns, Minorcas, Spanish, Hamburgs, Red Caps, Poland, Houdans, Bantams; Pekin, Rouen, Aylesbury, Cayuga ducks: at \$1 per setting. o R. J. LAURIE, Wolverson, Ont.

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
April 20	Lusitania	April 19
April 9	Wassau	April 26
From Montreal, Friday	From Lake Champlain, Lake Megantic	From Lake Superior

First Cabin—Single, \$47.50 and upwards; Round Trip, \$90.00 and upwards. Second cabin—Single, \$35.00; Round Trip, \$66.98 and \$68.88, according to steamer, location, and number of persons in room. Steerage Rates—To Liverpool, London, Londonderry, Glasgow, Belfast, and Queenstown, \$24.50 and \$25.50. Apply to any agent of the line, or to **ELDER, DEMPSTER & CO., 6 St. Jacques St., Montreal.**

*Lake Superior carries second cabin and steerage passengers only.

EGGS

From a pen of 30 choice Barred Plymouth Rock hens, "National strain," selected for their persistent laying qualities and perfect color. Mated with a grand prizewinning cock. Price: \$1 per 13, or 3 settings for \$2.
W. C. SHEARER, Bright, Ont.

FOR SALE: Eggs for hatching, from Light Brahmas (prizewinners), \$1.25 per 13.
M. W. READE, Holmewood Farm, Birchtown, Prov. Que.

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, \$2.50.
A. E. SHERRINGTON, Walkerton, Ont.

Mammoth Bronze Turkeys

S. G. Forkings, B. P. Rocks, S. C. Br. Leghorns, Black Minorcas. I have still some fine birds left, from winning strains. Orders booked for eggs.
THOS. F. SHORE, White Oak, Ont.

EGGS FOR HATCHING: Pure-bred Light Brahmas, S. S. Hamburgs, Black Minorcas, \$1.00 per 13. Birds for sale. **C. Oppertshouser, Hanover, Ont.**

Now Is the Time to place your orders for EGGS.

I breed 15 varieties of choice land and water fowl. Eggs only \$1 per setting; 6 settings, \$5; carefully packed so as to carry any distance. Send and get my circular.
W. W. REID, Ayr, Ontario, Canada.

Canada's Winners.

EGGS FOR HATCHING.

Silver Gray and colored Dorkings, Indian Games, Houdans, Minorcas, Hamburgs, Leghorns, Poland, Ducks and turkeys. Our birds win at Boston, New York, Toronto, London, Kingston, Ottawa, Montreal. Also Ayrshires (bulls and females). For full particulars, write **WM. STEWART & SON, Menie P. O., Ont.**

E-G-G-S

From prizewinning Brahmas, Cochins, Langshans, Rocks, Wyandottes, Leghorns, Minorcas, Spanish, Hamburgs, Red Caps, Poland, Houdans, Bantams; Pekin, Rouen, Aylesbury, Cayuga ducks: at \$1 per setting. o R. J. LAURIE, Wolverson, Ont.

SEEDS

QUALITY FIRST. That's the thought standing back of the seeds we sell. Prices are down to the lowest notch. Delivered to any Post Office in Canada. Safe Arrival Guaranteed.

BUTTER BEANS.

Golden Wax—No garden complete without them. 5 lbs. 80c.; lb. .19

GARDEN BEETS.

Eclipse—Round, extra quality. A great favorite. Lb. 60c.; ½ lb. .20

GARDEN CARROT.

Intermediate Red—Stump rooted. Always in demand. Sure and reliable. Rich quality, fine color. Lb. 80c.; ½ lb. .25

FIELD CARROT.

White Intermediate—A great cropper. Easy to harvest. Always satisfactory. Lb. 60c.; ½ lb. .20

GARDEN CORN.

Early Sugar—Early, sweet and tender. Excellent for table use. 5 lbs. 65c.; lb. .14

ONION.

(Black Seed) — Yellow Danvers—The heaviest cropper known. Seed of extra quality. 5 lbs. \$5.00; lb. \$1.20; ½ lb. .35

ONION SETTS.

Setts furnish large onions early as well as first green onions for table use. 5 quarts \$1.00; 2 quarts 45c.; quart. .25

GARDEN PEAS.

Extra Early—For table use. The First and Best. 5 lbs. 80c.; lb. .19

RADISH.

Scarlet Turnip—Round. A great favorite with gardeners. Always crisp and tender. Lb. 60c.; ½ lb. .20

MANGEL WURZEL.

Mammoth Long Red—First Prize Stock. Single root weighed 73 lbs. Try it. 5 lbs. \$1.20; lb. .26

SWEDEN TURNIP.

Champion Purple Top—A sure cropper. Nice, clean roots. Always gives satisfaction. 5 lbs. \$1.20; lb. .26

BEST SUGAR BEET.

Rennie's Danish—A wonderful yielder. Try our New Danish grown seed. Tested for Purity and Germination. 5 lbs. \$1.50; lb. 35c.; ½ lb. .20

NEW GRAIN "SPELTZ."

Is claimed to yield enormous crops on poor land. Give it a trial. 6 lbs. \$1.00; 3 lbs. 60c.; lb. .25

NEW WHEAT.

American Blue Stem—The heaviest yielding wheat of the North-Western States. Beautiful grain. Heads bald. 7 lbs. \$1.00; 3 lbs. 50c.; lb. .20

NEW FIELD CORN.

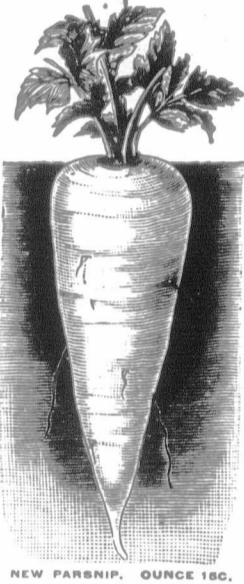
Northern Prolific—Ripens in 90 days, and yields surprisingly. 7 lbs. \$1.00; 3 lbs. 50c.; lb. .20

NEW FODDER PLANT.

Japanese Millet—Yields 6½ tons of dry straw, and over 90 bushels of seed per acre. Try it. 7 lbs. \$1.00; 3 lbs. 50c.; lb. .20

HALF-SUGAR MANGEL.

Rennie's Giant—A cross between a Sugar Beet and Mangel. A magnificent cropper. Roots nice and clean, and easy to harvest. Lb. 40c.; ½ lb. 25c.; ¼ lb. .15



NEW FARMER'S QUINCE 16C.

With EVERY ORDER

amounting to 50c. and over we send **FREE** 1 Package New Royal Carnation Flower Seed. (Price 20 cents).

REMIT CASH WITH ORDER.

WM. RENNIE, TORONTO.

METAL SHINGLES
METAL CEILING
METAL SIDING

ASK FOR FREE SAMPLES CATALOGUE AND ESTIMATES

Use metal inside and outside and your building will be warm and dry. Fighting fire, wind and weatherproof, possessing a beautiful appearance at small cost.

METAL SHINGLE & SIDING CO. LIMITED.
PRESTON, ONT.

STAY AT HOTEL LELAND
The Leading Hotel of the West.
ALL MODERN CONVENIENCES. RATES, \$2 TO \$4 PER DAY. OMNIBUS MEETS ALL TRAINS.
W. D. DOUGLAS, Prop., Winnipeg, Man.

\$3 a Day Sure
Send us your address and we will show you how to make \$3 a day absolutely sure. We furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once to **IMPERIAL SILVERWARE CO., Box 419, WINDSOR, ONT.**

Binder Twine.

UNTIL further notice, Binder Twine will be sold at the Kingston Penitentiary to farmers, in such quantities as may be desired, for cash on delivery, at the following prices:

Beaver..... 8½ cents per pound.
Sisal..... 7 " "
New Zealand..... 6½ " "
Monarch..... 8½ " "
Pure Manila (650 feet to pound)..... 10 " "

Address all communications, with remittances, to **J. M. PLATT, Warden Penitentiary, Kingston, Ontario.**

Papers inserting this notice without authority from the King's Printer will not be paid therefor.
Kingston, March 20th, 1901.

ROCK SALT for horses and cattle, in ton and car lots. o Toronto Salt Works, Toronto.

Coiled Spring and other fence wire for sale at lowest prices. Also **GEM** Fence Machines. The **GEM** holds the record, 120 rods of 10-wire fence woven in 10 hours. Write **McGregor, Banwell & Co.,** om WINDSOR, - ONT.

PLEASE MENTION FARMER'S ADVOCATE.

A Financial Institution of Vigorous Growth

FOURTEENTH ANNUAL REPORT

BY THE DIRECTORS OF THE

Manufacturers' Life INSURANCE COMPANY.

The Directors congratulate the policy-holders and shareholders on the substantial progress made during the year, which has been the most satisfactory in the Company's history.

There were received during the year 1,778 applications for assurances amounting to \$3,058,989. The business actually taken up and paid for in cash during the year amounted to \$2,486,703, and, leaving out single payment policies, the first year's cash premium collected thereon was \$115,782.01, as against \$107,160.86 for the previous year, and \$100,013.93 for 1898.

The Assurances in Force amount to \$15,409,620, an increase of \$1,041,384 over the previous year.

The Premium Income was \$590,875.04, showing the handsome increase of \$63,695.23. There were received for Interest and Rents \$87,461.11, making the Total Income \$676,336.15, an increase of \$84,137.92.

After paying the policy-holders for claims, dividends and surrenders \$127,664.73, and providing for all other expenditures, the Assets were increased by nearly half a million dollars, of which \$328,495.00 was added to Policy Reserves, and \$67,268.35 to Surplus, an eminently satisfactory saving for one year's operations.

The Assets now amount to \$2,279,175.94, and the Policy Reserves to \$1,950,507.00 on the Company's standard. After making provision for all other liabilities, the surplus on policy-holders' account is \$301,024.36, which would be considerably increased by adopting the Government standard of valuation for Policy Reserves.

GEORGE GOODERHAM, President.

J. F. JUNKIN, Managing-Director.

SUMMARY OF STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1900.

INCOME.	
Received for New Premiums.....	\$ 115,782 01
Received for Single and Renewal Premiums.....	475,093 03
From all other sources.....	203,749 11
	\$ 794,624 15
DISBURSEMENTS.	
To Policy-holders for claims by death.....	\$ 87,830 04
To Policy-holders for Endowments, Dividends, etc.....	39,834 69
To Commissions, Salaries and expenses of management.....	152,648 75
To Taxes, Reinsurance Premiums and Dividends to stockholders.....	27,054 05
Surplus of Income over Expenditure.....	487,256 62
	\$ 794,624 15
ASSETS.	
Municipal Bonds, Stocks and Debentures.....	\$ 854,788 37
Loans on Bonds and other Securities.....	104,511 53
Mortgages on Real Estate.....	918,140 12
Real Estate.....	36,845 25
Loans on Policies.....	147,124 09
Accrued Interest, Net Deferred Premiums, etc.....	145,448 91
Cash on hand and in Banks.....	72,410 37
	\$ 2,279,268 64
LIABILITIES.	
Liability for Policy Reserves, Government Standard.....	\$ 1,914,174 00
Special Reserve Fund over and above Government Standard.....	36,333 00
All other Liabilities.....	27,644 58
Surplus on Policy-holders' Account.....	301,117 06
	\$ 2,279,268 64

Dr. James Mills, of Guelph, moved the adoption of the report in an excellent address, from which the following is a short extract:

At a meeting of this nature it is always a pleasure to be in a position to congratulate those interested, and on this occasion I can do so most heartily.

We have really a most satisfactory statement to present to the shareholders and policy-holders of the Company, a statement which will bear the closest inspection. We can speak with more definiteness than ever in the past, in regard to our investments and our standing, for we have more information at our disposal, furnished us in the splendid report of our consulting actuary. There has been progress all along the line.

A comparison of 1900 and 1899 is in the report, so I need not refer to that again. I would, however, refer to one other point: The question of our progress during a longer period, 1894 to 1900, being that of the present management.

After a lapse of six years, we find many points which are alike creditable to the management and gratifying to the persons most interested in the success of the Company, the shareholders and policy-holders.

The following figures will illustrate the vigorous growth of the Company:

YEAR.	Assets.	1st Year's Premiums.	Net Income from Premiums & Int.	Gross Assurance in Force.
1894.....	\$ 821,321	\$ 61,685	\$ 296,468	\$ 9,555,300
1900.....	2,279,176	115,782	666,717	15,409,620

The assets are practically three times what they were six years ago. Amount of income from new business shows 100 per cent. increase. Net Income from Premiums and Interest has increased over 100 per cent. The assurance in force has grown from 9½ to 15½ millions.

I want also to refer to the character of our assets and the expense ratio, both being important items in a concern of this kind. Our securities were never before in the splendid condition they are to-day. I doubt if any company can show such a record of invested assets of over \$2,000,000, and only \$501.30 overdue interest.

In new companies the expense ratio is always large. These expenses should gradually decrease, and our record is as it should be in this respect.

The ratio is about 14 per cent. less than it was two years ago. I think that is one of the most satisfactory features in our business. The ratio is decreasing rapidly.

I thank our manager, his staff and the field force for the results we are able to report to-day, and I do so most sincerely, and I must congratulate the policy-holders and shareholders on the position we attained.

Mr. J. F. Junkin, the managing-director, in seconding the adoption of the report, remarked: If we look back over two years, we find that the premium income for 1900 was almost \$140,000 more than for 1898, or an increase of 31 per cent., while our expenses for 1900, as compared with 1898, only show an increase of about \$2,000, or ¼ per cent. The result is that we have now, not only the lowest expense ratio of any active company of our own or similar age on the continent, but we compare very favorably in this respect with even the oldest and largest Canadian and American companies.

It is a comparatively easy matter to exercise economy if one is satisfied with a comparatively small volume of new business, since it costs little to take care of the old; and on the other hand, it is not so very difficult to secure a large volume of new business, if willing to make the sacrifice of paying any price for it; but it is not so easy to exercise judicious economy, and at the same time maintain a healthy, vigorous growth. This is what the Manufacturers' Life is accomplishing, and this is giving it an increasingly large earning power when coupled, as it is, with a moderately low death-rate, and a careful and safe investment of the Company's funds at a high rate of interest.

Catalogue Printing our Speciality.

Many of the best Catalogues in Canada are produced by us. Latest type faces, designs, ornaments, and modern machinery.—Best in America. Up-to-date covers designed by special artists without extra charge.

London Printing & Litho. Company, Ltd.,
LONDON, ONTARIO.

LOW PRICE IN WIRE

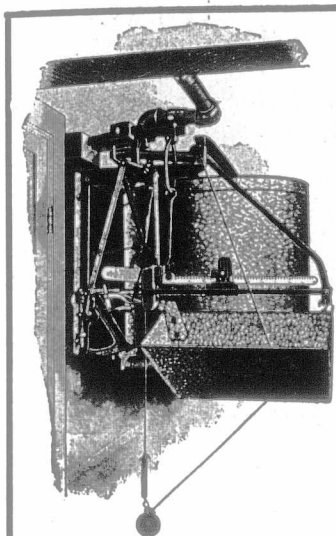
Fence building is attracting farmers and agents attention. **THE CHEAPEST GOOD FENCE.** No trouble to answer questions. Write for free Catalogue. McCloskey Wire Fence Co., Inc., 145 E. Wacker Drive, Chicago, Ill.

SWEET CORN.

A quantity of first-class Hicox Improved Sweet Corn for seed purposes, at special prices, in 2, 4 or 10 bushel lots. Address—**Wm. H. Bunting,** St. Catharines, Ont. o Carleton Fruit Farm.

SEED POTATOES AND GRAIN.

PEARL OF SAVOY AND GREAT DIVIDE. Mr. C. A. Zavitz, of O. A. C., says: "Pearl of Savoy is one of the very best varieties tested for general use." Great Divide is of fine quality, almost "rot-proof," good to grow in localities where potatoes are apt to grow too large and coarse. Price per bag, 90 lbs., 50c.; 1½ bush. sacks, 7c. each. We can supply Mandescheuri barley in ten-bush lots at 55c., and grass peas, 85c.; 2 bush. bags, 17c. each. **JAS. BOWMAN, ELM PARK, GUELPH.**



YOUR SUCCESS

Does not depend upon what you know, but your ability to apply your knowledge. Many men of moderate attainments surpass their more brilliant brothers because they know how to put their knowledge to practical use. Don't forget that the first requisite of a successful Creamery is a substantial clientele of satisfied and contented patrons. You cannot care for the interests of your patrons too thoroughly. Possibly there has been feeling for years over the distribution of the skim milk. It is a bad thing. It breeds discontent. It promotes strife. Many Creameries have been wrecked on this rock of disturbance.

OUR IDEAL SKIM-MILK WEIGHER

Will overcome all this difficulty. The skim milk will be evenly and accurately distributed. No other machine is so accurate, so convenient, so dependable under all circumstances. Do not forget that we allow 30 days' trial if you are not familiar with this machine.

Bollers and Engines. Australian Boxes. Refrigerating Machines. Hanson's Butter and Cheese Color. Rennet Extracts. Wells, Richardson & Co.'s Improved Butter Color. Spruce Tubs. Stearns' Style Spruce Tubs. Lusted Printers. Climax Heaters. Farrington Ripeners. Potts Pasteurizers. Parchment Paper, Etc.

Creamery Package Manufacturing Company, Cowansville, Que.

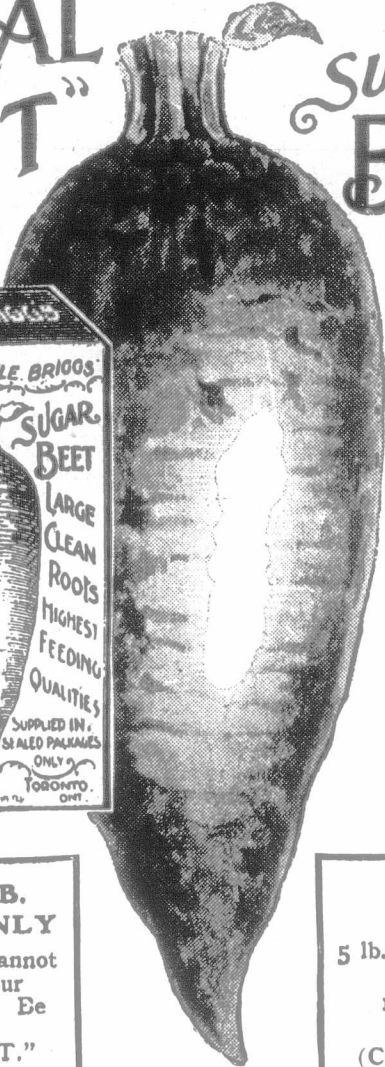
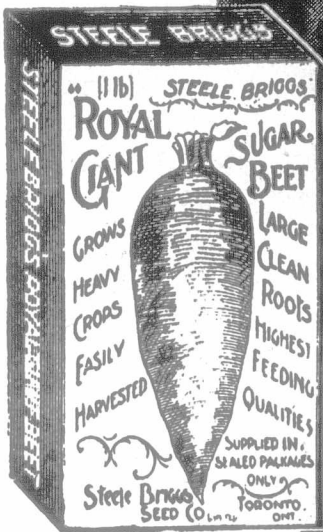
"Canada's Greatest Seed House"

The Growers' Favorite

STEELE BRIGGS

"ROYAL GIANT"

SUGAR BEET



Grows a GREAT CROP and of RICHEST FOOD QUALITY The Best of all SUGAR BEETS — TRY IT — You Will Like It

SOLD IN 1 LB. PACKAGES ONLY
If your merchant cannot supply it, send your order direct to us. Be sure you get "ROYAL GIANT."

PRICE
Per lb. 45 cents.
5 lb. lots or more, per lb. 39 cents.
10 lb. lots or over, per lb. 35 cents.
(CARRIAGE PAID)

"ROYAL GIANT" roots are large, grow about three-fourths out of ground, free from rough, scraggy roots, and very easily harvested. "ROYAL GIANT" is quite distinct from other varieties of Sugar Beet. The flesh is white, firm, crisp, very sweet, and the best of winter keepers. Lower half of root is a beautiful rose color. The accompanying cut is a good representation of its form.

A VALUABLE ROOT CROP

Stock feeders and producers of milk will find that "ROYAL GIANT" is not only a good flesh maker, but also increases the flow and enriches the quality of milk, which enhances the value of butter and cheese by improving the quality and flavor. No other class of roots is so desirable for feeding milch cows. No other variety of roots is more profitable for the grower.

BRINGS CASH RETURNS

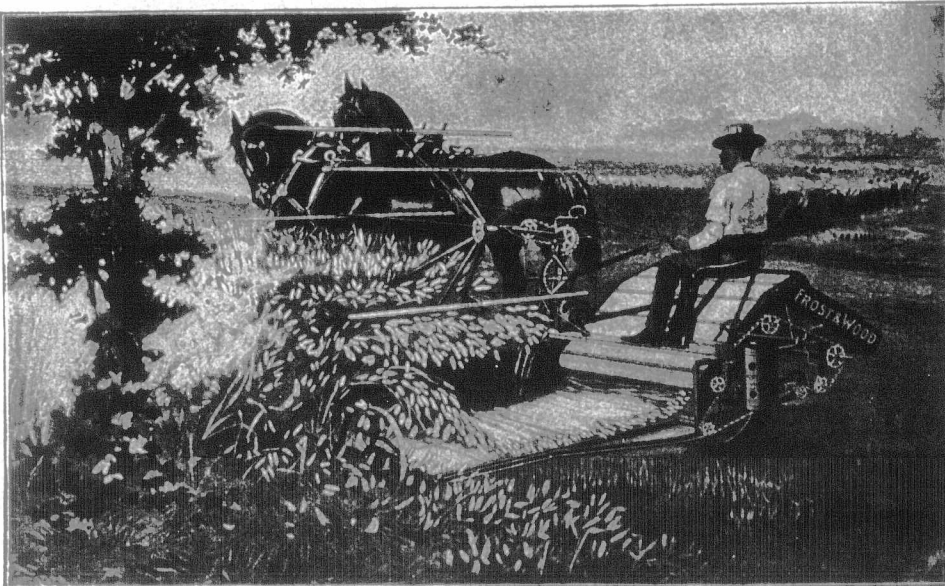
Butter and cheese manufacturers pay the highest price for milk which is produced from feeding Sugar Beet. Secure Steele, Briggs' "ROYAL GIANT."

The Steele, Briggs Seed Company, Limited
Toronto, Ontario

Does Quality Count with You?

IF SO, WE CAN INTEREST YOU.

Besides the QUALITY, we guarantee SOLID COMFORT to the users of our machines. OUR 1901 CATALOGUE NOW READY. TELLS YOU ALL ABOUT THEM. SEND FOR ONE.



THE F. & W. NO. 2 BINDER AT WORK.

LIGHT on the HORSES. EASY on the DRIVER.
LIGHT on REPAIRS. EASY to HANDLE.

IT WILL PAY YOU.

See our samples and get our prices before placing your order.

BRANCH OFFICES—

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LIMITED.

Toronto, London, Winnipeg, Montreal, Quebec, St. John, N.B. Truro, N. S.
HEAD OFFICE AND WORKS: Smith's Falls, Ont.

FOR HARNESS.

Do you need harness or parts of harness, sweat-pads, currycombs, brushes, etc., boots and shoes, or general supplies of any kind? Send us your butter and eggs, get our illustrated catalogue, and co-operate with us.

THE FARMERS' CO-OPERATIVE STORE.

The People's Wholesale Supply Co., 144-146 KING ST., EAST, Toronto.
R. Y. MANNING, Manager. —om Send your address at once for their Illustrated Catalogue.

EWING'S SELECTED FARM AND GARDEN SEEDS

are thoroughly reliable, and better cannot be found. We mail FREE our Illustrated Seed Catalogue for 1901, to all sending us their addresses. Our assortment is complete, and includes full lines of Plants, Flowering Bulbs, Shrubs, Tools, etc., besides all varieties of seeds for farm or garden, and Seed Grain.

William Ewing & Co'y,
SEED MERCHANTS.

142 MCGILL ST., MONTREAL.

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We have a full line of Fruit and Ornamental Trees for spring, 1901, at lowest possible prices. Headquarters for packing dealers' orders. Farmers wishing to buy first-class stock absolutely first hand and without paying commission to agents, should write to us at once for a catalogue and price list. Don't wait until the last minute, as you will be disappointed. Place order early and secure the varieties you want. Correspondence solicited.

Winona Nursery Co., WINONA, ONT.

BELL..
PIANOS AND ORGANS
 Built to Last a Lifetime by the
 Largest Makers of Pianos and Organs in Canada.
The Bell Organ & Piano Co., Ltd.,
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THE BIG FOUR.
 GREAT PREMIUM PICTURE OFFER.

For obtaining new subscribers to the "Farmer's Advocate" at \$1.00 per year.

"Canada's Ideal"—Admitted by judges, breeders and artists to be the most magnificent engraving of high-class modern Shorthorns ever issued in any country. 24 x 38 inches. Twelve animals.

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Bagster's NEW COMPREHENSIVE Teacher's Bible,

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

HOW TO OBTAIN IT—

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

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums right away. In every case cash must accompany the new names.

The William Weld Co., Ltd., London.
David Maxwell & Sons,

ST. MARY'S, ONT.

PATENTED
 STEEL IMPROVED
 ROLLER STEEL
 BEARINGS, FRAME,
 IMPROVED COMBINED
 DETACHABLE LEVER AND
 LINK, 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 gal.	1 to 3 gal. 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 "
8	40	8 to 20 "

SOLD BY ALL LEADING WHOLESALE HOUSES AND DEALERS.

"Good crops or poor crops, which shall it be for 1901?"

Freeman's Fertilizers.

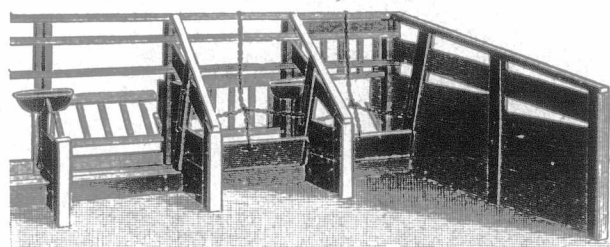
ONE TO FOUR TONS PER YEAR.

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.
 WM. ARMSTRONG, Locust Hill:—"Purchased one of your SURE GROWTH Fertilizers last spring. Used it on barley and corn, and can see to a drill mark where it was used, especially in the barley, it being stronger growth and will ripen some days before the part of the field where none was used. I am pleased to place my order for one ton more."

THE W. A. FREEMAN CO., LTD.,
 Catalogue and Price List on Application. HAMILTON, ONTARIO.

THE Patented Cattle Stalls and Fixtures



FARM RIGHTS CHEAP.

Buy a Right and it will tell you how to have your lumber cut.

Bill of Lumber given.

A set of patterns sent, to enable you to make exact style as cuts.

A printed scale showing plan of your stable.

In short, the Right explains it all.

Up-to-date Stalls.

Suitable for all kinds of stock feeding. Less lumber will build the above stall than any other in use.

Special tie chains adapted for single stalls. Stock drinking basins a specialty.

A full line of all stable fittings in stock.

Write for circulars, blank forms, and full particulars.

A. M. RUSH,

Box 178. HARRISTON, ONTARIO, CAN.

Canada Patent: Sept. 30th, 1899, No. 64144. United States Patent: Feb. 19th, 1901, No. 668418.

J. W. SNELL, WINGHAM, ONT., sole agent for Huron County.

U. S. and Canada RIGHTS Promptly Issued.

Another Knockout for the DeLaval By the U.S. Cream Separator

LAWTON, WIS., Jan. 31, 1901.

This is to certify that the Alpha DeLaval No. 2 and the United States No. 6 had a contest to prove the merits of the two at P. L. Place's farm at Lawton, Wis. The Judges were appointed by Mr. P. L. Place and points to be considered were:

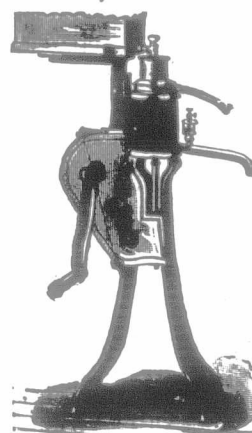
- First—Cleanness of Skimming.
- Second—Durability and Workmanship.
- Third—Easy Running.

We the undersigned, decide in favor of the U. S. All three points having been given to the "U. S."

A. S. BARG, PEDER HALVORSEN, PEDER PEDERSON, } Judges.

Witnesses:

- Henry A. Hanson, R. L. Rasmuson,
- Carl Christopherson, M. H. Hanson,
- A. H. Hanson, Geo. P. Grout,
- Martin Hanson, P. L. Place.



Note the fact that the United States won on every point, also that the U. S. was a \$100.00 machine while the DeLaval was \$105.00, which proves again very conclusively the truth of our claim that the

Improved U. S. Separator is the Best

Buy the U. S. whether for the Dairy or the Factory. Representatives Wanted in Unassigned Territory to Handle Our Goods. Catalogues and full particulars to be had for the asking.

VERMONT FARM MACHINE CO., BELLOWS FALLS, Vt.

No duty on Improved U. S. Separator Shipped Into Canada.

Please Mention The Farmer's Advocate.