

**PAGES
MISSING**

FARMER'S ADVOCATE

AND HOME MAGAZINE

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

VOL. XXXIII

LONDON, ONT., AND WINNIPEG, MAN., APRIL 15, 1898.

No. 452.

EDITORIAL.

Postage on Papers.

Hon. Mr. Mulock, Postmaster-General, has introduced a Bill in Parliament by which it is proposed to impose postage to the extent of $\frac{1}{4}$ a cent per pound, beginning next year, upon newspapers published in Canada, except those circulating within a ten-mile radius of the point of publication. Power is also asked to proclaim a two cent letter rate, which will be appreciated, but no date is mentioned. Though Canadian papers will have to pay for the use of the Canadian mail service, the Yankee periodical will travel free, unless present arrangements are modified. In 1897 the postal department carried papers to the extent of 16,500,000 lbs., which for the cost of bags and post office and railway service is regarded as becoming a serious matter for the revenues of the country. By the proposed Bill it is expected to collect over \$80,000, which must either come out of the publisher, the reader, or be shared by the two. The not unreasonable theory of free transmission is that the press, like the railway, is a quasi public institution rendering public service, and is based upon some such principle as the State undertaking to print and distribute gratis vast quantities of literature in the form of reports, etc., at public expense, but, unfortunately, much of the latter is simply wasted, for obvious reasons.

We presume the papers carried include a great deal of political campaign literature, fake advertising sheets, and also some legitimate periodicals, which, being subsidized as organs by Provincial Governments, are thus given an unfair advantage as compared with self-sustaining journals carried on by private enterprise. Now, if such abuses as these are corrected, the FARMER'S ADVOCATE is not disposed to object to paying a fair rate for the postal service rendered, though it will certainly prove a considerable tax, and indirectly to that extent prejudicially affecting agricultural interests. The Finance Minister, Hon. Mr. Fielding, in his budget speech, the other day, told Parliament that the prosperity of the nation was due to the condition of agriculture; and here is a proposal adversely affecting the greatest agency for promoting this very industry. Though we notice the point is not being urged, yet it may be mentioned that for years past and at the present time we have scores of enterprises heavily protected, but free transmission has been the one concession granted publishers. The imposition of postage will fall mainly upon the papers of greatest merit and value, those which circulate throughout the whole country, such as the big dailies, an agricultural journal like the FARMER'S ADVOCATE, going to every section of the Dominion, and the religious or church papers; but we fail to see why the last mentioned class should be exempted altogether, as an Ottawa journal suggests. Let us have no class legislation. Treat all fairly and alike, and the FARMER'S ADVOCATE and its constituency will not complain; but if the vexatious and discriminating ten-mile radius and other exemptions are made, it greatly weakens the effect. Iveness of the Bill, and we very much fear that when the expenses consequent upon the extra trouble and labor involved in working the zone feature are considered, the prospective revenue (which is apparently based upon the total weight of papers carried last year) will prove disappointing to the Administration; while if the ten-mile and other exemptions are allowed, and the abuses above referred to are not remedied, then taxing the few remaining papers will be an unfair proceeding.

The press of seasonable articles on our table has rendered it necessary to make the present as well as the previous issue a twenty-eight page edition, instead of the usual size of twenty-four pages. We need hardly apologize to our readers for this surfeit of good things, though one or two have protested that we are giving too much for the money.

The Horse Show and Horse Breeding.

The announcement for the holding of the fourth annual Canadian Horse Show in the Armouries, Toronto, May 4th to 7th, in connection with a grand military tournament, presents a fine opportunity for lovers of the equine race to witness what promises to be the greatest display of saddle and harness horses that has ever been made in Canada. The date of the show may possibly be too late to ensure a large entry of the breeding classes, though we are assured that the entries in these classes have already exceeded the most sanguine expectations of the management. To those who are interested in the breeding of harness and road horses generally, the exhibition will doubtless prove a rare opportunity for the study of the class of horses needed to supply the market's demand, both home and foreign. In this connection we commend to the perusal of breeders the observations of our Scottish correspondent in his letter in this issue with regard to the class of horses required for the British market, and the principles of breeding indicated as likely to produce the desired type. "Scotland Yet" is an acknowledged authority on horse-breeding, a close observer and a good judge, and his opinions on this subject are worthy of careful consideration.

The decided advance in prices paid for high-class draft horses in the past year, and the acknowledged scarcity of such in the country, may well lead those who have mares suitable for breeding this class to consider the advantage of mating them with sires of the stamp calculated to produce horses of the weight and quality required for farm work and especially for the export trade, which will take at paying prices all we can produce as long as they are good enough and up to the standard of that market for the best. Mr. B. H. Bull, in an excellent article in this issue, deals with this phase of the subject, as well as the care and management of farm horses, and the time is opportune for an intelligent consideration of the topic in order that a proper selection of sires may be made, keeping in view the essential qualities of size, soundness, action, and endurance.

Model Farms by the Dozen.

A deputation consisting of Messrs. James Conmee, M. P. P.; Hugh Blain, of the Toronto Board of Trade; Messrs. Wood, M. P., and MacPherson, M. P., Hamilton's smelting interest; Mayor McKellar, Fort William; Col. Ray, D. F. Burk, T. Marks, J. P. Donnelly, and Rev. R. A. Burris, immigration agent, representing the Rainy River country in north-western Ontario, waited upon Hon. Mr. Fisher, Minister of Agriculture, at Ottawa, recently, asking that a model farm be established near Fort William, in view of the C. P. R. and the proposed Ontario and Rainy River railway, so that travellers might see it in passing, and thus attract attention to the good agricultural district said to exist there, and become the nucleus of a settlement such as that which occurred in connection with the Ontario Pioneer Farm at Wabigoon. The first cost was to be about \$10,000, and the annual cost, if operated without frills, about \$1,000 per year afterwards. Mr. Fisher told the deputation that he had to be careful about making promises, as he already had requests for model farms in no less than eleven constituencies! At this rate the model farm business would soon degenerate into a costly fad. There are too many frills in connection with some of the Government farms already in existence, and Mr. Fisher will do well to set his foot down firmly upon such propositions. The best and most successful of Canadian farmers were not of the spoon-fed sort who had to wait till the Government set up a model farm next door to show them "how to do it," nor did they wait to be carried

into the country in parlor cars with ornamental farms along the way to tickle the fancy. Such proposals will, no doubt, be welcomed by parties anxious to dispose of sites at \$10,000 apiece and the officials who are to operate the farm with or without frills, but we do not think they will be approved by the general mass of farmers who help largely to foot the bills.

Tree Planting and Forest Preservation.

In our issue of April 1st in a short editorial note we drew attention to the deplored fact that our country is being rapidly denuded of forest trees. Since then we have received a number of stirring letters, some of which we publish in this issue, and hope they will have the effect of awakening a live interest in forest preservation, restoration, and the planting of trees generally. The ground is so thoroughly covered by our correspondents that we will not do more than refer to a few facts regarding the rate at which the timber is being removed from the land and sawn into lumber for various purposes in the vicinity of London, Ont., taking this district simply as an example.

We find upon inquiry that four of the largest concerns, viz., those of Mr. Adam Beck, The Columbia Handle Co., Gillea & Sons, and the London & Petrolia Barrel Co., situated in the City of London, work up annually from logs cut within a radius of some 40 miles, with one firm reaching out about 100 miles, about 1,800,000 feet (board measure) of oak, ash, elm, maple, butternut, birch, basswood, etc., for the manufacture of boxes, barrels, handles and other purposes. We are also aware that within 40 miles of London there are four other similar mills that together cut annually about 2,100,000 feet of timber. Besides these there are a large number of smaller mills sawing up to 150,000 feet annually. When it is remembered that this entire amount, besides the thousands of cords of firewood, is being taken each year from the farms of so small an area of Ontario, while practically nothing is being done to counteract the destroying influence, surely it is time to wake up to the gravity of the situation and endeavor to preserve what still remains, and to systematically make a move in the direction of reforestation. Again, we learn that throughout south-western Ontario a number of extensive black ash forests have been completely destroyed by reason of the land being drained by government ditches. There have been losses from severe storms blowing down timber, and in many localities we find that valuable blocks of timber are being sold at auction in half-acre lots to individuals, by whom they are soon stripped. Acres and acres have completely died out and are tumbling into a conglomerate confusion because their natural and necessary conditions and surroundings have been removed. We commend the letters to our readers and trust to hear from others who feel an interest in this very important subject. It is one of the most serious confronting the country to-day.

Canadian Butter and Cheese in England.

The letter we publish elsewhere in this issue from Messrs. Hodgson Bros., of Liverpool, Eng., one of the oldest and most widely known of British importing houses, conveys encouraging information regarding the standing and price of Canadian creamery butter in that market. The outlook is most promising. A couple of years ago it was hardly ever mentioned in their quotations; subsequently it figured for best at about 75s. or 80s., but now we find it practically at the top, quoted at from 100 to 105, with "scarcity of supplies." Canadian cheese is also held in higher esteem every day, but in regard to both products our correspondents throw out several important suggestions in their letter that Canadian butter and cheese makers will do well to consider.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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JOHN WELD, MANAGER.

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A Railway Commission.

RECENT SPEECH BY JOHN M'MILLAN, M. P., IN THE HOUSE OF COMMONS, OTTAWA.

As a farmer from Ontario, let me say that I have had conversations with a good many gentlemen just before the commencement of this Parliament, and business men and farmers alike are all strongly in favor of a railway commission. One of the reasons why that is so is that there is very great discrimination against both individuals and localities. In shipping apples to the Old Country we have found that wherever we have competition between the Grand Trunk Railway and the Canadian Pacific Railway we get a rate of five cents or ten cents less per barrel than where there is no competition. If the reduction is five cents it comes to \$9 per car, and if it is ten cents it comes to \$18 per car. In one case in which I was interested a railway commission would certainly have interfered. We shipped three carloads of cattle from Prince Albert to Montreal and we paid \$190 per car. We sold a carload of apples to my friend from Saskatchewan (Mr. Davis), and we were obliged to pay for these apples going west \$518 per single car. That is a case a railway commission would take cognizance of. I know a farmer who shipped cattle to North Bay, a distance of 190 miles, and he paid \$90 a car, whereas for a carload of cattle shipped 100 miles west of Chicago he only paid \$65 a car. Why should discriminations of this kind exist against the farmers of Canada? To-day we have free corn in this country, but in consequence of this discrimination on railways we can bring corn from Chicago into Toronto just about as cheaply as we can bring corn from the counties of Kent and Elgin into that city. There is this discrimination against both the farmer who wants to purchase corn and the farmer in the western part of Ontario who should get the full price for his corn. Another matter which a railway commission ought to deal with is one which the farmers in the western part of Ontario have felt very keenly, that is drainage across railways. I have always felt that it would be useless for any farmer to bring his grievance before the Railway Committee of the Privy Council, for the railway companies send their well-trained solicitors there and everything a farmer might place before them would be set aside at once. But if we had a railway commission, appointed by statute, in the same manner as our Auditor-General is appointed, independent of the Government or any corporation, the farmers could go before such a body and lay their case before it, with full confidence that it would receive attention and be dealt with in a satisfactory manner. When any matter relating to the farmers is brought before the Railway Committee they are generally in the press of business and have not time to attend to it properly, whereas if a railway commission were appointed, with ample power to deal with these questions, many of the grievances we

suffer under at the present time could be remedied. For instance, at present we find that large corporations can get shipping privileges which the farmers cannot. They can get a cheap rate for taking a carload of cattle from any part of Ontario to Manitoba or to the Northwest. Why should not any breeder or farmer from the Northwest who comes to Ontario to purchase cattle get the same rate as the Live Stock Association without having to go through any formality or asking any favor from a railway corporation? All these are questions which a railway commission could deal with, and I think it is important that the Government should take steps to appoint such a commission. Although it may be true that a railway commission could not compel a railway company to grant running powers to another company, yet they could prevent discrimination against individuals. For instance, a small shipper of cattle from Western Ontario to Montreal is led to believe that he can get as good a rate per carload as anyone else, but a large shipper who sends eight or ten carloads gets a rebate. This I hold is an unjust discrimination against the small shipper, and it has the effect of driving our young men out of the country. I hold that if a man takes a full carload of any stuff he should get the same rate per car as a large corporation which ships a large quantity of stuff. Another thing the cattle shippers in Western Ontario have to complain of is that a shipper can go to Chicago and purchase his cattle there and ship them to Montreal at as low a rate as can be got from Western Ontario to Montreal over Canadian roads. This is a great injustice to our farmers and cattle dealers. All these are questions which could be dealt with by a railway commission. I have spoken on this subject with many farmers and business men of the County of Huron and almost every one was in favor of a railway commission, and I was urged to lift my voice in this House in favor of it. We believe that a good deal of benefit has been derived by the people of the United States from the railway commission there. I have in my hand the railway rates as settled by the railway experts. In the United States they have six classes of freight, while in Canada we have ten classes, and I have placed them so as to make as fair a comparison as possible. The different rates per 100 pounds on similar classes of freight are as follows:

Table with 2 columns: United States Rates and Canadian Rates. Rows for 65 miles, 115 miles, and 160 miles, with sub-rows for 1st, 3rd, 5th, and 8th class rates.

The lower rates in the United States may be due to competition, but I am inclined to believe that they are the result of the work of the railway commission; and I do not see why a railway commission in Canada would not be equally beneficial. If it did not generally reduce the rates it could at least see that outlying districts got equal rates for equal distances with those districts which have the benefit of competition. I think it is the duty of the Government to take hold of this question and appoint a railway commission. I am convinced that there is a strong sentiment in favor of it all over the Province of Ontario at least.

STOCK.

The Farm Horse, His Breeding and Care.

The general purpose horse was a necessity when farm produce had to be hauled many miles to market, and the services of this horse are not so much required. The interests of the farmer to-day are very well served by the Clyde or Shire, the good chunky block, with a clean-cut head, broad forehead, full eye, arched neck, two heavy ends, and a strong, short middle, broad loins, well-sprung ribs, deep, thick girth, giving plenty of room for heart, lungs and dinner-basket, with heavy flat bone free from meat, strong sinews, and last, but not least by any means, good round, tough feet, which, under ordinary circumstances, will last a lifetime without shoes, if kept on the farm. A good hoof that has never been shod will not break, neither slip as easily as a hoof that has been shod, nor nearly as easily as a smooth shoe.

Very great care and much pains should be taken to train the young farm horse to walk, as its value all through life depends largely upon its gait. Generally speaking, the heavy horse is naturally a good walker, and, with proper attention, may be trained to walk very fast, and it will not often be found necessary to go at a quicker pace.

The proper way for the farmer to obtain these horses is to breed and rear them, all of which must be carefully done. The right type of a mare is a first necessity. Even if one has to pay what may appear to be a high price, it will surely prove to be a good investment; then, with a wise selection of a sire, one may expect good results. Breed early in the season, as we find a mare may be worked with more safety and better results with her colt sucking than when carrying it. Keep the colt in a box stall while the dam is at work; it will very soon take a little oats and bran, also clover

hay. A little later feed it some cow's milk, which may be continued with excellent results until the colt is a year old, if one has the milk to spare. Milk is an excellent bone-producer, and with proper care and feeding, a colt may, with judicious handling, be made pay its way after two and one-half years. This fact lessens materially the cost of rearing heavy as compared with that of rearing light horses.

It is better, however, not to load them till they are four years old. Be particular with the harness, have it strong and comfortable. We had an excellent team that did not know there was anything they could not draw, until one day when in a heavy pull the doubletree broke and the night mare fell upon her head, and never pulled as well after. Have everything strong, and collars close-fitting, as large collars are much more likely to injure and cause sweeney. Hard straw stuffed are much safer for heavy work in hot weather than after stuffed with curled hair and re-lined, as then they sweat and scald the shoulders much more readily. Have a light back-band when plowing. This gives the draft in a better position on the shoulder, and saves the top of the neck. Do not use a crupper, they are very uncomfortable, and no advantage; use open bridles, they are safer, lighter and cooler; checkreins should be slack, if used at all. This class of horse must be allowed its natural position to work with best results. Keep the forelock trimmed, for there must be great misery to the horse and often sad results from allowing the hair to hang over the eye.

Now for the management or care and feeding of these horses: Give a liberal supply of bulky, nutritious feed; the old system of feeding hay and oats is too expensive, and wears out the horse too soon. Cut hay, not too ripe, good cut straw, corn or ensilage with crushed grain, carrots two or three times a week, turnips every day that one can get them, as they are excellent. Variety is good, but carefully avoid sudden changes; a great many horses are seriously injured in this way. Twice in the year at least—when turned out to grass in the spring, and when taken into the stable in the fall—it is very important to see that proper succulent food is supplied. This, with well-ventilated stables, good dry, roomy—or, better still, box—stalls, with plenty of good dry bedding, and your horses will be a source of pleasure and profit. We will find a ready market for all we have to spare, at good prices; in fact, the buyers to-day will scarcely let a farmer keep a good team of this type.

It is the common horse which is deteriorating in value year by year, for the lines of work in which such horses have been employed are now largely performed by electricity, and, consequently, there is no longer a market for them, while such horses as we have described as desirable for heavy work will never be superseded by mechanical powers.

Peel Co., Ont. B. H. BULL.

Our Scottish Letter.

WANTED, CARRIAGE HORSES.

So much attention was bestowed in our last letter on horsey matters that the readers may be a little tired of that side of things. The improved tone of the horse-breeding interest in Canada may, however, warrant some further remarks on the subject—especially in view of the recent show of the Hunters' Improvement Society. This institution owes its existence to a conviction on the part of gentlemen like Sir Walter Gilbey, that the English hunter and carriage horse is of indifferent merit and can stand improvement. No one who visited the recent show can doubt that this idea is well founded; while he must at the same time entertain some misgivings regarding the value of the average Thoroughbred as the regenerator of the race. Of the merits of the very best Thoroughbred there can be no doubt at all. Get a weedy animal of the same race and there is not in all christendom a meaner brute. The scarcity of good carriage horses in this country is proverbial, and we believe it is largely due to the use on common country mares of weedy Thoroughbred stallions. The product is a horse of no sort, shape, breed or type, but a long-legged, worthless animal, devoid of symmetry, and probably vicious. The best hunting and carriage horses in the world are reared in Ireland, but they are comparatively scarce, and one naturally looks to the English Hackney and Yorkshire Coach horse as the natural sires of harness horses. Of the latter we have little practical knowledge. He seems a handsome horse, but we should doubt his value as a sire, seeing that to begin with he is a mongrel, and the Thoroughbred cross has to be introduced regularly to keep up the quality and grit. A combination of the Thoroughbred and Cleveland Bay, if well selected, will undoubtedly produce a good brougham horse, but that it will produce a sire of such a point on which we are skeptical. Naturally a Thoroughbred is a galloping horse, and that is not wanted for driving purposes. Breeders and buyers, therefore, look to the Hackney as the natural sire of harness horses, but some fanciers of the breed demand acceptance of the dogma that their favorites with the extravagant knee action are saddle horses as well. This theory has done the Hackney much injury. Thoroughbred fanciers will have none of it for the self-evident reason that the action of the horse is prima facie evidence that he was not designed to be ridden, and they therefore will not tolerate him at all. It is impossible not to agree to some extent with their prejudice. If Hackney breeders would develop in their favorites the most serviceable kind of carriage action they would undoubtedly disarm much of the antipathy now manifested towards them; if they would run the breed as harness horses and nothing else they would disarm opposi-

APRIL 15. tion and se present are The scar rally led bre around for a ata. I belie of the finest crossing the English Hack Royal Dan criticized, bu horses—are cannot but l stallion whi conviction t horses like in the produ wear. The here is an ar rich dark co or no white head; age r mouthed, w vice. His v must combi the "Rosad former typ A horse of Glasgow, L would take produced, at Such horses chant princ St. Lawrenc the money fo the aristocr horses from gest what m the belief th Canada. A imported h possible on from £50 to sale of Ame Glasgow to Co's yard. horse bred i not a carri 2.20 record the above. 4s. apiece, £47 5s apie suited for v £29 to £45 farms and r for more r reputation horses here and will no foreign, a horses are One or oth value of a long until is that ma faked up a matter whi and their r The g foods is a One of t This mat There is as again year-old hundred dred pou somebod ed the y poultry-r and dom of his del It is that the Canada. apprecia the clim perhaps, their w claimed wool of f its quali cannot l the mar and mu this we rams to ing evid likewise sheep in If th from ou breeds g tion of of Cots shire. Dorset either maturi general the lon There a

tion and secure as enthusiastic adherents many who at present are at best lukewarm onlookers.

The scarcity of carriage horses in this country has naturally led breeders on the other side of the Atlantic to look around for animals which might supply the British desiderata. I believe it has now been pretty well proved that one of the finest carriage horses in the world is produced by crossing the American trotting mare with a well-selected English Hackney sire of the type of Langton Performer and Royal Danegelt. Both of these horses can be adversely criticised, but they have the essential properties of harness horses—are magnificent goers, and when judiciously mated cannot but leave carriage horses. It is not every Hackney stallion which will do for this purpose. I have a strong conviction that the ultra fashionable action possessed by horses like "Rosador" can never be utilized successfully in the production of carriage horses for everyday tear and wear. The type of horse wanted for good carriage work here is an animal bred as indicated, standing 16 hands, of a rich dark color—either bay, brown or chestnut—with few or no white markings, except perhaps a little on the forehead; age not less than five and not more than seven, well mouthed, well broken, with perfect eyesight, and free from vice. His weight should be not less than 1,300 lbs. He must combine the conformation of the English Hackney of the "Rosador" type with the action of the Langton Performer type and the speed and grit of the American trotter. A horse of this type would command almost any price in Glasgow, Liverpool, or London. The last named market would take as many horses of the type indicated as could be produced, at prices varying anywhere between £120 and £700. Such horses, however, seldom cross the Atlantic. The merchant princes of the towns on the East rn seaboard, from the St. Lawrence to the Mississippi, are just as able to pay down the money for such animals as are the princes of commerce and the aristocracy of the old world, and in Glasgow carriage horses from your side generally on sale, while they may suggest what might be never afford much encouragement for the belief that the kind of horses indicated are plentiful in Canada. As far as we know only one carriage horse yet imported has made the minimum price quoted above. It is possible one or two choice animals may have done so, but from £50 to £80 is more like the average going. The best sale of American and Canadian carriage horses ever held in Glasgow took place last Thursday, in Macdonald, Fraser & Co's yard. The highest price made was £147, for a splendid horse bred in Indiana. Strictly speaking, however, he was not a carriage horse, but an American trotting horse with a 2.20 record. The other prices did not exceed one-half of the above. Thirty-two of the best made an average of £67 4s. apiece, and thirty of the next grade made an average of £47 5s. apiece. These were States horses. Canadian horses suited for van or, as you call it, express work, made from £29 to £45 apiece. These prices refer to horses reared on farms and not branded. Ranch horses, branded, do not sell for more than from £15 to £25. On account of the evil reputation acquired by a shipment of Argentine branded horses here some years ago, all horses so marked are avoided, and will not command good prices. The great drawbacks in foreign, and especially American or Canadian, carriage horses are bad mouths, defective eyesight and docked tails. One or other of these defects will greatly depreciate the value of any foreign horse. The tails should always be left long until sold in this country. A bad feature of the trade is that many of the best of your horses are bought here, faked up and made to do duty as Irish horses. This is a matter which concerns the interests of breeders in America, and their representatives here should give it attention.

"SCOTLAND YET."

Sheep Talk.

BY J. M'CAIG, PETERBORO' CO., ONT.

The growth of public taste in the matter of foods is always in the direction of greater delicacy. One of the most marked changes in reference to this matter is that in regard to the matter of meats. There is a decided preference for younger meats, as against older and more matured ones. The two-year-old beef has supplanted the four-year-old; the hundred and sixty pound lean hog, the four hundred pound fat hog; the eight months old, and sometimes the eight weeks old, lamb has supplanted the year-old and two-year-old sheep; and the poultry-raiser is contributing to both the foreign and domestic meat supply a larger relative amount of his delicate goods than ever before.

It is plain, both from experience and theory, that the mutton breeds of sheep are the best for Canada. The Merinos are so few as to form no appreciable part of the sheep wealth of the country, the climate is too severe for them. It is likewise, perhaps, true that if they would be acclimated that their wool would deteriorate as to fineness. It is claimed that the vigor of our climate makes the wool of many of the breeds harsher, compared with its quality in England. All things considered, we cannot hope to be able to compete successfully in the markets for the most valuable classes of wool, and must make our mark in the mutton line. To this we seem well adapted, and the trade in mutton rams to the United States is one of the most striking evidences of the excellence of our breeds. It is likewise one of the most lucrative sides of the sheep industry.

If there is any further specialization to come from our first discrimination in favor of the mutton breeds generally, it would naturally be in the direction of choosing special classes from the whole list of Cotswold, Leicester, Lincoln, Oxford, Shropshire, Southdown, Hampshire, Suffolk, and Dorset breeds, and the choice would be dictated either by considerations of quality or of early maturity, or perhaps of both combined. It is generally conceded that the down breeds surpass the long-wooled breeds for quality of mutton. There are even considerable differences among the

various down breeds with regard to quality. An Oxford breeder would not seek to usurp the place admittedly held by the Southdown for fine texture and delicate flavor of meat; a Southdown breeder, on the other hand, would not claim to be able to produce as large a sheep as could be produced by perhaps any of the other down breeders. So long as the long-wooled breeds flourish in Canada there is not likely to be much advance in discrimination among the down breeds, and the use of these larger breeds—for example, the Cotswold—for producing a good grade mutton lamb on the fine wool breeds of the United States will ensure a steady market for these breeds for years to come.

There can be no doubt, however, but that the down breeds are relatively a much more important part of the sheep wealth of the country than they were some years ago. The growth of the breeding and importation of the Shropshire, a typical down breed, may be cited as evidence of this, and there is nothing to indicate that the invasion of the downs will not continue to spread. In this connection it is interesting to note that there are some well fixed and important types of English mutton sheep that have as yet not taken an appreciable hold of the Canadian sheep public, and these are the Dorsets, Hampshire, and Suffolk. The breeders of each of these classes in Ontario could probably be counted on the fingers of one hand. In the case of the Hampshires and Suffolks, at least, the number of breeders is small, only one of the former and two of the latter being known to the writer. In the case of two of the three breeds mentioned, two at least seem to have qualities that will stand them in good stead in the light of the growth of the demand for young meat. The Hampshires are said to be of excellent quality as to mutton, and to be very rapid growers for six months, that they surpass any of the breeds for size at this age. The Dorsets, likewise, are the sheep that are principally used for the production of early lambs in England. They are very prolific also, which is an important matter in a mutton sheep. A ewe should be able to provide for the lambs she throws. Nature should not be more profligate in increase than she is in provision for them.

Very frequently, however, a ewe with triplets cannot make ample provision. In the case of lambs for forcing it is not so necessary that the ewe should be able to provide all the sustenance required for her lambs, as a large part of the food of such lambs is given directly rather than through the ewe. Prolificacy is important in another way. The amount of meat furnished by a lamb at six or eight weeks is only half of what would be furnished at six months. In other words, less quantity requires greater numbers to prevent the depletion of flocks. The intensive feeding required for this trade is only the late extension of the change that came over cattle feeding some years ago and is already too long delayed. Sheep income with the average Canadian farmer has been regarded as adventitious and casual. The usual explanation given for keeping a flock of sheep is not stated directly to be that they yield large profit for labor and food invested, but that they are no trouble and that what they eat is never missed. The laissez faire (let-us-alone) system has not been found to answer well in other branches of farming, and there is no place for it in the sheep industry.

An extension of the importation of Downs may be confidently looked for. There is plenty of room in Canada for more Dorsets, Hampshires and Suffolks than we now have, and it seems not improbable that a strong position is assured for some of these breeds, on account of the qualities of prolificacy and early maturity which are generally conceded to them. Once the tide has set in, fashion will strengthen it. Men who have any of these breeds, and are building up nice flocks, should have hope that their time will come.

FARM.

The Forest and the Farm.

BY THOMAS SOUTHWORTH, CLERK OF FORESTRY FOR ONTARIO.

"I am satisfied I can raise more wheat from eighty-five acres on a hundred-acre farm than from the whole hundred acres," was the remark made to the writer a few days ago by a recently-elected member of the Legislature. We were discussing the question of the effect of forest growth on our farms, and paradoxical as his remark may sound, he was nearer the truth than at first sight might appear to be the case. If the farm happened to be surrounded by other farms comparatively well wooded, and if every acre of the hundred was first-class soil, under-intense cultivation it would probably pay better to buy fuel and timber from the neighbors than to plant part of the farm to trees. If, on the contrary, the surrounding farms were as bare of trees, as is the case in some neighborhoods in Ontario, thus failing to afford the protection to soil, water and climate that trees in masses afford, it would pay far better to put part of the farm in bush, no matter how rich the soil. Soil, heat and moisture are the elements that enter into the growth of farm crops. The soil can be aided by fertilizers; the temperature cannot be controlled, but the presence of forests has a great deal to do with the control of moisture, and consequently with the growing of farm crops.

The question of the influence of trees on the rainfall is still an unsettled one. I believe the

forests do influence the distribution of the rainfall, but it is not an established fact. This much is certain, however—they have a great influence in regulating the evaporation from the soil and in causing a gradual melting of the snow, thus preventing the spring floods and summer droughts. Snow does not drift in the woods as it does in the open fields; it lies deeper, and as it melts more slowly it soaks into the ground, following the roots of the trees and goes into the vast reservoir underneath the surface of the soil. The trees, too, intercept the winds and thereby check the too rapid evaporation from the open fields and prolong the moisture in the soil.

On an ordinary hundred-acre farm in Southern Ontario, I should consider the proper proportion of woodland to be about 25 acres. For this woodland, the crests and sides of hills and the poorer broken land should be used. There are not many farms on which there is not some land of this description. Under fair treatment this would yield 20 cords of fuel per year, with a reasonable amount of fence material and a few logs to be sawn into boards for building purposes. The fuel should be worth not less than \$2 a cord. This, with the value of the other timber, would make the net revenue of the bush fully \$50, or a yearly rental of \$2 an acre. This is for the wood product alone. If the bush is composed of sugar maple, hickory (shell bark), chestnut, butternut, white ash, elm, oak, pine and spruce, the direct cash returns will be much greater. Many farmers in Leeds County derive a considerable revenue from their sugar bush, and there is a growing market for nuts of different kinds.

If a farmer has already a wood lot in poor condition—that is, with the trees scattered and grass growing among them—he should first fence out the live stock. It is not profitable as pasture, and it cannot long be both pasture and bush. The poorer sorts, crooked and dead trees should be taken out. If the grass has grown to form a sod, young trees will need to be planted, as the tree seeds will not germinate freely on the sod. For this purpose young trees may be dug up where found and transplanted in early spring before the leaves are out or the sap has ceased to flow. Don't plant poles; young seedlings a foot high, or smaller, are best for this purpose, and will outstrip the slender poles with a small tuft of branches at the top, usually selected for this purpose. For roadside planting, where cows are allowed to run at large, it is advisable to plant trees whose leaves are beyond their reach, but they grow slowly for several years. Fill in the blanks in the woods with these transplants if there is no young growth coming up, and the grass will soon be killed out.

In case the wood lot is so situated on the farm that it does not afford protection from the north and west winds, and the neighbor's wood lot does not serve this purpose, it will pay to plant a wind-break or shelter belt. As this is not intended for timber purposes and it is essential to get it thick enough to check the wind as speedily as possible, there is possibly no better tree for the purpose than spruce. It grows rapidly, retains its branches close to the ground and soon makes a close hedge. It is well to plant two rows of trees, putting the trees say 24 feet apart, planting the next row say 12 feet distant, with the trees opposite the blank spaces in the other row, thus:

When the first row is sufficiently grown that the branches of the trees touch, one row may be removed for fuel. Trees may be obtained from nurserymen quite cheaply, but they can be obtained from the forest in most neighborhoods, and it is desirable to do so when possible. The smaller the young trees for transplanting the better, and they are better taken from the edge of the forest than those grown in heavy shade. The holes should be dug sufficiently wide to give room to the roots, and the roots should be well covered with good soil before tramping down. If the soil is not quite moist, water should be poured in and more soil put on over it to prevent baking of the ground. In early spring or late fall, however, this is not often necessary. Care should be taken in transplanting that the roots of the young trees do not get dry.

Mixtures of Grain for Green Fodder.

Since receiving a printed copy of the 10th annual report of the Ontario Agricultural and Experimental Union we recognize that a typographical inaccuracy occurred in our report under the above heading published in March 1st issue of the FARMER'S ADVOCATE, which should have read as follows:

Table with 3 columns: Mixture, Com. Value, Tons Green Crop per Acre. Rows include Oats, Peas, and Tares in various combinations.

The Siberian oat, Prussian blue peas and common tares or vetches were used for the experiment. The comparative values expressed by 91, 100, 77 represent the estimate by experimenters, all things taken into consideration.

In addition to the enormous supply of home-laid eggs Great Britain imports nearly \$15,000,000 worth each year.

Plan of Round Barn.

BY D. P. L. CAMPBELL, PRESOTT CO., ONT.

The rectangular form of silo is rapidly giving way to the round, the latter being better and cheaper. In barn building, however, the round form does not find the favor it is entitled to, for not only is it cheaper to build, but much less liable to be damaged by storms. Two reasons may be given why so few round barns are to be seen in passing through the country: First, the supposed difficulty of building circular walls; second, the waste of room. With regard to the first, it will be found that a circular wall can be constructed without any real difficulty, as the sills and plates are easily secured by sawing slightly crooked logs into two-inch thicknesses, and by laying a pattern on these and marking them they can be cut with a narrow hand saw. Then place two thicknesses on foundation wall so as to break joints and spike together. Next comes studding, 2 1/2 x 5 inches and 8 feet long, toe-nailed, plumbed and stayed. On top of these place two more thicknesses of planks and spike as before. The ends of beams over basements are laid on them. If the siding is to be laid on horizontally, it can be nailed to the studs; but as it will resist the influences of the weather better by being perpendicular, it can be done by nailing scantling, 1 1/2 x 2 inches, horizontally on outside of studding every four feet. To these nail the siding. Next, for a wall 24 feet high, take 2 x 4 scantlings 16 feet long; toe-nail on top of first stage, plumb and stay, and proceed with siding as before. Spike on plates and the wall is ready for the roof. Now make a circle half the diameter of barn by bending and nailing together four thicknesses of 1 x 4 inch lumber. Support this on posts half the pitch of the roof to serve as a purline plate.

The sarking consists of strips one inch square and placed at a distance apart equal to the length of shingle exposed to the weather, which will be about five inches from center to center.

By examining the accompanying plan it will be seen that there will not necessarily be any more waste space than in any other form, as the irregular space is devoted to feed room.

At the same time the plan affords considerable elasticity, which can be modified to suit circumstances and requirements. For instance, if more cattle stalls are required they can be arranged to replace box stall and extend across the building, cutting off part of roof cellar, leaving a passage opposite sheep alley. The advantages of two silos are recognized, and the roof cellar can be filled from floor above. The dotted line from water tank represents water pipe with taps (X) convenient to water animals or dampen feed. The tank is placed so as to avoid freezing.

Now, as to cost, it will be found much cheaper than the rectangular form. Let us compare the two: A circle 75 feet in diameter represents an area of 4,418 square feet, which would require a rectangle of a little more than 55 x 80 feet.

	Length of Wall.	Feet of Siding.	Area of Roof.
Circle	235.57	7,542	5,178
Rectangle	270	9,410	5,890

Amount of material less required: 1,867 feet of siding; sarking, 4,800; shingles, 712. While for the frame of a circular barn a few logs would provide scantlings enough, the frame timber of a rectangular barn would make a raft.

A Valuable Lesson in Forest Preservation.

To the Editor FARMER'S ADVOCATE: SIR,—I have noticed this winter more than ever before in driving through the country how thin most of the blocks of timber are getting. Many are grass-grown and the timber in consequence is not only thin, but is unthrifty and dying fast. Quite a number of farmers in this section are now using coal for heating purposes and wood is used in the cookstove only. This will make the wood spin out a little longer. But even where that is done it is only a question of time, and only a short time, until many farms will be completely bare of timber. A few are bare now, and no wonder, for in most cases no thought has been given to its preservation. Whether it would pay to make any effort in that direction seems doubtful to most people. A few farmers, however, that I know have fenced up their woods and kept cattle out, which is about all the care that forests need. If that is done the young timber will have leave to grow, grass will be choked out, an even and heavy coat of leaves will cover the ground each year and the larger trees will be healthy. In the woods on my farm no cattle have been allowed to run for over twenty years. In places where the old timber was scanty there is now a dense thicket of young trees, many of them forty feet high. Where the old timber was thick the young stuff did not make much show, but the whole grove is now exceedingly

thrifty, so thrifty indeed that there is scarcely ever a tree blown down and we have to cut for firewood trees on which it is hard to find a dead limb. Another effect has followed. Leeks, coltsfoot, bloodroot, maidenhair fern, snowdrops and many other kinds of plants which used to grow in the woods, but were thought to be extinct, have revived, and with the harder wood plants make a beautiful show in spring. The place has come to be quite a resort—perhaps because the sight of a piece of woods in a natural state is a rarity now. It possesses a natural beauty and is as truly a source of pleasure as the elaborately kept grounds of a suburban residence. We look at it in this way: If a city gentleman will spend hundreds of dollars each year paying gardeners to keep his grounds in order, why should not we enjoy the luxury of a place as fine practically without any outlay?

In addition to preserving trees it is well to plant out, especially on the roadside—not too close together, about four rods apart is near enough. I am not so very much in favor of windbreaks, especially around the house—they obstruct the view so.

As to the best time to plant trees, my father, who was noted for his success in getting trees to grow, used to plant as soon as possible after seeding, evergreens as well as the others.

We found that rather large trees cut well back grow better than smaller ones. This applies to maples and cedars; never tried cutting back pines. Pines taken from a swamp grow better than those from high land—we supposed on account of having no deep roots.

A great deal of the success attending tree planting depends on after care. A good mulch of straw, sawdust or swamp muck is excellent. A plantation of Norway spruce that grew the fastest of any I ever saw were simply kept thoroughly hood. Above all, keep cattle off. Grass and cattle are the enemies of trees.

Middlesex Co., Ont.

T. BARR.

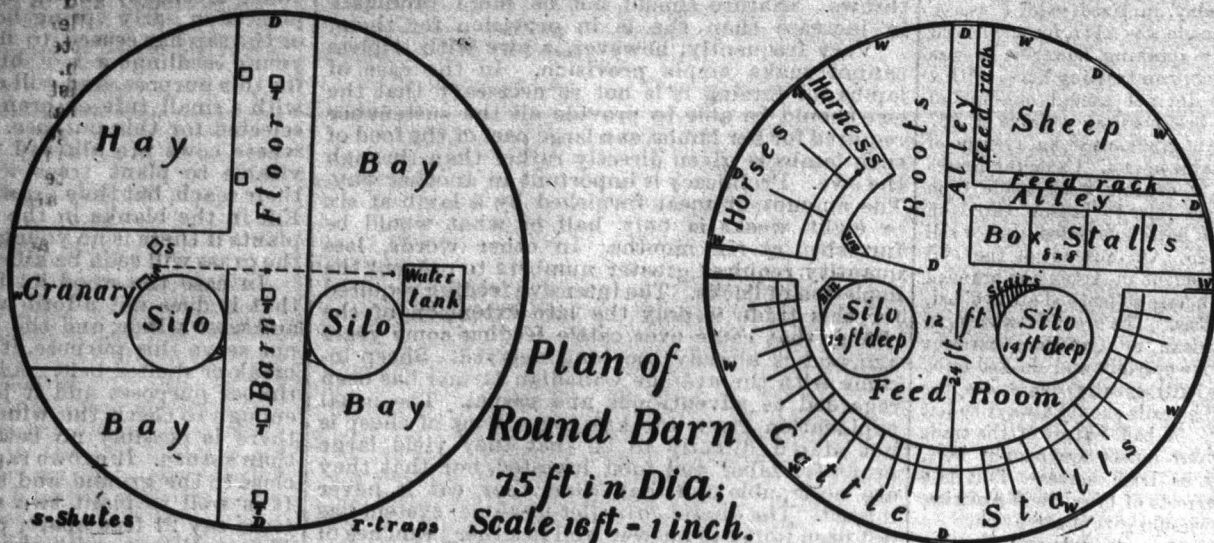
in his wood lot and to tramp out the seedlings. As it is upon the young growth that the future supply depends, every possible advantage should be given them.

I certainly favor windbreaks and feel the need of one greatly as a shelter to my buildings. Here we would require them on the north and west. I would prefer evergreen trees—hemlock, spruce or fir—as being of dense growth they offer more resistance to the wind. As the closer a windbreak is to that which is to be sheltered the more protection it affords, I would plant as close as convenience would allow. A windbreak should consist of several rows of trees so placed that each succeeding row fills the space between those of the row preceding it. It should be planted thickly; about seven feet apart would, I think, be a good distance, and as the trees grow large they could be thinned out. I think our native trees would do very well without any particular preparation or after cultivation of the ground, but a quicker growth would be obtained if the ground were kept clean and well on tivated. The best time for planting is the early spring before growth starts.

Trees could with advantage be planted along the road, line and division fences, upon the lawn, and upon all rocky and broken ground. If intended for purely ornamental purposes a number of varieties should be planted and good distances left between the trees—about 30 feet. If for purposes of utility they may be planted very much thicker, thereby insuring a taller and straighter growth.

If care is exercised in their removal I think quite as good success can be had with trees taken from the wood lot as with those bought from the nursery. I think the greatest cause of failure with such trees is that too large trees are chosen and that they are not pruned closely enough when set out. A small tree five or six feet high will give better satisfaction than one of ten or twelve feet, and the pruning knife should be freely used on the head. A forest tree will require much closer pruning than one from the nursery. The holes in which they are to be set should be prepared beforehand, and as the trees will not have to be carried far, as much root as possible should be taken up with them, and they should be planted immediately before the roots have a chance to dry. Any of our wild trees may be successfully transplanted in the spring before growth starts.

A good way to prepare trees for removal is to set them the year previous, prune back the tops somewhat and dig a trench around the tree, cutting off all lateral roots, then throw the earth back into the trench again. This will encourage a new growth of roots close to the trunk and they can be moved with the tree. Evergreens can be planted during August, and it is a good plan in removing them to take up a ball of earth with them so that the roots may be disturbed as little as possible. It is a good plan to thoroughly water a tree immediately upon setting it out, as the water will carry the soil into the crevices between the roots and help to compact the earth around them, but beyond this, except in cases of severe drouth, I do not think watering is necessary. A mulch of leaves, straw or coarse manure will conserve the moisture and check the growth of grass, thereby enabling the tree to get the full benefit of all the plant food the soil contains.



Plan of Round Barn 75 ft in Dia; Scale 1/8 in = 1 inch.

Tree Planting in Nova Scotia.

BY JOHN GREGORY, ANTIAGONISHER CO., N. S.

The subject of tree-planting is one which we in this part of the country have never been called upon to consider, as all, or nearly all, of our farms have a good extent of woodland. The tendency is to waste rather than consume. Although as yet we have not felt called upon to protect or re-plant our woodland, there is great room for improvement in the planting of ornamental trees and windbreaks on the cultivated portions of the farm. As a general rule, the land around the buildings is absolutely destitute of trees. In a few cases there are some apple trees, and in a few more, trees that have been planted for ornament, but in most cases the buildings stand naked and bare. In the western part of the province more has been done in the planting of ornamental trees than here.

Unless a farm has woodland enough to supply the house with fuel and the farm with fencing, I cannot see that a small lot is of any benefit otherwise than that it may add to the beauty of the place. In order to do this the wood lot must be just so large that the annual growth will equal the annual cut, and an area equal to that cut must be planted each year. The acreage required to fulfil these conditions will depend upon the kind and durability of the wood. In the hard woods used for fuel, not much difference will be noticed, but in the soft woods used for fencing the difference will be very great. Cedar or pine will last a great many years, hemlock not nearly so long, while spruce and fir will last but a very short time. With woods of good quality and well cared for, I should think about fifteen acres should supply a hundred-acre farm. The difference in value of a farm with or without wood would depend greatly upon its situation. If in a district where wood was cheap, the lack of wood upon a farm would not greatly lessen its value. Standing wood can be bought here for eight dollars per acre, so I do not think a farm with a proper proportion of wood would sell for more than one dollar per acre more than if it had none.

Where wood lots are small, they will need careful treatment if they are to continue to supply the annual demand that will be made upon them. The annual wood supply will then become as much a matter of care and attention as any other crop upon the farm. As no good farmer would turn his stock into his meadows to eat down the new growth of grass, neither will he allow them to strip the young trees

of the year previous, prune back the tops somewhat and dig a trench around the tree, cutting off all lateral roots, then throw the earth back into the trench again. This will encourage a new growth of roots close to the trunk and they can be moved with the tree. Evergreens can be planted during August, and it is a good plan in removing them to take up a ball of earth with them so that the roots may be disturbed as little as possible. It is a good plan to thoroughly water a tree immediately upon setting it out, as the water will carry the soil into the crevices between the roots and help to compact the earth around them, but beyond this, except in cases of severe drouth, I do not think watering is necessary. A mulch of leaves, straw or coarse manure will conserve the moisture and check the growth of grass, thereby enabling the tree to get the full benefit of all the plant food the soil contains.

Tree Planting for Pleasure and Profit.

"A country without woods is a house without a roof. No peace there! Sun, wind, rain and cold keep everyone in a turmoil."

Every winter most of us make great plans for the following spring, but in the multitude of necessary daily duties those things which are not of immediate necessity are overlooked until it is too late for that season. So it goes on from year to year, and the farm and farmhouse which might have been made more valuable and more homelike by the judicious planting of trees, shrubs and flowers, is, from this point of view, at the end of say ten or fifteen years, usually in about the same condition as it was at the beginning.

Everyone knows that no man is more busy than the average farmer, in spring, and while he is not quite so much rushed in autumn, he is, with the little assistance he can afford, very seldom idle.

It seems to me, however, that the two main causes why more planting is not done on the farm are, 1st, that farmers do not think about doing it at all, and 2nd, that too much is planned beforehand, so that when spring comes, and everyone is busy, tree-planting on an extensive scale is out of the question, and is dropped altogether. If a little were actually done every year, the result would soon be so apparent that planting would be carried on more extensively from year to year.

Why should not each farmer have his "Arbor Day," during which he could do some permanent planting on his place? Native trees and shrubs are usually abundant somewhere in nearly every farmer's vicinity, but if these cannot be got, fine nursery-grown trees can now be had for very little. Better plant one tree than none at all.

The principal reasons why a farmer should grow trees on his farm are that he may have them for fuel, timber, windbreaks, ornaments for the home grounds and avenue purposes, while at the same time there will be produced fruit, nuts and syrup,

either for... no place... the annual... Central

Root Cro

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either for home use or market. They will also increase the value of the property and help to make "no place like home."

The results that we have had in growing trees at the Central Experimental Farm may be found in the annual reports of the farms.

W. T. MACOUN, Horticulturist,
Central Exp. Farm, Ottawa.

Root Growing — Thirty Years' Experience.

BY CHAS. C. FORD, ELGIN CO., ONT.

We have grown turnips for the last 30 years, and must say we have had excellent success. We have found a gravelly or sandy loam the best and most productive soil for turnips; as on clay loam or black sand they are almost sure to grow too much top and neck, and the root is invariably small and of poor quality. We have had excellent crops of turnips on very light sand. As for mangels and carrots the heavy soil is by far the most productive, but carrots can be grown successfully on medium soil as well; clay loam is by far the easiest tilled and cleaned, but carrots may be found more difficult to harvest on clay, as the earth is generally hard and dry at that period, and if wet, the soil adheres to the roots. Mangels also do best on heavy soil. We have tried them on all kinds of soil, but the heavy soil is by far the best, and I consider it the most easily and thoroughly cleaned and kept clean, and that is the secret of success, combined with the right soil, in root-growing.

We generally fall plow our root ground, and apply manure in the spring at the rate of 25 to 30 tons per acre; we spread it evenly, and see we have as well-rotted manure as is available, and work it under—not too deeply—with gang plow or disk harrow. For turnips we work our ground every week until sown.

We sow our carrots and mangels about the first of May in drills 30 inches apart so as to enable us to cultivate with a horse. We use a Planet Jr. drill, and sow carrots at the rate of 1 to 2 lbs. per acre; mangels, 10 lbs.; and turnips, 2 to 3 lbs. By sowing immediately after rain or a day or two before we have had usually quick and even germination of seed. We do not approve of soaking the seed unless it is an unusually dry season. The Improved Short White horse carrot is the only carrot worth sowing; all other varieties fade to insignificance beside them. Mangels—The Mammoth Long Red and Yellow Globe are both good croppers and keepers. We usually sow the sugar beet; they are much better keepers and richer to feed. Turnips—Mammoth Purple-top swede and Skirving's Purple-top are the best croppers, keepers and feeders in the turnip kingdom, and also in the root-feeding localities.

Flat Cultivation for Roots.

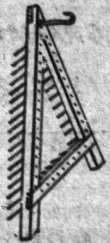
BY JAMES ENDON, GLENHARRY CO., ONT.

I am not particular in selection of a field for the root crop. Most people seem to prefer a stubble, but the best crops of roots I grow are on a pasture sod plowed in latter part of August and well disked and harrowed before fall sets in, top dressed in following winter with twenty-five loads of manure per acre; this is slightly plowed in, and sometimes, if in a hurry, we disk it over instead of plowing it. I used to spend considerable time making a very fine tith or seed-bed, but do not spend so much time now on preparation of seed-bed, rather preferring to spend the extra time on the plants after they are up. We mark our rows two and a half feet apart with a two-horse marker, and sow with a one-horse Queen planter and sower. This is a heavy machine, quite a roller on it, leaving a well-defined mark; so should we have a long cold spell after sowing, like last spring, the weeds are sure to get a start, so we just hitch up a horse to little V-shaped harrow. (See illustration.) Here is where the seed roller marks come in. We can work to within two inches of the seed row, and destroy every weed in sight. Sometimes I put in two shorter spikes in each wing of harrow, and this will scratch lightly over the seed, breaking the crust, allowing the coming plants to get air and warmth. Cultivate from one and a half to two inches the first couple of times, then gradually increase the depth, which has the tendency to raise the drill somewhat, which I consider needful on level cultivation. There is no limit to the number of times we cultivate; would cultivate twice every week for the first two months if we had time to do so; and no work would pay better. We leave three inches between carrots, eight to ten inches between turnips, and about the same distance for mangels, although I have often left Tankard mangels closer, and they would shoulder out from each other, and grow quite a size, as they have small tops.

After a test of a great many varieties, I have selected, in carrots, Danvers Half-long, a good keeper, very juicy and sweet. I also sow one-half acre of the White Voeges for fall feeding, as they are at their best then. This year I shall sow only Golden Tankard and Intermediate Yellow mangels; they are the two most satisfactory mangels I have found so far. In turnips I sow the Great Mogul swede, an English turnip, very juicy, a firm, good keeper, and lacking in the rank flavor so many kinds have. Can feed them quite liberally to

milch cows, with no bad flavor in the milk. I also think highly of Simmers' Improved Champion Purple-top turnip; it is mild in flavor, smooth and firm, and comes out in spring as fresh as when put up in the fall. At one time I liked a good many others, but of late years I am after quality first, and endeavor by manure and plenty of cultivation to get the size. I always sow salt, one sack to acre, on root land, as I am positive it is obnoxious to grubs, etc., that prey on root plants. It benefits the soil besides.

As to the feeding value of roots, and what each is best adapted for, I would rather have mangels for milch cows; carrots for horses and swine; turnips for beef and young growing cattle, and also for sheep. I am making a test of raw versus boiled roots for swine. I have made the test on carrots alone, and as far as present results show would never boil or cook carrots for swine. I have made the cheapest pork I ever made this winter on raw Danvers carrots, with an addition of milk, a little mixed meal and corn on cob to wind up the day's feeding.



The side pieces of cultivator are 3 feet long, 2 1/2 inches wide, 2 inches thick. The crosspiece can be made to widen or be made stationary. Every 2 inches apart holes are bored with a heavy slant backwards, and 6-inch wire spikes driven in. The slope to teeth will keep it from clogging. The draft wants to be raised about 7 or 8 inches; a pair of handles are bolted on, and with a steady horse you have the best tool on earth for the first cultivation of the root crop.

Root Crops and their Feeding Values.

BY W. A. HALE, SHELBURNE CO., P. Q.

In regard to the feeding values of the various root crops, I would say, first, that an average result of analyses by many of the most reliable scientists, of the feeding values of the different root crops by weight is as follows: Taking good meadow hay at 10, it would take of carrots 23, of mangels 47, of swede turnips 52. For horses, carrots seem especially suited, not alone for their feeding value, but as correctives as well,



JAS. B. GOVENLOCK'S \$1,000 BARN.

especially in winter. I have fed mangels to working horses (half a bushel a day), and though they were fat and sleek and worked well, they perspired so freely that for our climate and ordinary care I felt it was not safe. For fattening cattle and milch cows where the feeding is properly done—just after milking, for turnips—and the mangels cleaned out, I consider turnips of more value than mangels, but it is often more a question of which our soil is best suited for, and as to which yields the largest crops. Scotland outdoes England in turnips, yet cannot grow mangels successfully, while in Ireland on the drained bogs the long red mangel produces enormous crops.

Carrots, either white or red, give rich yellow butter in winter, with unsurpassed flavor, and where soil suits and their cultivation is understood, I prefer carrots to either turnips (swedes) or mangels. Owing, it is supposed, to the large quantity of common salt contained in turnips and mangels, the latter when fed largely to milch cows have the effect of reducing the flow of milk; and the former of causing abortion in ewes if fed freely towards lambing time, or if not abortion the lambs are apt to be small and feeble. I once had a flock of ewes in grand order on turnips, that lost 70 per cent. of their lambs by abortion, and supposing they needed more turnips, I added to their troubles by increasing their roots and their peculiar weakness at the same time.

Carrots contain 80 per cent. of water, mangels 85, and swede turnips 89, but as that practical authority, Jenner-Fust, jokingly says, "the water in turnips is not like other water." He refers to the beneficial effects of feeding roots with dry feed as an assistant to digestion and assimilation, and a corrective quite as much as a nutrient. Who has not seen fowls when fed dry grain wander off even in the dusk to eat a proper equivalent of grass? And yet they could have eaten the grass alone had they so desired. There is in many cases men grow fat and strong from drinking a glass of it every morning. It acts as a corrective, and so in a way with roots.

For growing roots, first I prefer to plow down clover sod in August, using a skim coultter, and if the furrow slices show openings where the skim coultter cuts, then press down with roller, or disk harrow with disks running straight, or harrow lightly. Next to this I would take stubble land in ordinary rotation. In spring, disk harrow, spread manure if for level culture, plow, disk harrow,

cross harrow with common iron harrow, roll, sow with Planet Jr. hand seed drill.

If for drills, open with double moldboard plow 30 inches apart, run Planet Jr. cultivator with three teeth in bottom of drills, spread manure from carts, cover with double moldboard plow, run same cultivator in open furrow; roll drills lengthwise for carrots, sow double row on top of each drill nine inches apart. I would not suggest sowing cabbage seed with the roots; they would shade too many carrots. The mangel ground probably would not suit them for sure heading. If with late swedes they would not mature, and even if early, they would not yield so sure a crop as swedes, and would be far more difficult to store in winter.

Will Corn Displace Roots?

BY ELMER LICK, ONTARIO CO., ONT.

In considering the question of root-growing, I am of the opinion that in nearly all sections of Ontario it will soon be accepted as the best practice to almost discard roots and rely upon the corn crop to supply succulent food for winter months. This crop must certainly be stored in the silo, then you have a cheaper and more nutritious food than can be secured grown with either mangels, carrots or turnips. Our practice has been to drop mangels entirely. We like a few carrots for horses, also turnips for young stock, as they contain more bone material. We now grow about two acres turnips and twenty of corn, about twelve of the last named for silo.

For our turnips we plow sod, usually clover, either in fall or early spring. Spring-tooth thoroughly as early as convenient; if the plowing was only about four inches deep the sod can be torn to pieces, then apply twenty loads per acre manure, plow quite deeply and work with harrows or cultivator, according as required to keep down all weeds and grass until time to sow. Sometimes we plow again before ridging, sometimes it seems useless to do so. We ridge with common plow about thirty inches wide, and sow with turnip drill from one pound up to two pounds per acre; the lesser quantity if land is moist and fine, and more if rough, cloddy and dry. Nearly always we follow with the field roller, so that the drills will be more compact and flatter. We like to sow about June 20th. If the seed can have a nice moist soil to lie in, and gets a shower of rain, there is no trouble about its germinating. The best we can do is to keep the soil thoroughly cultivated, and so retain the moisture. We are growing Elephant or Monarch altogether now. But I can't help adding that the best turnip is a thrifty corn plant with a nice ear of nearly ripe corn on it placed in a good silo. There is less work about it and more pay.

Growing Corn.

BY JAMES B. MUIR, BRUCE CO., ONT.

Clover sod plowed under after the first crop has been cut makes one of the very best crops to follow with corn. We plow in the fall, top dress with manure either during winter or just previous to planting and work in the surface thoroughly until there is a fine seed-bed about three inches deep and plant the corn in this. I consider clover is one of the very best fertilizers at the farmer's disposal, and I am sowing clover seed with all my white-strawed crops.

Compton's Early, Leaming, and Mammoth Cuban are the varieties generally grown for ensilage, and Stowell's Evergreen for fodder in autumn. We usually plant in drills, shutting off the seed from four spouts, which leaves the drills twenty-eight inches apart, which does very well for the smaller varieties of corn. We usually count on sowing half a bushel of corn per acre.

We harrow the corn land two or three times after planting: once just as the corn begins to come through, then if the land does not smother up the corn too much, or the harrow tear too much of it out, once or twice after it is up. But we begin to use the scuffler very soon after the rows are well defined, at first pretty deep, say two and one-half to three inches, and pretty close up to the drill, then shallower each time, never cutting more than enough to just make a nice mulch on the surface after the roots once spread out between the drills. We keep the scuffler going whenever it is required; always after rains, and if the surface begins to crack, which shows that evaporation is going on.

Growing Corn to Husk.

BY THOS. F. HART, OXFORD CO., ONT.

As corn is a hoe crop and tends to clean the ground, it is considered advisable to choose the field having the most thistles and weeds, generally after a couple of crops of oats. This plan may not give the largest yield, but helps to keep the farm clean. If the corn follows oats, the land is plowed in the fall and manure drawn out in the winter or early spring, if convenient, and deposited in large heaps on knolls or poor spots, to be further distributed and spread over the land as soon as the spring seeding is done. About twenty loads per acre is considered a good coat. Harrowing the field at odd times during seeding will keep the grass and weeds in check, and also level the land, making it easier to plow. Immediately after the manure is spread the land is plowed just deep

enough to cover the manure well, then harrowed and rolled, when it is ready for the marker.

I have not tried many varieties of corn, as our land is heavy clay and can only be worked when it is dry. It is generally June before we plant, therefore the earliest maturing varieties are the most suitable, and the common yellow has proved the earliest; White Flint, King Phillip and Smutnose yielding well, but not ripening before frost comes. I only grow a crop to husk, and plant in hills three feet apart each way, requiring about a peck of seed per acre.

As to cultivation, we sometimes put the harrow on just after the crop is up; then a one-horse cultivator is started as soon as the rows can be seen readily, adjusting it so as to draw the earth away from the small plants. It is gone through once each way, when it is hoed by hand around each hill, removing all weeds, and leaving only four or five plants. After this keep the horse going frequently, and as soon as the plants are up about six inches high the cultivator teeth are reversed so as to throw the earth towards the plants, and the work is continued in this way until the corn is too high for the horse to pass between the rows.

A \$1,000 Barn.

To the Editor FARMER'S ADVOCATE:

I have wanted to write to you for a long time, but through fear of anyone saying I had blown my own horn I always hesitated, but after receiving the January 15th issue I made up my mind to have one "toot" anyway. My excuse is the hope that the plan of my barn and the explanation may help someone who is going to build. I think Mr. Hewitt's letter a very good one. My barn is not an awfully big one, but I find it sufficient for a quarter-section, which fortunately is all I have, as I am a believer in working a small farm well in preference to a half-section and working it as some do. I know I make as many dollars as some who have many more acres. Well, the barn is 52 x 60 feet, having a 10-foot wing over front, leaving it all open under, and the stable part is 40 x 60 inside stone wall, which is 9 feet high; outside posts of barn are 14 feet under the plate, and studded with 2 x 6 inch stuff 2 feet apart all round; 6-inch siding, tongued and grooved and dressed, cost \$20 per 1,000 feet. The whole barn cost \$810 cash. I did all the work on stables and granary, and put on doors and windows, trapdoors, stairs, and ventilators. I believe, counting all my own time and board for men, it would run the cost pretty close on a \$1,000. I have boxes, 3 x 2 1/2 feet, running from floor right up to the top, and have hinged doors on mow side at different heights for putting down feed; they are directly over passages below. I have a hinged door to turn up on under side of floor, which I can open or shut as required. I use these for ventilating, and have small boxes, 4 x 5 inches, built into stone wall at ends of passages about a foot up from the ground, which can be opened or closed as needed for fresh air. Some said inside of box (ventilator) would all coat over with frost and run down, but I don't find it so. When under door is open it is too warm, and when shut there is nothing to freeze, but should door at bottom be left open all night on a frosty night it would be rimed over. Generally keep temperature about 45 degrees. (Is that warm enough for cattle?)

[For milking cows that are not turned out of doors very much a temperature of 50° would probably be better, but for young and dry cattle turned out every day 45° should be about right temperature at which to keep cattle stable.—Ed.]

I will enclose plan of stable and barn. I think the ADVOCATE is the best paper printed for us farmers at the price. Why, one issue is often worth subscription price. JAS. B. GOVENLOCK. Lausdowne Municipality, Man.

Windmill Power Capacity.

Mr. S. D. McCurdy, Elgin Co., Ont., writes expressing astonishment at the claims made by some of our correspondents regarding what they could accomplish with power windmills. Especial exception is taken to the claims of Mr. A. E. Hodgert, of Perth Co., Ont., that his 14-foot mill and Maple Leaf grinder crushed oats at the rate of 60 bushels per hour, while with his (Mr. McCurdy's) similar mill and power he is able to grind only 10 bushels per hour at the most favorable time.

We learn from Mr. Hodgert that the 60-bushel rate was made in a fairly strong wind, by starting the mill and grinding three bushels of oats, fit for cattle chop, in three minutes.

Since our series of articles on farm powers appeared in January, we have made inquiries from several owners of windmills, and are surprised to learn of results varying almost as widely as those of Messrs. McCurdy and Hodgert, and the conclusion that we have come to is that the location, height above ridge, and adjustment of the wind-

mill has a very great influence upon its capacity for work. A bush or high bank a hundred rods away may have a marked influence upon the currents of air. We are led to believe that there is still much to learn regarding air currents—the source of power—so that we cannot judge other mills from the work done by our own.

Homemade Horse Power Construction.

STONEDIKE, Ontario Co.:—"In an issue of the FARMER'S ADVOCATE there was a description of a homemade horse power with the driving wheel at TOP of axle. If any readers who have tried that style of power would give me information through these columns on the following points, I shall feel much obliged. The information might probably help others also. 1. What diameter of wheel do you find most convenient? 2. What is the length

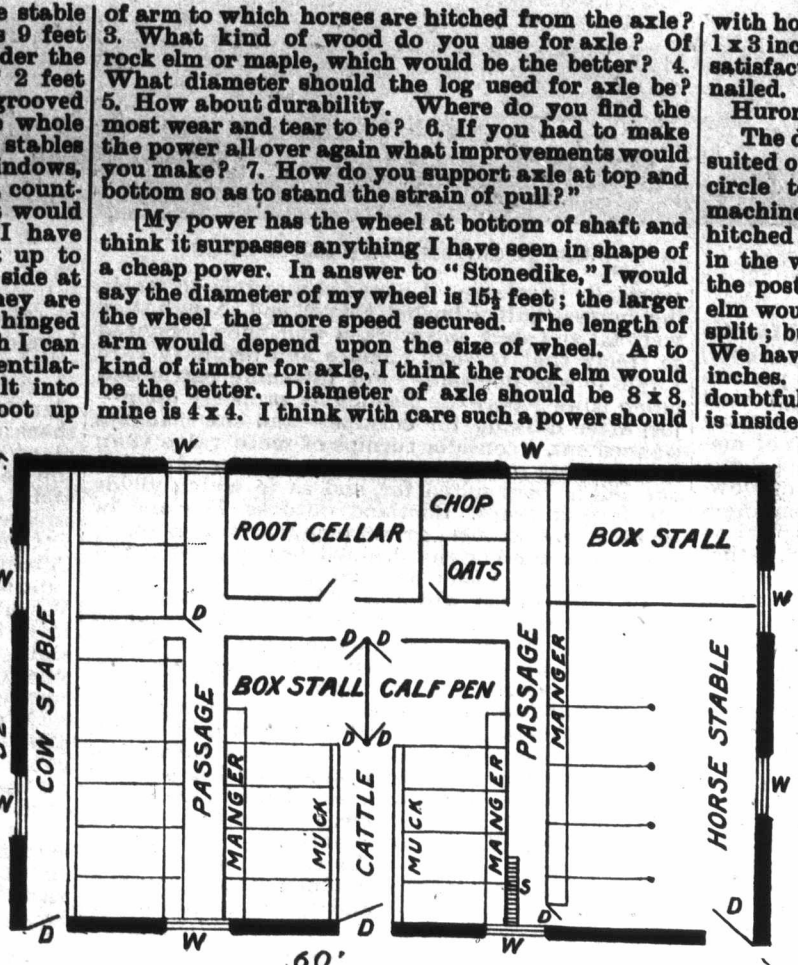
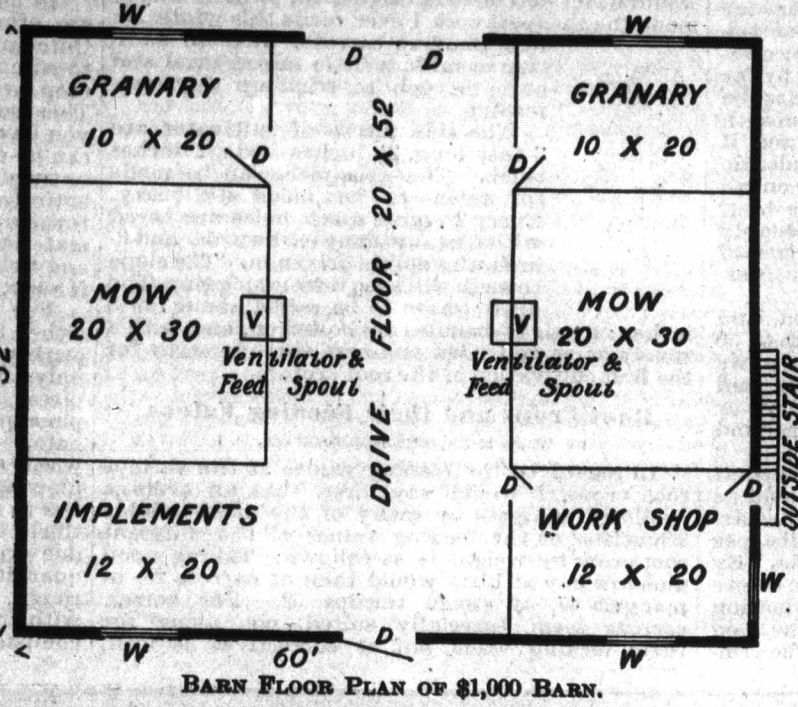
with wheel at top of axle, as the horse or horses are hitched direct to the arm where the rim with drive-chain is. 1. We find 18 feet a very convenient sized wheel where a person has room, as on a double threshing floor, or one end of mow, and if room does not permit of that size, 16 feet will answer. With an 18-foot wheel a horse will make about 5 1/2 revolutions per minute, and we have our box geared to make about 250 revolutions per minute. It is a large sized one and we just use one horse. 2. We hitch whiffletree to arm about 11 inches from outside of rim. 3. One axle is rock elm, the other is beech, but any sort of wood that is handy will do for one of these, as I got an old buggy hub, one that has the bands up to the spokes and are riveted together (the kind that is commonly used now), and took the long band off, and made a small axle on the bottom end so that this band

would fit it tight, and drove the band on, and put in four screw nails in the rivet holes to be sure it would not move, so that there is no danger of it wearing out at the bottom end, where all the weight and strain is, and it runs a great deal easier with it on. For arms we have birch 2 x 6 inches, and for rim good elm, 1 1/2 x 7 1/2 inches, with a half inch board in center, bolted together with 3 bolts, with washers under head and nut. 4. We took logs to the mill and got them cut 11 inches square at one end, and 4 inches square at the top; we made the axle octagon, from 18 inches from bottom to top, with axle at top, and planed it to look neater and lighter to handle. 5. We have not found any wear so far. The only part I see at all likely to wear out is a piece of hardwood plank 14 inches square, with a hole in it for the axle to work in and on, and chain or rope, but that is very slight. 6. As regards making power over again, the only improvement I would make would be to plane the arms, and the lumber that is in the rim on one side, that would be for the top and bottom sides of rim, and paint the whole thing. 7. We support the axle at the top by fastening a plank with hole in it to the beams for top of axle to work in, and the bottom with a piece of hardwood plank 14 inches square with hole in center, kept in place by nailing a strip 1 x 3 inches to floor around it, and find it gives good satisfaction, as it never moves; the plank is not nailed. FRANCIS A. HAYDEN. Huron Co., Ont.

The diameter of our wheel is 16 feet, which best suited our barn. This size gives the horse a larger circle to travel, and gives more speed to the machinery. The arm to which the horses are hitched is of the same length as the main scantlings in the wheel, viz., 16 feet, or 8 feet on each side of the post. The axle of our wheel is beech. Rock elm would be better than maple, being harder to split; but of all I would prefer birch, if procurable. We have a stick of square timber for axle 14 x 14 inches. When I saw the word "durability," I was doubtful whether you understood that the wheel is inside the barn and not exposed to weather; or whether it referred to the wear and tear of the machine. I have seen these wheels placed outside and held in place by braces at the top. Well, there is no wear and tear of any account if the horses are steady. As for improvements, we have not found any of much account that could be made, unless it were to have a grooved wheel instead of the notched scantlings. The axle is supported at the top by an iron gudgeon driven into the top of the log and passing into a hole in an elm plank bolted to two sleepers or beams under the mow. It must be seen that these are held firmly in place. At the bottom also there is an iron gudgeon driven into the log; and this passes into another plank, which is trimmed off at each end and side to prevent too much friction from the weight of the post and wheel. This plank is also bolted firmly to the floor. The gudgeons are one and a quarter inches in diameter and about a foot long. We are well pleased with our wheel and have but little bother with it. The floor on which the horse travels would be better to be double planked and the top ones nailed firmly in place. HOWARD MILLS. Grey Co., Ont.]

An Ohio Law on Barb Wire.

In Ohio people are not allowed to build line fences of barbed wire without the consent of the parties on adjoining land. The following is an extract from the Revised Statutes of that State dealing with this matter: "No person or corporation shall construct or cause to be constructed, in whole or in part, a partition fence from barbed wire, unless the written consent of the owner or lessee for three or more years of the premises be obtained. Whoever constructs or causes to be constructed a barbed wire partition fence without the consent contemplated in this section shall be fined not more than one hundred dollars (\$100) nor less than ten dollars (\$10)."

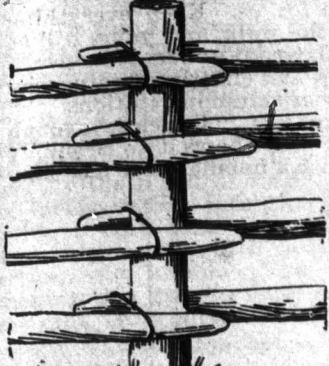


last 15 or 20 years. As to wear and tear, there is but very little providing everything is kept in good order. I do not know of any improvement, unless the rim would be made 7 or 8 inches wide instead of 4 inches; the wider the rim the less apt to sag between the arms. My axle is supported at top and bottom with pieces of white ash about 1 foot long and 8 inches wide, 1 1/2 inches thick at the bottom. It is fastened to floor with 3-inch wood screws. At top with same sized piece as at the bottom, nailed to a piece of plank long enough to reach from one overlay to the other. CAMLY CHARLTON. Elgin Co., Ont.

Our powers have wheel at the bottom and not top of axle, as it is handier to put the chain or rope on. I have one driven with a chain, and my brother one driven with a rope. We find the chain gives a little better satisfaction, as it does not expand or contract as a rope does and is not so apt to slip. And we believe they have more power than one

Cheap and Substantial Farm Fences.

To the Editor FARMER'S ADVOCATE:



POST AND RAIL (DANIEL'S) FENCE.

We have tried two ways of rebuilding old rail fences, always, of course, straightening them. One plan is to set posts about 11 feet apart, or as long as rails will allow, giving the posts a slight inclination from the side on which the rails are, then drive a good stake just close enough to the post to admit rail between. We use annealed wire, about No. 10; put on first wire about a foot from ground, crossing it between stake and post, and twisting up good and tight.

Commence and lay up your fence until three rails high, then put on another wire and two more rails, and you have a fence good for 10 to 20 years, according to quality of rails. Posts should always be sharpened to admit of driving in spring when heaved by frosts.

Another way we have rebuilt old rail fences is to set posts perpendicular, at least 3 feet in the ground, and as far apart as rails will allow. In making this fence use No. 10 galvanized wire, and, to explain it, suppose you are building a fence running north and south, commence at south end by fastening first rail by a wire loop securely stapled to east side of post, then the man who handles rails carry rail around and over second post, then man with pliers makes a loop with sailor knot long enough to take ends of both rails; keep loop at south side of post, and, by putting in second rail slanting, tighten up to post so that both wires may be stapled to post, then carry end of second rail over third post, and so on to end; put rail over so tight that they will carry their own weight. Four rails of this makes a good horse or cow fence, especially if banked up. It requires two men to build. End of rails being on each side of post tends to keep it straight.

When wire is so cheap, we question if it pays to rebuild old fences.

A good, serviceable wire fence may be built with six wires, two bars on top and four plain ones at bottom, or all plain. Divide wires thus:—Two bottom wires, 4 inches apart, next ones 5 inches, next 6, next 7, and top ones 10 inches; this makes a good, neat-looking division. Plow three good furrows before putting on wires; shovel up one furrow on each side, clean up bottom, and seed down with a mixture of grasses, and you have a fence that will give good satisfaction. The great thing, and most important in building wire fences, is to get end posts solid, and always put your wire on so that it will draw from center of post. Setting end posts in cement would doubtless be a good plan. We got an idea from a neighbor the other day that he has had in use some 10 years with good results. It is this:—Take an old wagon tire, have it straightened and a small loop made on one end to slip over top of post; have a large loop on the other end; bury it deep in the ground, and lay on it a good heavy stone. Where there was a gate this could not be done, as the iron tie would be in the way. It could be used on second post, and the ordinary double brace be used as well. A fence like this, including post, can be built for about 25c. a rod, or even less. Why throw away money in expensive patent fences that soon get out of shape and are most unsightly! T. D. J. Middlesex Co., Ont.

Mr. Pickering's Fence Endorsed.

To the Editor FARMER'S ADVOCATE:

SIR,—I have just read with much interest, in your issue of last inst., the various letters on Farm Fencing. I think that I rather prefer Mr. Pickering's letter on wire fencing, especially in the part in which he refers to anchor posts. I favor it all the more because it is very similar to the manner in which I put my own anchor posts in. As I have somewhat over 20 years' experience with wire fences, both in this and in the Old Country, perhaps a few remarks may not come amiss from me at this time. In the first place, I put all my end posts in 4 feet deep, oak posts if possible. At back of posts in bottom of hole I spike on a block of wood 2 inches thick, or so, and entire length of hole, post being made flat to receive said block. Fill in hole to about a little over a foot from top, put on another block of wood, oak or ash preferred, in front of post this time, and right across hole, hammer in well and cover up hole; this will, if soil has not been disturbed, make a very firm job. I never use any brace to such a post, and I have seldom seen such ever give. Have just last season put up a little over 100 rods smooth wire fence, 7 wires, and wires all put through the center of post and either rolled around post or fixed with patent lock, by which you can either tighten or relieve wire with a monkey wrench. Wherever fence makes a curve wires again go through center of post, which is always a little stronger than the others. Posts kept in position by block sunk in ground about 2 1/2 feet from post, and about the same in depth; strong wire twisted around this and around the post keeps it in position. THOMAS MURRAY BELL. Perth Co., Ont.

P. S.—Would, however, if building more fence, use 2 top wires of barb, as these would very materially protect the fence, both from foolish people and animals.—T. B.

The "Gem" Fence Recommended.

To the Editor FARMER'S ADVOCATE:

SIR,—The fence I have had most experience with is the "Gem." It can be built 5 feet high for 35c. per rod, including post and putting up. It requires eleven No. 9 wires, with No. 13 cross wires, 18 inches apart. The corner post should be 3 feet in ground, with a good flat stone or plank in front just below the surface, and a smaller stone or piece of plank at the foot at the back to keep it in its place. Set

a brace post 10 feet from corner post, with a good strong brace between and a good cable wire to hold in place. Set posts 32 feet apart. I prefer cedar from 6 to 8 inches in diameter. S. G. BROOKER. Essex Co., Ont.

Fencing Material at Thirty-One Cents per Rod.

To the Editor FARMER'S ADVOCATE:

SIR,—As there is considerable discussion at the present time among farmers as to the best and cheapest fence to build, you will kindly permit me to give my experience with the Jones Lock Wire Fence (sold by the London Lock Wire Fence Co.). I have had one in use for four years, and I must say that it has given the utmost satisfaction. Seven or eight wires, with four or five stays to the rod, makes a substantial farm fence. I have eighty-four rods of the former and about sixty of the latter.

The material for a fence with eight wires and five stays (if 4 1/2 feet long) to the rod will cost about 31 cents at factory, with less or more wires and stays in proportion, and any good man can build it. The firm will be pleased to sell machine for putting on stays, probably loan one if given a good order.

I also have a number of gates of same material on frames of 3x4 in pine scantling, painted and hung, which cost me about \$1.60, complete. This includes all labor. Now, as regards the posts. They are cedar; size about 8 in. at small end, with larger ones at the end of fence. They are about 21 feet apart, except the end ones, which are 11 feet. The end posts are set about 4 feet deep, and are anchored at the bottom with a piece of cedar about 3 feet long, and then the holes are filled with stones well rammed down. This is the great essential in wire fence building. I believe it would be a good plan to use cement, as you suggest in March 15th issue, instead of earth in setting end posts. The rest of posts are 3 feet deep. They should be set a week or more before wire is put on.

I use 4x4 in scantling for braces, which are let into the posts about 1 1/2 inches at each end; it is then assisted by two strands of wire same as fence, drawn diagonally from the ground level of end post to within about 8 inches from top of fence on second post; it is then twisted from the center into a perfect cable. As to the rest of construction, any firm who sells wire will be pleased to give instruction for building. Northumberland Co. A. E. HOSKIN.

"Page" Wire Fence has Good Features.

To the Editor FARMER'S ADVOCATE:

SIR,—I have had some experience in wire fencing during the last four years, and would recommend "The Page," manufactured at Walkerville. This fence, if properly put up, I consider has more good practical features than any in the market. The material used is of the very best quality. The coiled spring in this fence is the one feature that, in my opinion, places it a long way ahead of other varieties. It is made in a number of styles, that used principally for general farm purposes being the 11 bar, 58 inches high. This style is always right and satisfactory when well constructed. It has an elasticity given it by the coiled spring which provides for the changes of the temperature in our climate, and prevents any sagging or slovenly appearance so often seen in almost all other styles. The great and all-important thing in wire fencing is the setting of the end posts. I would have them 9 feet long and at least 10 inches at the butt. Holes for these posts should be 4x4x2 feet; spike 2x4 scantling on either side of post, about 6 inches from end, well gained in, and at right angles to running of fence. Place your post, and fill to the top surface of scantling, tramping as solidly as can be done; nail inch boards on scantling, and finish filling; brace from second post with 4x4 scantling from just above surface of ground to two-thirds up on end post. Posts so set will not heave with frost or move in any way under ordinary circumstances. Would recommend round cedar posts, 8 feet long and not less than 7 inches in diameter, placed one rod or not to exceed 20 feet apart. A good deal of this fence is put on posts two rods apart, and is very satisfactory. Two men, with proper stretching tools, can put up from 75 to 100 rods per day. Once up it is a thing of beauty, and will remain so for many years. Numbers 7, 9 and 11 are the wires used, which I consider amply sufficient to withstand any test liable to be brought upon them.

With regard to gates: Very neat, light and substantial ones are made by this firm, and at a comparatively small cost. However, I may say I prefer a well made wooden gate; they answer a good purpose, and are cheaper.

The time has arrived when wire must take the place of wood for fencing. The old rails won't stand another laying over; many of them have done good service for nearly a hundred years, but must now become a thing of the past. Land in our section is too valuable to be monopolized by this old method of fencing. W. H. NELLES. Wentworth Co., Ont.

Carter Wire Fence.

To the Editor FARMER'S ADVOCATE:

SIR,—In reply to the enquiry in the ADVOCATE of March 15th re farm fences, I will refer to the Carter Wire Fence Machine. This machine will weave any number of wires. The number used for farm fences is nine No. 9 hard steel corrugated wires, making a fence five feet high. The wires are spaced 4, 4 1/2, 5 1/2, 6, 7, 8 1/2, 9 1/2 and 10 inches apart. The cross wires are woven 12 inches apart, of No. 12 or 13 soft galvanized wire. It costs fifty cents per rod to weave this fence on the posts. With this machine you can make a fence as high as you desire or as low as you like, using any number of wires. The cross-wires can be woven from 6 to 24 inches apart. The end posts should be at least 10 inches in diameter and set 4 feet in the ground; the hole should be dug 12x24 inches, and a piece of plank 2 feet long placed on edge in front of post at the surface of the ground, and another piece the same size at the back of the post in the bottom of the hole, the earth to be well tramped down. The second post may be from 8 to 12 feet to receive the brace; the brace should not be less than 4x4, and placed near the top of corner post and midway between ground

and top of second post. The brace wire should be No. 9. The gate posts are treated same as corner posts. The gate is made by taking a gate-frame made of scantling and weaving the wire on it. SAMUEL CROUCH. Elgin Co., Ont.

Plant Trees for Future Fence Posts.

To the Editor FARMER'S ADVOCATE:

SIR,—In regard to your method of setting end post for wire fence, I would first put in a strong crossbar about a foot from the bottom, then pack solidly with cobblestones and concrete if convenient, set another post 8 feet from the first and place a strong 3 x 4 in. scantling horizontally between the posts, 10 or 12 in. from the top; then take No. 9 plain galvanized wire, and using 4 strands, form a cable by twisting from the top of second post to crossbar of the end post. Set posts a rod apart and plow two furrows on each side, and make the grade as uniform as possible.

The Bowen Cable Stay Fence (which I see advertised in the ADVOCATE) comes as near my ideal of a wire fence as possible. Use 10 horizontal No. 9 plain galvanized wires, which will weigh 10 lbs. to the rod, and for stays use No. 10 wire, three feet apart, requiring about 2 lbs. to each rod of fence; place a strong coil spring in the middle of every 40 rod stretch of fence, one spring (costing 15c.) to each wire, and a ratchet (costing 5c. each) on each wire at end post; cost of building fence, 5c. a rod, or a total, exclusive of posts, of 37c. a rod, and all done by ordinary farm help, a saving over ordinary fence prices of the cost of a fence machine to every eighth of a mile of fence. If two or three farmers would co-operate and get a machine amongst them they would save considerable.

When farmers overhaul old rail fences let them plant trees a rod apart, not poplars or any other tree that will sprout from the root and become a nuisance, but maples (hard or soft), apple, cherry, basswood, or any other useful or ornamental native tree, nail a hardwood strip 1 x 3 in. to the tree and staple fence wires to the strip. Then they would have a substantial fence that would grow into beauty and usefulness each year. W. J. PATTERSON. Wentworth Co., Ont.

Cable Stay Fence Satisfactory.

To the Editor FARMER'S ADVOCATE:

SIR,—I enclose description and cost of the fence we built, known as the Bowen's Cable Stay Fence. We use 8 or 9 horizontal wires and stay it every three feet. The stays are two wires fastened at the top and bottom, and are twisted together between the horizontal wires, and on every third horizontal wire there is a small stay to hold the stay in position. It makes a very strong, durable and cheap fence. We also use on every horizontal wire a spring in the center, and a ratchet at the end post. We put the posts from 25 to 30 feet apart, and they are better than posts put every rod, as the fence will stand more strain and is stronger. We use the common brace and cable used in most of the patent fences, and, if properly put on, will never give.

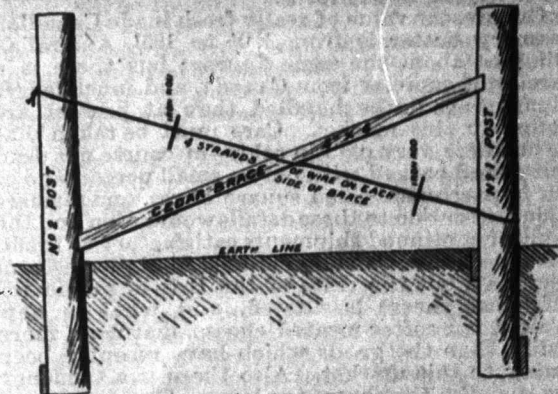
Now, as to cost. Such a fence, with 9 horizontal wires and stayed every 3 feet, posts 25 feet apart, with springs and ratchets complete, cost us 25 cents per rod last year. I understand wire is cheaper this year, which will reduce cost of fence. And we used the best American galvanized wire we could buy. The machine for building this fence can be bought for \$15, all complete, and you have no patent right to buy. Any farmer can build his own fence and save from 25c. to 35c. per rod, and have a fence second to none that is built. W. R. WALKER. Halton Co., Ont.

Posts and Stays for Wire Fence.

To the Editor FARMER'S ADVOCATE:

SIR,—In the March 15th issue of the FARMER'S ADVOCATE, an article on Farm Fencing attracted my attention, and as I have had some little experience in building that description of fence, I might offer a few suggestions to those who require information in that line. As you truthfully remarked, that "metal fences are gradually replacing wooden ones," and, along highways, perhaps it is well it is so, as in many places the wooden fence causes the roads to be blocked in winter, and the only recourse is to take to the fields, and many bad weeds get into the farm in that way.

In getting new material for a fence now, posts are about the first requirement, and I would say, select those split from large cedar for lasting qualities. But, if for appearance sake, should prefer the round posts, see that they are taken from old timber, as the second growth is more perishable. Select those that are sound and straight as possible, 6 inches diameter at small end, and not less than 9 feet long.



For terminal stays or anchor posts, select four good, straight, sound posts, not less than 8 inches at small end, and 9 feet long. Flatten a small space at foot of each post, and spike on a piece 2x10 inches, 3 feet long, at a point reaching to 4 feet from foot of post. On the opposite side, spike a piece 2x10 inches, 4 feet long. Use two of these posts for each anchor, by placing No. 1 at the end of fence, and No. 2 at ten feet distance along the line of fence; put them four feet deep, and so that the top edge of the upper plank will be flush with level of earth; fill in properly, and then place between the posts a cedar brace 4x4 inches,

reaching from a point about one foot from the ground on No. 2 to 18 inches below the top of fence on No. 1. Cut off a sufficient length of galvanized wire to reach from the back of post No. 2, around post No. 1, and back to same point. Twist the two ends to take up the slack of wire. This wire requires to be at an opposite angle to the wooden brace, and requires to be repeated three times. Turn down the twisted ends and secure with staples. Now take two pieces of 3 round iron, 2 feet long, and place them between the wires, about half distance between the cedar brace and post, and twist the wire into a solid rope, take out the irons, and the anchor is all right for one end of fence.

York Co., Ont. A. W. MILNE.

To Prevent Fence Posts Heaving.

Members of our staff have found that cedar posts of ordinary board fence set alongside a row of maple shade trees in front of farm have stood for 15 or 20 years without heaving, the trees taking up moisture from soil and to some extent protecting it from frost. A subscriber tells us of his success in preventing posts from heaving by filling in a couple of feet at top of hole in which the post is set with gravel. Drainage is also effective.

Correction re Cost of Fence.

To the Editor FARMER'S ADVOCATE:
SIR,—I see you have given my letter on fencing space in your paper, but was sorry to notice, in reading it over, that you had made a sad mistake in setting the type. If you look at my letter again you will find the total cost to be 46¢ per rod instead of 76¢, as you gave it in the paper. You will make this right, I trust, in the next number.

Elgin Co., Ont. J. I. ROUTLEDGE.

DAIRY.

Which Pays Best—Butter or Cheese?

Mr. John Brodie, proprietor of the Mapleton (Ont.) cheese and butter factory, furnishes the FARMER'S ADVOCATE with the result of a comparison between the returns to patrons from cheese and butter made in November last. (This well-equipped and well-managed factory was described and illustrated in our issue of Sept. 1st, 1897.) The butter sold at 18½ cents per pound and the cheese at 8 cents. The charge for making butter was 3½ cents per pound and for cheese \$1.10 per 100 pounds of cheese (everything included), the patrons, however, delivering the milk at the factory. After deducting the cost of making in each case the return to the patron per 100 pounds of milk was found to be two or three cents more in the case of butter than cheese, besides the skim milk which was much more valuable than the whey. This factory during the past winter has been turning out from 1,500 to 2,000 pounds of butter per week, finding its market in Toronto.

Important Points for Canadian Dairymen.

To the Editor FARMER'S ADVOCATE:
DEAR SIR,—Canadian butter is coming more and more into favor in this country, and the outlook for the future is most promising. What dairymen especially require to note is that if the product is to sell on the English market at the highest price, and in competition with Australian and Danish products, it must be sent forward regularly and while perfectly fresh. Butter showing stale flavor is at once depreciated in value from 10/ to 20/ per cwt. from top price of absolutely fresh made goods. If the butter is sent over here regularly when made, packed in square boxes 56 pounds net, lightly salted (just sufficient to preserve the butter), and of very pale color, it will not require much time before it is at the top of the market. Dealers here will take the Canadian products as readily as they take them from other countries, or even more readily, provided the quality is such as they desire. Up to now we find that dairymen in Canada, in their desire to wait for markets, hold the goods over, and then ship them when the rosy freshness is off the butter and when it must be sold as a second-class article. The British public will only have the best of goods, and is willing to pay for it.

The present value of really fresh made Canadian creamery butter is from 100/ to 105/, Australian selling at about the same figures; but there is a scarcity of supplies from Canada, and much larger shipments could be handled than at present are coming to this market. Care must be taken that the butter is very pale in color—of course not dead white—and packed with only a small percentage of salt, in parchment-lined square boxes, and farmers paying attention to these details would soon find the result of continued shipments satisfactory to them.

As to cheese, Canadian is held in higher esteem every day, but the taste of the British public for stiff, close cheese is altered, and what is now required is a softer-meated cheese, maturing more readily than the goods which have recently been coming to this market. Also there is a tendency now to make the cheese too large. There are very few districts where 85/95 pound cheese are salable. The bulk of buyers prefer that cheese should not be over 75 pounds weight.

If you can induce the dairy farmers of Canada to pay attention to the points to which we have referred, we have no hesitation in saying that they would find the result more than pay them for the extra trouble in putting up a first-class article, both cheese and butter.

Yours faithfully,
HODGSON BROS.

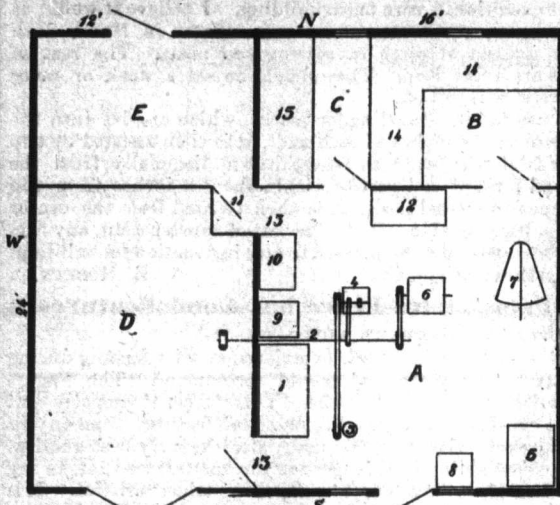
Liverpool, Eng., March 28th, 1898.

Plan for Farm Dairy.

QUEBEC READER:—"Would you kindly give me a plan and description of farm dairy for twenty-five cows, and state if tread power will answer to drive separator?"

The main building is 16 x 24 feet, with a lean-to 12 x 24 feet. The height of the ceiling in main building should be 10 to 12 feet. The attic may be floored and used for storing various articles not needed every day. The walls may be brick, wood or stone. The inside should be finished with two thicknesses of paper and matched lumber. Have at least one dead air space in the walls. The floor may be cement or matched pine, and should have a good slope to the gutter. The floor may be above ground or 2 to 2½ feet below the level of ground outside. Good drainage is necessary. Have a trap just outside the drain from dairy. If no separator is used B may be made larger, but I would certainly advise the use of a separator with 25 or more cows. The power may be boiler and engine, tread power or gasoline engine. A boiler or some other convenient method of heating water, milk, etc., will be needed. If a heater with water attachment were placed in the workroom a one-horse tread power would furnish ample power. If at all possible, have ice house, refrigerator and room for setting milk on north side of building.

A room for separator and tread power at the barn works well, in which case a very much smaller dairy is needed.
H. H. DEAN,
Ontario Agricultural College Dairy School.



- Ground floor plan of dairy for 25 to 100 cows. Scale 4 ft. to 1 in.
- A Work-room, 16x16 feet.
 - B Storeroom or room to set milk, 8x10 feet.
 - C Refrigerator, 6x8 feet.
 - D Boiler and engine room, 12x16 feet.
 - E Ice house, 8x12 feet. (D and E may be a lean-to.)
 - 1 Milk vat.
 - 2 Line shaft overhead.
 - 3 Separator.
 - 4 Intermediate or Jack.
 - 5 Cream vat.
 - 6 Square churn (32 ft. inside).
 - 7 Butter-worker.
 - 8 Table for Babcock tester.
 - 9 Hot water tank.
 - 10 Washing sink.
 - 11 Place for washing ice.
 - 12 Table for printing butter.
 - 13 Gutter (floor should slope 4 to 6 inches to gutter).
 - 14 Creamers or pans.
 - 15 Refrigerator box with ice overhead.

How the St. Mary's Creamery Patrons are Kept Informed.

The St. Mary's (Ont.) creamery, of which Mr. J. Stonehouse is manager, the plan and operations of which were described in the FARMER'S ADVOCATE for January 15th, adopts the wise plan of keeping its patrons well posted by issuing monthly reports as to returns and instructions re the care of milk. The February report shows that the average price realized for butter was 21.10 cents, less making charges, 3.50 cents; net price of butter per pound to patrons 17.60 cents, or 20 cents per pound for butter-fat—equal to 79 cents per 100 pounds of milk, and the skim milk returned. Following are the instructions issued:

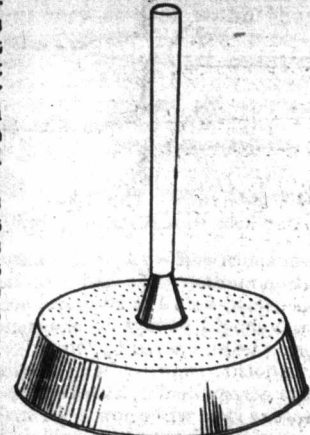
AIR AND COOL THE MILK.

Please do not neglect to aerate and cool your milk and keep it where the atmosphere is pure. If milk is neglected and the cream allowed to rise, the "test" will not be as good as from milk which has been well cared for. The best cared for milk will always give the most satisfactory test and will be better in every respect for buttermaking and will make more butter, for it gives a cleaner skimming. Cool the evening's milk by the use of ice if you have it, but if you have no ice you can have a cold water tank in which to place the cans. Every patron must have this before he can send first-class milk in warm weather. If the patrons send first-class milk to the creamery they will receive their skim milk back in good keeping condition, and if the skim milk is not good the fault lies with the patrons and not with the creamery management. Take a little care of the skim milk you want for the calves by putting it back into the cold water tank; don't dump the skim milk into a sour, stinking can or barrel, and then expect it to keep sweet. Don't be too anxious to have skim milk pasteurized at the creamery until you have tried your best to keep it as suggested, for cooked milk is not as good for calves and young pigs as uncooked milk, according to recent experiments. In conclusion, let me ask you if you fully realize that we must have first-class milk in order to give you the highest price that can be obtained

in the British markets. The patrons are the gainers or the losers, according to the quality of the milk, other things being right; therefore do the very best you can for us. Keep everything clean, aerate and cool the milk, and yours will be all the gain.
J. STONEHOUSE, Manager.

A sample of a cheap and effective aerator may be seen at the creamery or skimming stations.

Mr. Stonehouse writes us: "I enclose a rough sketch of our aerator, which shows it to be simply an inverted milk pan with a handle three feet long soldered on to the bottom. The bottom is perforated with about fifty small holes, about the size of an ordinary sewing needle, which allow the air to escape when the pan is shoved down into the milk, and as the air bubbles up through the milk it brings the animal odors off with it. When it ceases to bubble the pan is pulled up and a fresh lot of air is forced down, which is an easy and effective way of cooling and aerating at the same time. Any tinsmith can make them at a cost of thirty to thirty-five cents. The holes must be small or the air will escape too quickly. The long handle is for the purpose of shoving the aerator down and holding it there, but it does not need to be held down long, as the air escapes in a few moments."



The Relation of Butter-fat Percentage to Butter.

To the Editor FARMER'S ADVOCATE:

SIR,—I notice a letter in your issue of April 1st from Geo. Philip asking what amount of butter he should get from milk testing 28 and upwards. I am rather surprised that you should state that there should be 20 per cent. more butter than butter-fat, without making further explanations as to its not being possible practically to get all the fat out of the milk, or all the butter out of the buttermilk. Mr. Philip no doubt patronizes a creamery, and is asking this information in order to know whether he is getting credit for the right amount of butter from his milk. I don't believe there is a creamery in Canada making accurate tests that can make good butter, rightly salted for Toronto or English markets, that will make an average of 14 per cent. more butter than butter-fat, and have the butter hold out weight when it arrives on the market, taking a year's or a six months' run. Had you said that whilst butter contained 20 per cent. of other substances, that was the chemical analysis, and in practice there was always a little fat left in the skim milk, also a little left in the buttermilk, also that a little extra weight had to be added to each pound, print or package in order to have the weight hold out when it arrived on the market, that would have been a more correct statement, and would have very materially reduced the increase stated in the butter over butter-fat. I am sorry that the reply was not more carefully considered, as we are trying to get the farmers to go into dairying more, and our Government has given us cold storage for taking our butter across, and a statement such as made certainly causes many patrons to be suspicious that they are not getting correct returns from the creameries, and consequently become dissatisfied and stop their patronage. I know that no creamery in Canada does or can make the amount stated, consequently the reply, while it may be chemically correct, is not practically correct.

Ontario Co., Ont. F. L. GREEN.

NOTE.—In view of the increasing importance of the above subject to creamery and factory men, and their patrons, we have asked two well-known authorities to discuss it, as the FARMER'S ADVOCATE has but one aim, and that is to get at the facts for the benefit of dairymen generally. Mr. F. J. Sleightholm, Superintendent of the Western Dairy School at Strathroy, writes as follows:

"Actual creamery practice would not warrant taking the position in the answer. 1st. Whole milk containing 2.8 per cent. fat will not yield 2.8 pounds butter-fat per 100 of milk. 2nd. Good average creamery butter does not contain '20 per cent. of other substances than fat,' and if it did milk would not yield '20 per cent. more butter than butter-fat,' even though 'the processes of skimming, churning, etc., are thoroughly done.'" The enclosed table is based on actual work, and will bear inspection.

Pounds of Milk.	Test.	Pounds of Fat Actually Contained.	Actual Yield of Butter Under Good Creamery Work, allowing 15 per cent. of an Overrun.
100	2.8	2.8 lbs.	3.22 lbs.
100	3.0	3.0 "	3.45 "
100	3.2	3.2 "	3.68 "
100	3.4	3.4 "	3.91 "
100	3.6	3.6 "	4.14 "
100	3.8	3.8 "	4.37 "
100	4.0	4.0 "	4.60 "
100	4.2	4.2 "	4.83 "
100	4.4	4.4 "	5.06 "
100	4.6	4.6 "	5.29 "
100	4.8	4.8 "	5.52 "
100	5.0	5.0 "	5.75 "
100	6.0	6.0 "	6.90 "

Table listed upon 100 pound table on t so with t reached i American Agricultu equal to a ence in th to make usually th of incorp curd or l creamery eries, w making th per cent. 1

Mr. J. Mary's, O enterprise follows:

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Tables are always more intelligible when calculated upon the basis of 100 pounds milk than upon 100 pounds butter. When I made out the above table on the basis of 15 per cent. of overrun, I did so with the knowledge that that factor may be reached in any well-managed creamery. The American factor agreed upon by the Society of Agricultural Chemists of the U. S. is about 1 1/2, equal to a fraction above 16 per cent. My experience in this matter is that where any maker claims to make more than 15 per cent. overrun, it is usually the result of reading the tests too low or of incorporating into the butter more water or curd or both than the manufacture of a good creamery butter, with satisfactory keeping properties, will admit. The W. D. S. has been making this year to date, as nearly as may be, 15 per cent. more butter than butter-fat. F. J. S.

Mr. James Stonehouse, Manager of the St. Mary's, Ont., creamery, a very large buttermaking enterprise, as our readers are aware, writes as follows:

"In answer to your enquiry of the 8th inst. re butter and butter-fat, I would say that I consider your estimated increase of butter over butter-fat rather too high for the average. I have had 20 per cent. of an increase, but in such butter the per cent. of moisture is excessive, and would come under the head of adulterated butter in the British market, or at least would be liable to. The tendency now is towards a drier butter, and if I have 15 per cent. of an increase I consider I am about right, but 13 per cent. is the lowest and 20 per cent. is the highest I have ever had. I know of one creamery which went as low as 7 per cent. increase last summer and 23 per cent. this winter. In other respects I think your answers to the questions are right." J. S.

[NOTE.—See also Mr. Sleightholm's reply to a Huron County subscriber's queries in our Questions and Answers Department of this issue.—EDITOR.]

POULTRY.

Liberal Feeding Will Make Hens Sit.

To the Editor FARMER'S ADVOCATE.
In reply to "Esme," Ont. County, Ont., I would like to say that no hen will sit while she is poor. Give her lots of feed without much scratching, and she will soon sit whether she has more than a nest egg or not. The heavier breeds fatten quicker, and will therefore sit earlier. W. J. L.
Neepawa, Man.

Beginnings in Turkey Raising.

Turkey-raising is not by any means the least of the many departments which come under the title, poultry. It is, perhaps, the most important when considered as bug-devourers. Especially is this so when grasshoppers are plentiful; then a flock of fifty turkeys will destroy thousands, and prevent the hatching of millions of these destructive insects. But they are also profitable in a more direct manner. We realize this when looking over accounts at the end of the year; also, when we find one cooked and on the dinner table. At present, however, I shall not go any further than the care and treatment of the eggs and the baby turkeys. Though I have always had better success with the turkeys which were hatched after the weather becomes warm in June, yet this year on account of the warm weather in March a great number of eggs will be laid long before the first of May. While I have known of turkey eggs being shipped hundreds of miles, being delayed in express offices, and afterwards producing a good percentage of chicks, yet this treatment is not necessary nor even advisable. It is safer to set them within three weeks after they have been laid, and during that period they should be kept in a fairly cool place where they will neither get chilled nor warmed, and they should also be turned every day to prevent the yolk from settling to one side. When enough eggs have been collected for one, two or three hens it is advisable to set them. One can seldom be so successful without a special room for sitting hens. In it there should be a row of roomy nest boxes, which at this season are kept for sitters only. These are very handy if they have but one or two doors which open downward, forming when open a walk in front of the nests, which should now be nicely lined with straw, etc., and the eggs put in. For small hens, in cold weather, seven turkey eggs are sufficient, though a good-sized hen will often bring out eleven turkeys, provided that she have eleven eggs. The next step is to choose the best sitters;—good old motherly Plymouth Rocks are my favorites. They are dusted with insect powder, and introduced to the eggs. They usually "cuddle doon" when the door is closed, and not opened until a convenient hour the next day, when food and water are put down. Should the hens fail to respond to this invitation, they should be carefully lifted from the nest. They may be left to pick, bathe in a box of dust or otherwise amuse themselves for nearly an hour. There should also be a box of gravel, as fresh grit may be required before their term of imprisonment expires. At the end of an hour the majority of the hens will have returned to the nest. This house accommodates all sitters, whether on hen, turkey or duck eggs. Many of the newcomers have not found a nest; they should

be driven towards it, and they will soon learn to take possession, while occasionally two may be found on one nest. When all are settled the doors are shut for another day.

One old turkey will easily mother from twenty to thirty young ones. Twenty-six is the largest flock I have had brought to maturity by one old turkey. For to get this number one should set not less than three hens. I have not said anything of the turkey as an incubator, as early in the season it seems to be a waste of valuable time to keep one sitting four weeks, though I try to arrange so that one may be broody at least two or three days before the young birds are hatched. Where one has two or three, the earlier turkeys may be made to lay again in a few days, and the latest sitter will be ready to take the little ones. By putting her in a coop, then introducing the flock, she will at once adopt them. For several years I have used this plan.

As parasites are the greatest enemies to young turkeys, the mother should be dusted with insect powder, and a dust bath provided for the little ones, prevention in this case being surely better than cure. The coop should be whitewashed on the inside as well. If the weather be cold and damp they should be kept in a well-lighted, dry room for a few days, as dampness often means death. GYRA.

APIARY.

Bees Successfully Kept in Manitoba.

To the Editor FARMER'S ADVOCATE:

SIR.—According to request, I send you a report of the results obtained from my apiary for 1897. This may be told in a few words. It was pretty much a repetition of 1896. The weather was rather unfavorable, and the honey crop about the same—30 pounds per colony, spring count, less than one-third obtained prior to that date. There was, however, some marked differences between the two years; in 1896 there was excessive swarming; in 1897 only three swarms, all told, late in the season. In 1896 there was a tendency to rob; in 1897 this tendency was greatly intensified, so much so that it was with difficulty that even extracting could be performed only in the morning or evenings, something very unusual in my experience. They seemed to await my actions, and immediately upon my removing a hive cover they were there in great numbers, and unless the cover was immediately replaced the life and death struggle would immediately commence. There is this difference between the bee and some bipeds: they will only steal when they cannot get it honestly.

A few remarks on the wintering problem may be opportune: Strange as it may appear, there are many people in Manitoba who are skeptical about bees wintering here; in fact, there are many who are not aware that they exist here at all. This surely is not as it should be. There are ample means through the press to disseminate facts to the masses. Brother beekeepers, let us stir up and use the good old ADVOCATE for instance (yes, it is old, but as its years of existence roll on its vigor increases), let us use it as a medium for the exchange of results from the different systems that may be adopted, and the conditions under which they are carried out. Be candid, friends, and much good may result. But I am digressing. My experience in wintering bees is that they can be as easily wintered as any stock on the farm, and far less trouble. The preparation for winter should begin not later than the first week in September by removing all "supers" and examining each hive to make sure that it contains at least 30 pounds of sealed honey. If there is more I never remove it, and any deficiency is supplied by inserting sealed honey. I prefer to have sealed honey in all the frames, as it is more convenient for the bees to feed in winter, and less chance of any getting chilled. When further prospects of flying is past they should be placed in a repository for the winter, where the temperature will remain as near 45 degrees as possible; never below 40 or above 50 if it can be avoided, but rather the former than the latter. Remove the cover; leave untouched the quilt (propolis cloth) on top of frames—if oilcloth, remove it—and place over the hive several folds of a cloth of a porous nature, that will conserve the heat and allow the moisture to escape—woolen is good. Leave the entrance open, then leave them alone until spring. It might be necessary to clean the entrance of dead bees by means of a bent wire, but care must be exercised, as in many cases the cluster of bees reaches to the bottom board. Bees will winter in any ordinary root cellar, under a dwelling house if properly ventilated, and out of doors if properly protected, but an air space in front of the hive must not be omitted. They will also exist in a temperature around the freezing point; so will stock around a straw stack or shivering in their stables, but the result is quite apparent, and the greater part of summer is consumed in bringing the stock to the point they had reached the previous fall. So it is with bees—a low temperature injures their vitality, and in consequence they lack energy in the spring, if they do not twindle and die out altogether; breeding is retarded and the results are nil. A low temperature also causes moisture in the hive, which the honey, especially if not capped, will readily absorb, and the results are often disastrous to the bees. Should moisture appear on the combs, steps should be taken

at once to remove it by placing hot bricks on the top of frames, but not touching them, as the combs might melt. JAMES DUNCAN.
Franklin Municipality, Man.

GARDEN AND ORCHARD.

Time to Prune Orchards.

"Please let me know through the FARMER'S ADVOCATE which is the best month in which to prune an orchard?"

Light pruning may safely be done at any time of the year, but for the regular annual pruning the best time is early in the spring, after the severe frosts are over and before growth has started. Pruning at this time will not check the vigor of the tree, as is the case when the pruning is put off till the growth has started. H. L. HUTT,
O. A. C., Guelph, Ont. Horticulturist.

A Test for Purity in Paris Green.

Paris green is the most satisfactory substance yet discovered for the destruction of those insects which, like the canker worm, gnaw their food, taking a part of the tissues of the leaf into the stomach. But, unfortunately, this poison is capable of being adulterated with cheaper substances by unscrupulous manufacturers, and the use of these impure brands means not only a loss of time and labor, but, what is much more important, it means that our enemies will gain such a start of us that we will be unable to destroy them. Paris green may, however, be tested when it is purchased and thus all difficulty avoided. A simple and reliable test is the following: Put into a small glass bottle a little strong ammonia, perhaps a table-spoonful, and into this put a little of the material to be tested. If it is pure Paris green it will quickly and completely dissolve, forming a clear, dark blue liquid. But substances such as chrome green, which are most commonly used to adulterate Paris green, will not dissolve. Any residue may be considered as an impurity. F. C. SEARS.

Small Fruits, and How to Grow Them.

BY A. E. SHERRINGTON, BRUCE CO., ONT.

(Continued from page 154.)

Every farmer's garden should contain a few gooseberry bushes, but the grower must be governed by his circumstances as to the amount required. If only for home use a very few bushes will do, as they are so prolific. Often as high as 15 to 20 quarts are produced per bush. The growing of the gooseberry is very easy. The best soil is a deep, moist clay loam. The rows should be from five to six feet apart, and the plants four feet apart in the row. This will give ample room for growth and cultivation. Two-year-old plants should be used. Dig the holes large enough so that there will be no crowding of roots when planting. Good cultivation with liberal fertilizing is necessary as well as for all other plants. The pruning should be attended to annually. The fall is the best time to do this work, after the plant has become established and bearing. Two or three branches of the old wood should be removed annually, allowing as many young shoots to take their place, as the young wood always produces the finest fruit.

In my estimation the Downing is the most suitable for the farmer, as it is free from mildew and a strong, upright grower; fruit good size, fair quality, and a heavy cropper. Peral is another good variety, similar to Downing, perhaps a little better yielder.

Currants.—The growing of the currant is similar to the gooseberry, so much so that it is not necessary to describe it here. The currant or gooseberry worm will have to be looked after, as it attacks the gooseberry as well as red and white currants. The first brood hatches out in the early part of the season, near the ground in the center of the bush. A few applications of white hellebore, put on dry with an insect duster or a cotton bag after a shower or when the dew is on, will keep them in check. Black Naples and Black Champion I think will be found to give the best results over the largest section of country. Of red currants, Cherry variety has fruit large, bunches short, plants vigorous and fairly productive. Fay's Prolific is similar to Cherry, probably bunches a little longer. Among the white currants White Grape is the best in its class.

Raspberries.—This is a fruit that is much sought after, and will be more so as the wild species are becoming more and more scarce. There are no reasons why every farmer should not have a supply for home demand, as they come in just after the strawberry, thereby supplying the table with fresh fruit for the greater part of the season. Once properly planted they will last for eight or ten years. Black raspberries should be planted in rows from six to seven feet apart and three feet in the row. Spring planting is best. Have the ground worked deep and fine. Make the holes large enough so the roots of the plant can be spread out well, dip the roots of the plants into a pail of water, then set, working the soil well in around the roots, but be careful not to break off the young shoots that have started, as they are the canes for the next year's crop. The red varieties can be planted in rows five to six feet apart and three feet in the row; as they propagate by suckers, they will soon fill in the space between. When once set they can be cultivated in the form of a hedge row.

Keep well cultivated and clean. A good coat of coarse manure applied in the fall, then worked in the next spring, will greatly increase the yield of fruit. Raspberries should not be planted near a fence, the snow drifting over them will break the canes down.

The pruning of the Black Cap should commence as soon as the young canes have reached the height of 18 to 24 inches by pinching off two or three inches of the end of young cane. This will cause them to throw out strong side branches, making a well-balanced bush that will need no stake to hold it up. The following spring the side branches should be shortened so as not to fall over onto the ground, cutting off all weak and frosted canes. Then as soon as fruit is all picked the old canes should be cut out as close to the ground as possible, and burned. This will throw the strength of the plant into the young canes, and the burning will destroy any insects and diseased plants that may be among them. All the pruning the red varieties will need is to take out the old canes and all weak plants in the fall. The fruiting canes may also be shortened a few inches in the spring.

VARIETIES.

Kansas is a black cap; good grower; plant healthy, hardy and productive. The berry is large, and of good quality. **Grigg**—also a black cap—is a strong grower, and a productive plant. It is healthy, but a little tender north of the peach belt; the berry is large and of good quality. **Hilborn** is one of the hardest of the black caps. I have known it to stand forty degrees below zero without injury. It is a strong grower; healthy and productive; berry medium size, quality very good. This is a safe one to plant in the north.

Marlboro is an early red variety; medium grower; hardy and productive. The fruit is bright red, firm, and of fair quality. **Cuthbert** is the queen of berries; plant a vigorous grower, healthy and hardy; fruit very large, deep rich crimson, firm, and of excellent quality; the best red raspberry for home or market. **Shaffer's Colossal** is also a good berry, purple in color, quality best for canning; plant a very strong grower, but a little tender in this section. **Columbian** is a new variety of the Shaffer type; it appears to be hardy, and a strong grower, and very productive; fruit very large, and of better quality than Shaffer; either for table use or for canning.

Some Recent Observations on Codling Moth.

It might have been supposed that after all the years during which we have been fighting the codling moth, its habits would long since have become so well known as to leave no part of its life history in the least obscured. But a recent bulletin by Prof. Fred W. Card, of the Nebraska Experiment Station, and one by Prof. M. V. Slingerland, of Cornell University, give many interesting facts which were not previously well understood, and, what is much more important, they give valuable suggestions as to how we may further cope with this enemy.

We have always been told, and it has been accepted without question, that the codling moth deposited its egg at the blossom end of the apple, and here the larva hatched and began its work. We are now told that such is not the case, but that the eggs are deposited almost exclusively on the young apples or on the upper surface of the leaves which are borne in close proximity to the blossoms. The old opinion was based on the fact that so large a per cent. of the wormy apples are entered from the blossom end, but this is now explained as due to the fact that on hatching the little larva immediately seeks a hiding place, and the closed calyx cup is so well suited for this purpose as to be very often used. Prof. Card's observations show that about eighty per cent. of the worms enter at this point.

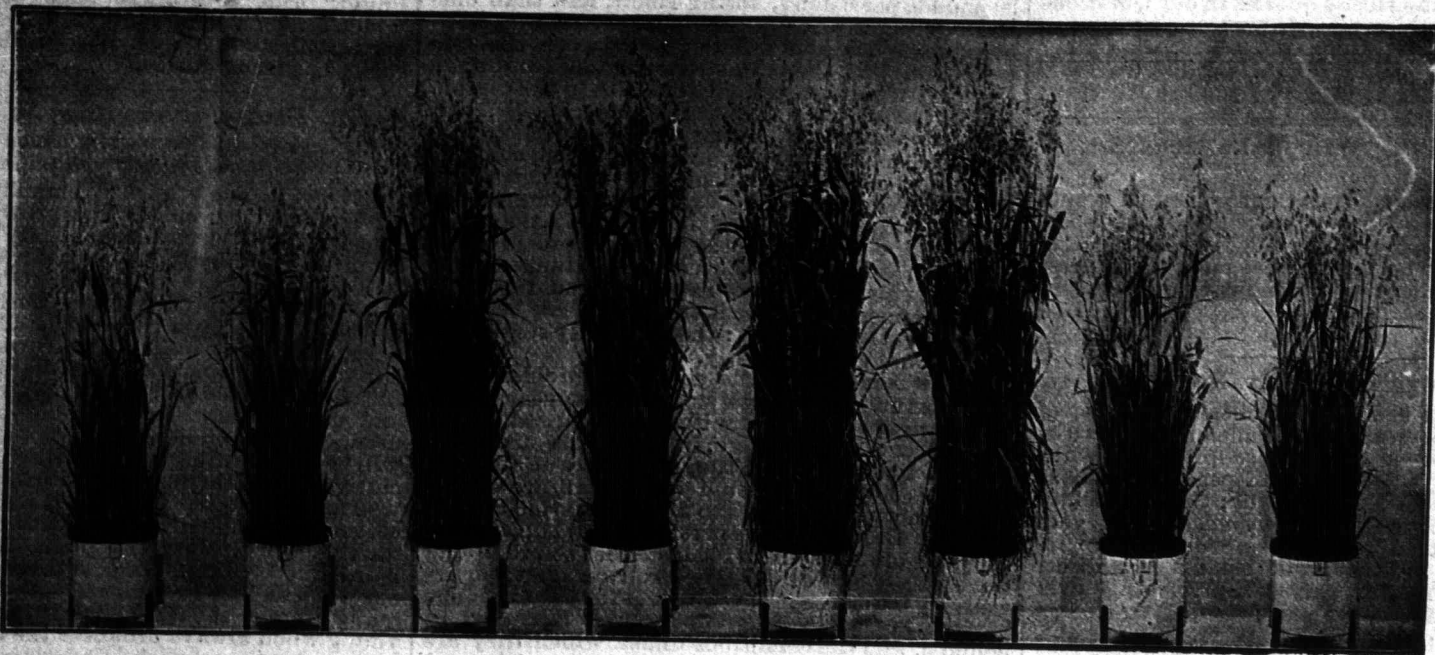
The moths begin to emerge in the spring much later than has been supposed, not before the latter part of May or fore part of June, and the eggs hatch in from six to ten days after being deposited. The little larva, in emerging, sometimes feeds on the leaf near the egg for a short time, but more often it immediately enters the apple. Here it feeds near the core of the fruit for from 10 to 15 days, in which time it becomes full-grown. It then usually leaves the fruit and hunts for a place in which to spin its cocoon, and the

place oftentimes selected is beneath a rough piece of bark on the trunk of the tree, though it may go to fences, piles of rubbish, or under boards. The larva appear to leave the fallen apples and crawl up the trunk of the tree, or they may leave the apple while it is still attached to the tree and crawl downward. When there are two broods of moths, as in parts of Ontario, the second generation emerges about a month after the eggs from which they are hatched were laid.

Now, as to the remedies suggested. Since so large a per cent. of the worms are found to enter the apple at the blossom end, it is plain that we should endeavor to protect the fruit from attack at this point, and this can be accomplished by the old method of spraying soon after the blossoms fall. It should be borne in mind that for perhaps a week after the petals fall the calyx cup remains open, and many of the apples are in an upright position, and this is the time to spray for the 80% of worms which enter at this point. If the poison can be lodged in this cup, and if there is not so much rain as to wash it out before the calyx lobes close over it, then it should remain there in readiness for the little worm when he gnaws his way into this cavity some two weeks later. And chemical analyses at Cornell indicate that this is usually what takes place.

The next question is how to combat the 20% of worms which enter elsewhere. Prof. Card most truly remarks that "this percentage is amply sufficient to people our orchards and riddle our fruit before winter. Another difficulty often appears by the proximity of a neighboring orchard which receives no care and from which moths may drift across to reinforce the enemy upon our own grounds." Later sprayings with Paris green have proved beneficial to some extent, but, strange to say, the leaves seem much more susceptible to injury at this time than earlier. From laboratory experiments by Prof. Card, spraying later with kerosene emulsion seems a promising remedy. He says: "This is the most encouraging line of warfare tried. It will be noted that all apples sprayed with kerosene emulsion before the eggs hatched were absolutely protected." He further recommends that paper bands be placed around the trees

Manuring Oats on Clay Soil with Phosphoric Acid.



The above photo, and the one on the next page, are taken from an illustrated lecture on "Manuring," to illustrate how remarkably great the difference in action is of the Albert's Thomas-Phosphate Powder, as compared with bone or other Thomas-Phosphates, by Prof. Paul Wagner, Ph. D., Director of the Agricultural Station at Darmstadt, Germany. This photo shows the growth of the plants tested with different forms of fertilizers containing phosphoric acid.

about the last of June, when the larva are beginning to leave the apples to pupate. These bands should be examined two or three times a week, taken apart, and any insects found beneath them destroyed. Screens should be placed over the windows and doors of the room used for storing apples, to prevent the escape of any moths which may have been carried in with the apples in the fall.

These two bulletins show how greatly the habits of the codling moth vary in different parts of the country, and emphasize the necessity of careful observations as to its habits in any particular locality, if fruit-growers are to be most successful in their warfare against this pest. But, lacking definite observations in his own locality, a grower can perhaps adopt the methods suggested in one or the other of these bulletins, according as his climate resembles that of the station at which the bulletin was published.

Principles versus Specifics in Teaching Horticulture.

Do not instructors too often overload the student with a mass of details instead of first grounding him thoroughly upon the underlying principles? In horticulture the field is so extensive and presents so many varying features that it is impossible to present to the student within the ordinary limit allowed to the study more than the framework upon which the science rests.

Is it not better, therefore, to plant the principles thoroughly first, and having these clear in the student's mind, let him work out their application as fitting the case in point. These thoughts are brought to mind forcefully by the questions asked in an examination in pomology, recently held by Prof. Bailey, in the College of Agriculture of Cornell University. Prof. Bailey has the knack of bringing out the salient points of each discussion. The questions submitted below and answers given

by a student illustrate the character of the ground covered in this course. These remarks apply not only to the conduct of classes at the University, but to the working classes met with in the Farmers' Institutes:

1. Under what conditions may windbreaks be advisable?

Ans.—The utility of windbreaks will depend (1) upon site (exposure); (1a) topographical conformation of orchard; (2) the kind of orchard crop to be cultivated; (3) the direction and character of the prevailing winds.

Windbreaks may be used with advantage in windy, exposed situations. They may also be used with disadvantage in such situations. The position of the windbreak with reference to the area to be protected is important.

A windbreak should not be placed in such a position as will tend to interrupt air drainage to the extent of causing or encouraging abnormal heat at unseasonable times; e. g., an orchard on a southern slope, with prevailing south-west winds, would probably be better protected by a windbreak on the south and west sides than on north. As a general rule it is best to place them on the windy side, but not too close, 100 feet or even 200 feet being better than nearer.

The whole windbreak question is one of local adaptation. In certain positions they are undoubtedly positively injurious; e. g.: about pear orchards, as encouraging blight; about peach orchards, as encouraging early blooming. About the orchard where they do not encourage sunscald, blight, and do assist in holding the fruit, picking the fruit, and protecting the orchard generally, they are to be encouraged. If the orchard soil is protected from the strong force of sweeping winds, evaporation and drying out are greatly lessened. If the orchard is protected by windbreaks the loss from

windfall apples is much decreased, and the number of trees broken down by the force of winds very much lessened. Fungi and insects may be encouraged under the protecting agency of windbreaks, but these may be kept in check by the use of the spray pump, which in turn may be operated more effectively in a calm atmosphere.

2. State principles involved in preventing light frosts?

Conditions.—(1) Location as favoring movement of air; (1a) altitude as being more favorably situated; the denser the air the more rapidly

does it settle, i. e., drop to lower levels.

Application.—Prevention depends therefore upon (1) the movement of air currents; (2) the arresting of the evaporation of earth heat. Location, as stated before, assists (first) in covering the surface of the ground with something which prevents the heat rising, assists the second. For this reason "smudge fires" have been used in some districts with beneficial results. The smudge is effective in proportion as its smoke and vapor are charged with moisture. Dry smoke has been proved to be useless in protecting wheat fields from early frosts in the Northwest Territories. Smudges, unless very extensively applied, would be of little service in preventing general frosts in a general atmospheric depression.

To sum up, (1) evaporation, a cooling process, is retarded by covering the surface of the ground with an atmosphere charged with vapor; (2) the settling of the colder and denser air is prevented by the movement of air currents.

Moral.—Do not plant tender fruits in "pockets" subject to early frosts, but rather choose situations favorable to movement of air currents.

3. Objects of tillage in fruit lands?

- (1) Conservation of moisture.
 - a. To render the plant food available.
 - b. To give a vehicle (water) for the transfer of plant food.
 - c. To promote nitrification.
- (2) To preserve a favorable physical soil condition.
 - a. To encourage a good root system.
 - b. To keep down weeds.
 - c. To check evaporation.

The above might be summarized under three heads as follows: We till (1) to encourage chemical activities of the soil; (2) to improve the physical

APRIL 15, (mechanic moisture A dis these head 4. Whi using of f (1) The plum, is a itself. (2) The lack of till available (3) It is what may the plant. (4) Pri phosphori in abunda If the healthy f fering fro The fu are supp maturati Encourag summer, midsumm manner. To encour son to ch the soil. The ar depend u necessary ment for 5. How varieties (1) Let intend to Thengrow (2) Doe to a high- Then let high qu appeara time let that the this class operation (3) Let ties that grown s immedi plant th question a person The pers quality; greatest Why O Experi potent fa ment. I causes to possibly point is mind by tical val father's orchard falling, a merchan something or partic to insect usual se haps the the sam manure maximum develop neglected but bec and that But s growth, I soon n the fruit for this years in a large mon cro sides, th seldom It ha ing the nitrogen potash, average ing the wonder from th is on one ge amount amount be kept ing elec We- crimson Fruit tr and so clear of at the plied to then or

(mechanical) condition of the soil; (3) to save the moisture of the soil.

[A dissertation might be written on each of these heads.—J. C.]

4. *What practical principles underlie the fertilizing of fruit lands?*

(1) The orchard tree, be it pear, apple, cherry or plum, is a crop in itself, and should have the soil to itself.

(2) That plant food may be in the soil, but by lack of tillage, poor physical condition, may be unavailable to the plant. This is of prime importance.

(3) It is then generally safe to feed in excess of what may be actually considered to be the needs of the plant.

(4) Principal elements of plant food: nitrogen, phosphoric acid, potash. These should be present in abundant quantity.

If the tree is making small growth, carrying unhealthy foliage, it may be presumed that it is suffering from lack of nitrogen.

The functions of the phosphoric acid and potash are supposed to be more closely connected with maturation of wood buds, fruit buds and fruit. Encourage the growth of the tree during early summer, encourage the ripening of the wood at midsummer, and do this in the most economical manner. Cultivate thoroughly early in the season to encourage growth; sow cover crops at midseason to check growth and add to the fertility of the soil.

The amount of fertilizer it will pay to use will depend upon the sections. In this matter it is necessary that each fruit-grower should experiment for himself.

5. *How may a fruit-grower choose the proper varieties?*

(1) Let him first consider his market. Does he intend to ship to the large markets of the world? Then grow commercial varieties.

(2) Does he intend to cater to a high-class personal market? Then let him grow fruits of high quality and handsome appearance, but at the same time let him make up his mind that the production of fruit of this class is a more expensive operation than the former.

(3) Let him study the varieties that have already been grown successfully in his own immediate neighborhood, and plant the best of these. The question summed up is one of a personal or a general market? The personal demands highest quality; the general demands greatest quantity. J. C.

Why Orchards are Failing.

Experience is one of the most potent factors in our development. It brings facts and causes to our view better than possibly anything else. This point is well illustrated in my mind by an illustration of practical value. An orchard on my father's farm, and not an old orchard either, seemed to be failing, and produced but little merchantable fruit. There was something wrong. This failure or partial failure was not due to insects or lack of care in the usual sense. It never occurred to us that perhaps there was a lacking of fertility in the soil. At the same time, we were growing wheat, adding manure and even commercial fertilizers to get a maximum crop. We had used every method in the development of the field crops, but perfectly neglected the orchard. Not intentionally either, but because we thought that it was not necessary and that an orchard had an easy time of it anyway.

But soon after I went to college. I studied plant growth, chemistry, etc. My eyes were soon opened. I soon realized that the depletion of the land by the fruit trees is more serious than by annual crops, for this fact: Plant foods are locked up for many years in the trunks and branches of the trees, while a large part of the fertilizing elements in the common crops is returned to the soil each year. Besides, the fruit taken off removes plant food that is seldom if ever returned.

It has been estimated that an acre of apples during the bearing season will remove about 49 lbs. of nitrogen, 33 lbs. of phosphoric acid, and 72 lbs. of potash, the value of which would be \$12.00, at the average prices paid for fertilizing material furnishing these ingredients on the market. Is it any wonder, then, that orchards are failing? Taking from the soil that amount of plant food each year, it is only natural that the time soon comes when one gets but a partial crop. In ten years the amount of plant food removed from the soil will amount to \$120.00. Now, for the orchard land to be kept in perfect bearing condition, these fertilizing elements must be returned in some form.

We know the value of clover, cow peas, vetches, crimson clover, etc., in adding nitrogen to the soil. Fruit trees require humus. Plow up the orchard and sow clover, then keep the orchard clean and clear of weeds and insects. Humus is added, and at the same time an abundance of nitrogen is supplied to the soil for the use of the trees. It remains then only to use phosphoric acid and potash, which

can be readily obtained in the form of acid phosphate and muriate of potash; an average dose of these would be about 300 lbs. of the former and 200 lbs. of the latter. It would be better to apply the potash and phosphate before the clover is sown, as they will assist in making a full crop of clover, which means the absorption of larger quantities of nitrogen, and the whole mass turned under will improve both the physical and chemical condition of the soil. CHARLES W. BURKETT, Ohio State University.

QUESTIONS AND ANSWERS.

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

Veterinary.

Sore Eyes in Sheep.

G. O., Frontenac Co., Ont.:—"I have about forty sheep in one flock, and there is some kind of a disease affecting the eyes. There are nine or ten that are blind. Had a veterinary surgeon examine them, but he could not account for it; he had never seen the like before. There is a white scum over the eye. The eyesight of some is gone altogether. They do not seem to be sick in any other way. It seems to be contagious, for three or four were attacked in one day. I have separated the flock. One of the sheep dropped down dead eating. I opened her, but she did not choke. She had a lamb two weeks old. The sheep have had grain every day and carrots for some time."

[Two members of our staff have frequently had

rise to a running sore. The presence of gritty, yellow granules in the open sore betrays the true nature of the malady. We would recommend Fleming's Lump Jaw Cure advertised in this issue, which will in all probability effect a cure within a short period of time.]

Irregular Splint.

Jr., Wellington Co., Ont.:—"I have a filly about nine months old with what appears to be an enlargement of the bone immediately above the fetlock joint on the inside of each hind leg. It is about the size of half an egg, and quite hard. She is not lame, and about three months since I first noticed it. What is it? Can it be removed, and if so, how?"

[This form of exostosis is known to veterinary surgeons as irregular ossification, involving the small metatarsal (hind leg) bones, forming points of attachment to the superior sesamoidean ligament above its bifurcation. It is very difficult to put that into plain everyday language, but it means an irregular splint joining the bones of the fetlock together. Do not interfere with the growth. Allow nature to have its course, and the greater part will become absorbed as age increases. DR. W. MOLE, M. R. C. V. S.]

Spaying Young Sows.

J. A. McDONALD, Grey Co., Ont.:—"Will you kindly inform me the proper method and location of the incision to spay sow pigs. I have a lot six weeks old, and only four hogs in a litter of fifteen."

[There is no doubt that it is advantageous to spay sows for feeding purposes, but to achieve success in this operation requires some skill and strict attention to a number of details. We do not recommend anyone to attempt this operation for the first time on the live animal. After gaining a complete knowledge of the situation of the ovaries in the dead animal, the exact relation that

the parts bear to each other, there is very little danger in overcoming all difficulties. The method is as follows: Drive a large nail into the lintel of the door eight feet from the ground, or in any situation that will command good light; fasten a cord above each hock, and sling the little pig head downwards; sponge the abdomen quite clean, make an incision down the median line about two inches in length, taking care not to wound the bladder, which lies immediately beneath the spot; then pass a catheter into the uterus, bringing the body of that organ into view; trace up both horns of the uterus, and with a pair of curved scissors snip out each ovary—an oval body about the size of a small pea. Carefully replace the bowels, stitch up the outer skin and inner peritoneum closely, but not too tight; apply a piece of adhesive plaster over the whole surface. Keep the pig without food six hours before the operation, and give a small feed an hour after. If the operation is properly performed the wound heals in three days without further trouble. Although we have described the operation, and by following out the details it can be successfully done, still there are a number of conditions that render it troublesome to anyone not completely acquainted with the anatomical conditions to be met with. DR. W. MOLE, M. R. C. V. S.]

Rupture in Pigs.

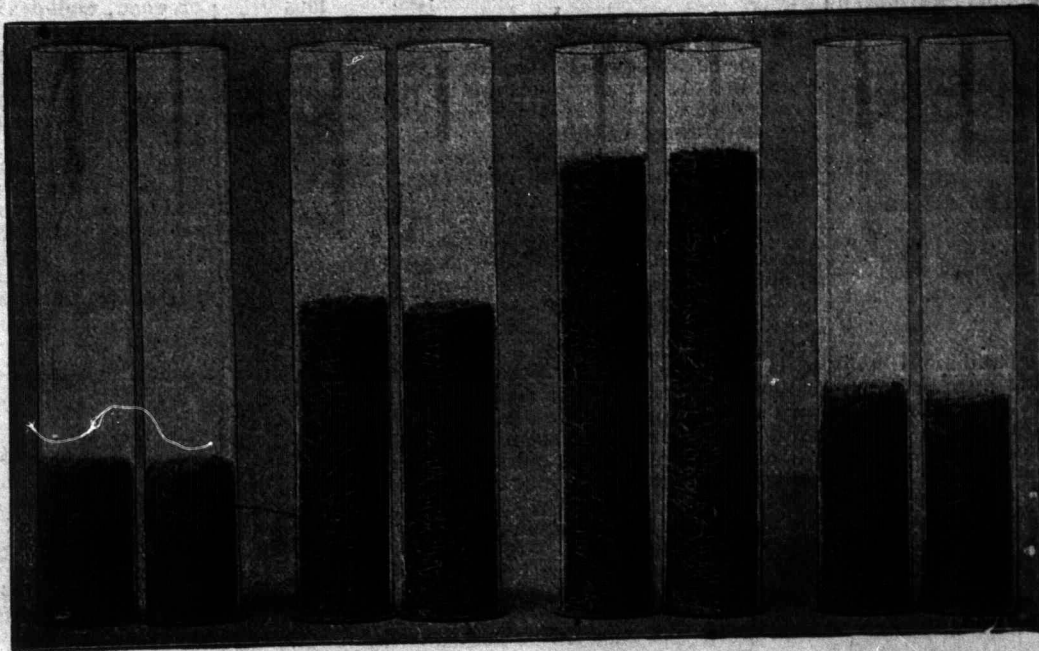
ALPHA-BETA, Wentworth Co., Ont.:—"As cases of rupture in young pigs is very common here this spring, we would like to know if it runs in some families of pigs, or does it depend on the general treatment of the sows before farrowing and of the pigs after?"

[We have never noticed that this trouble runs in families of pigs and have seen only occasional cases. In the case of boar pigs, when this occurs they should be castrated when two or three weeks old or soon after the trouble is noticed. An assistant should work the bowels well back from the rupture with his fingers before the operation is commenced, the pig being placed on its back. The assistant must keep a tight pressure on the breach until the operation is completed, the testicles being removed in the ordinary way and the openings secured by stitches about a quarter of an inch apart to keep the bowels from protruding, and when the wound heals the stitches rot out. If carefully done the operation is generally successful.]

Horse Falling Suddenly.

ALFRED BOVINGTON, Sault Ste. Marie, Ont.:—"I have a mare seven years old. After standing in the stable three days was driven about two miles. She appeared healthy and in high condition. On returning to the stable she became weak, and tramping with her hind legs for a short time, fell to the floor and laid there for six days. On rising she could only stand a short time for ten days and could walk round the stall, but could not stand still. I did not see her make water for six days, and

Yield of Crop of Oats Tested with Phosphoric Acid, and Shown on Opposite Page.



No Phosphoric Acid, Crop, 4.00. Manured with Phosphoric Acid in form of Bohemian Thomas-Phosphate, Crop, 13.00; oats increase, 1.50. Manured with Phosphoric Acid in form of Albert's Thomas-Phosphate, Crop, 12.00; increase, 3.00. Manured with Phosphoric Acid in form of Bone Meal, Crop, 5.50; increase, 1.50.

experience with this trouble and do not regard it as very serious. We would suggest that the pens be cleaned down to the floor and a good bedding of straw supplied so as to prevent the rising of ammonia from decomposing manure. We would also suggest that they be fed very lightly with grain, but give bran and a little oil cake with roots to keep the system open and thus aid nature in throwing off the derangement. One member of our staff used no local applications, but the writer believes a cure can be hastened—and has found it so—by bathing once or twice a day with warm water and milk and applying weak sulphate of zinc solution, the same as druggists prepare for a human eye lotion. We have found pulverized burnt alum blown into the scummed eyes through a goose quill once or twice at intervals of two days to greatly assist the removal of the obstruction and restore a healthy condition. We cannot believe the sudden death of the ewe mentioned had any connection with the eye disease.]

Probably Actinomycosis (Lump Jaw).

SUBSCRIBER, Perth Co., Ont.:—"I have a steer coming three years old last fall. I noticed an enlargement on his upper jaw. Fearing that it was a case of lump jaw I called in a vet., and he claimed it was caused by an ulcerated tooth which he extracted about two months ago. But the lump, which seems to be an enlargement of the jaw bone, still remains. Would an inspector be likely to class it as a case of lump jaw, or can anything be done to reduce the growth?"

[The case described points to actinomycosis, which often seems to start from sores of the gums or cavities by the side of decaying teeth. The affected jaw bone swells out into a large rounded mass, and the outer dense bone becoming absorbed before the advancing soft growth within, the diseased mass finally reaches the surface and gives

then only a very small quantity at a time. I gave two pints of raw linseed oil, warm injections; half a teaspoonful of nux vomica in her fed daily.

[Azoturia is a complex affection of the liver and kidneys, due to feeding too largely on corn. It is directly due to high feeding. Oats, peas, beans, corn and clover hay are the principal causes.

Miscellaneous

Further Information Regarding Mr. Tillson's New Piggery.

G. A. A., Wentworth Co., Ont.:—"I would be pleased if Mr. Tillson would give something more definite about building the walls of his piggery.

To the Editor FARMER'S ADVOCATE:

SIR.—In answer to your correspondent I will endeavor to make clear the points specified. (1) The brick walls are 13 inches thick, built on stone foundation 18 inches thick, 3 feet in the ground and 16 inches above ground.

Butter-fat and Butter Yield.

SUBSCRIBER, Huron Co., Ont.:—"(1) Is it possible for the percentage of butter over butter-fat to vary every month. (2) In what way is the per cent. of butter over butter-fat composed, and what is butter-fat?"

June, the test for May being 3.8 and for June 3.5, the percentage of butter over butter-fat 13, and butter sold at 16 1/2 cents a pound, what difference would there be if this party was charged 3 cents a pound on butter-fat or 4 1/2 cents on butter for making."

(1) Yes. If, however, the buttermaker is a thoroughly capable man and the person entrusted with the testing of the milk is one well schooled in his work, the variation will be slight.

(2) The composition of good creamery butter is about as follows:

Table with 2 columns: Component and Percentage. Fat 82 per cent., Water 15, Casein (curd) 1, Ash (chiefly salt) 2.

Your correspondent asks, What is butter-fat? I do not suppose that a chemical explanation of fat is what is desired, therefore I would simply say that it is the oily or fatty part of milk.

(3) Not necessarily. In this let your correspondent note two things: (a) That it is next to impossible to skim milk and churn cream with exactly the same perfection day after day.

(4) It is a fair average—indeed, a good one. Unless an undue quantity of water be left in the butter, 15-16 per cent. is about the outside limit.

Table with 4 columns: Month, Pounds Milk, Test (13% overrun), Pounds Fat, Pounds Butter. Rows for May and June.

The price of the butter does not affect this question. It is, however, plain that there is no near relation between these methods of charging for making.

In any case, however, the charge for making should not be based on the pounds fat, but on the pounds butter, for these reasons: If based on the pounds fat, then by reading the tests high the receipts for making could be increased, even to a considerable amount.

"Subscriber's" letter but adds evidence to the known facts that a great many men are making butter who are but very imperfectly equipped for their work.

Western Dairy School, Strathroy.]

A SUBSCRIBER, Victoria Co., Ont.:—"Would you kindly advise through the ADVOCATE, if salt will hurt young clover? We intend sowing a quantity of salt on land to be sown with wheat and seeded down with Alsike clover and timothy?"

[Salt should be sown broadcast on the land before the grain and clover seed is sown, or immediately after, so that it may be dissolved and absorbed before the plants appear above ground.

Co-operative Milling.

T. W., Peterboro Co., Ont.:—"We, the farmers of this district, are thinking of forming a joint stock company for the purpose of erecting a grist mill, the capacity being 40 barrels of flour and 75 bags of chop per day; the cost when completed to be \$10,000, to be divided into 400 shares of \$25 each; the power being a first-class water power.

shares each. Some men in the village purpose taking as high as 40 shares.

[NOTE.—Will readers who have facts bearing upon the subject kindly write us at once.—EDITOR FARMER'S ADVOCATE.]

Alder Buckthorn for Hedge.

H. F. D., Oxford Co., Ont.:—"Will you kindly inform me through the columns of your valuable paper how alder buckthorn hedge seeds should be planted and cultivated in order to make a hedge?"

[Regarding alder buckthorn (Rhamnus Frangula) I may here give you our experience. The seed should be planted in early spring, in good, friable soil, well drained, and it will germinate readily the first season.

Pasture for Hogs.

E. M., Huron Co., Ont.:—"Can you tell me in your valuable paper what is the best hog pasture? How would lucerne answer for this purpose?"

[There is, in our opinion, no better pasture for hogs than the common red clover, and it should be kept short by being eaten down or cut so that it may not at any time be more than six inches high.

MARKETS.

FARM GOSSIP.

Lincoln Co., Ont.

There is little change here in prices of farm produce from last month's report. Butter was scarce during the latter part of March, selling as high as 30c.

Bruce Co., Ont.

Contrary to the old adage, "If March comes in like a lamb, it will go out like a lion," March commenced fine and warm and continued the same during the whole of the month.

The farmers who were holding their wheat for \$1 per bushel, so far have been disappointed. There are considerable numbers of fine cattle being stall-fed for export, many stables having from 4 to 25 head.

One cheese factory, at least, in this neighborhood purpose putting in plant to make butter as well as cheese. The spring opening so early was favorable for farmers to advance their spring operations and a large area has already been plowed.

\$2 per acre if in the exodus to the farmers' numerous than

The Martin by auction for 90 acres of first but a poor house land in Hullett tained for a far

The contin doing great da many cases it weeks ago thin an increased ac farmers were lo

Since I last to the end of I feel as if we ha in some days o in any winter quickly, proba in the fall, or was not much from below clover this year considerably cheap and ple but most farm grass. As a r things. Stook hard to get a g dear, ranging weather sets it plowing, but r market is not Chateaugay

Immediate change in the This mild was and we fear th been hard to h how much it is very little fro ary. Spring I At present wri men are not so former years, the factories w ing the two ho in September.

Hog feedi packing-house Hogs will now a month or tw

A second p by the farmer count of our being in the think that a s petition that v best quality scarce. There was a month a Quiry. Best Oats are advan 80c. Potatoes All stock winter, and w There are no vincial exhibi will be asked so our Provin be thrown ope Bay View.

A consider not of the best of any day thi 400 sheep and market to ev anax was the This state of morals of To rapidly increa modatum, it v advised that market by tal improved catt

Report Ca via St. John's than they we 40c. per lb. A One load of ch sold for \$4.40 porters, 1,200 l 15 cars of expo Wilson, the w Northwest on quarters. Sev space is to be

Butchers' and choice ca farmer feeling, the close of th 40c. per lb. A at \$3.55 per c butchers' heif cattle sold dow John's and H lbs. average, e the Bull's He record, dining single compl

Feeders.— \$3.70 per cwt. Buffalo. Pric

Stockers.— demand at \$3.5

\$2 per acre if in a fair state of cultivation and fair buildings. The exodus to Manitoba and the Northwest by farmers and farmers' sons, as well as others, has been rather more numerous than usual.

Huron Co., Ont.

The Martin farm, situated just east of Clinton, was sold by auction for \$6,000 to Robert Scott. The farm contains 90 acres of first-class land, with good bank barn and orchard, but a poor house. Mr. Scott now has 200 acres of the best land in Hullett. It is said that this is the highest price obtained for a farm in twenty years in the locality.

Perth Co., Ont.

The continued cold weather since the snow disappeared is doing great damage to the fall wheat near Stratford. In many cases it is being heaved out of the ground. A few weeks ago things were looking very bright, and as there is an increased acreage of wheat in this section this season, the farmers were looking forward to an excellent crop.

Quebec

Since I last wrote you the weather here has been fine up to the end of March; since then it has changed, making us feel as if we had winter still; in fact, to-day it is as cold as in some days of February. I think we never had more snow in any winter than the last one, and it never left so quickly, probably owing to the fact that the snow fell early in the fall, or before much frost, consequently the ground was not much frozen. The snow seemed as if it thawed from below. I was in great hopes we were to have great clover this year, but with this hard frost it may injure it considerably. There is no scarcity of feed here. Hay is cheap and plentiful. Coarse grain has increased in value, but most farmers have enough to take them through to the grass. As a rule farmers here are taking a brighter look of things. Stock of all kinds is selling well; in fact, it is very hard to get a good horse to buy. Milk cows are scarce and dear, ranging from \$40 to \$60 for good grades. If warm weather sets in we will have early grass. Some have been plowing, but no sowing yet. The outlook for the cheese market is not too bright here.

F. E. Island.

Immediately after our last monthly report we had a mild change in the weather which took all the snow off the fields. This mild weather has continued ever since, without snow, and we fear that the nightly freezing and daily thawing has been hard on the clover, but it is too soon to tell yet just how much it is injured. We have had a very fine winter; very little frost, except for two weeks in the last of January. Spring is likely to open up much earlier than usual. At present writing the land is beginning to get firm. Dairy-men are not so enthusiastic about the cheese business as in former years, the low price is telling against it. Many of the factories will make butter during June, and cheese during the two hot months, then return to buttermaking again in September.

Hog feeding has been given quite a stimulus since a packing-house has been put in operation in Charlottetown. Hogs will now be marketed during the whole year instead of a month or two as formerly.

A second packing-house is likely to be built this season by the farmers and run on the co-operative plan. On account of our isolated position, and the packing business being in the hands of one strong corporation, the farmers think that a second establishment will give them the competition that will assure them a better price for hogs. The best quality of hogs sell here now at 5c., and are very scarce. There is not as much enquiry for fat cattle as there was a month ago, but after Easter we expect a better enquiry. Best fat cattle are worth 4c. per lb. live weight. Oats are advanced, and sell at about 32c. Wheat is worth 80c. Potatoes, 30c. Hay, 35c.

All stock have wintered well, as a result of the mild winter, and will go to the grass in good order.

There are no arrangements yet made about holding our Provincial exhibition. The Legislature meets to-day, and they will be asked to increase the Provincial grant. If they do so our Provincial exhibition will be much improved, and be thrown open to the other Maritime Provinces.

Toronto Markets.

A considerable quantity of the cattle coming forward are not of the best quality. The run of live stock was the largest of any day this year—120 carloads all told—nearly 1,000 cattle, 400 sheep and lambs, 4,500 hogs. This quantity caused the market to overflow, and the crowding at the scale in the annex was the cause of a good many swear words being used. This state of things interferes with business, temper and rapidly increasing, and the trade requires increased accommodation, it would be well if His Worship the Mayor at once advised that the necessary steps be taken to enlarge the market by taking in the front portion and covering it with improved cattle pens.

Report Cattle.—There is some inquiry for export cattle via St. John's. The quality was better, price a little higher than they were a week ago. The ruling figures were 4c. to 4c. per lb.; the average price would be about \$4.25 per cwt. One load of choice cattle, weighing from 1,200 lbs. to 1,300 lbs., sold for \$4.40 per cwt. A. M. Buck bought one load of exporters, 1,200 lbs. each, at \$4 per cwt. Joseph Gould shipped 15 cars of export cattle via Boston for Liverpool. Mr. Joseph Wilson, the well-known, affable cattle dealer, leaves for the Northwest on Thursday. He will make Winnipeg his headquarters. Several boats are due to sail this week, and shipping space is to be had at less rates than is usual from Montreal.

Butchers' Cattle.—Good butchers' cattle are in demand, and choice cattle are especially enquired for. There was a firmer feeling, due to the approach of Easter; all sold before the close of the day. Prices were, for good to choice, 3c. to 4c. per lb. A. T. Hall sold 23 butchers' cattle, 1,025 lbs. each, at \$3.55 per cwt. W. H. Patterson, of Agincourt, sold four butchers' heifers, 1,150 lbs. each, at \$3.75. Inferior class of cattle sold down to \$2.85. A. W. Maybee bought 120 butchers' cattle for slaughter in the Abattoir and shipment to St. John's and Halifax, at \$2.75 to \$4 per cwt. One carload, 1,110 lbs. average, sold at \$4.10. Mr. John Beers, the genial host of the Bulls' Head, eaters entirely for cash, and made a record, dining 140 men in one hour and 15 minutes, without a single complaint.

Feeders.—A. M. Buck bought 11 feeders, 1,000 lbs. each, at \$3.70 per cwt. There is still a good demand for feeders from Buffalo. Prices average \$3.30 to \$3.50.

Stockers.—The Buffalo market was firm, and stockers in demand at \$3.25 to \$3.60.

Bulls.—Steady enquiry for stock bulls for feeding, at 2 1/2 to 3c. per lb.; export bulls, light, \$3 to \$3.25 per cwt.

Sheep were steady at 30 to 35c. per lb. for butchers and exporters; they were in good demand and wanted. Mr. Kinneer reports there is a good demand for all kinds. Bucks sold for \$3 to \$3.25.

Spring Lambs.—Not many on offer; the demand not great; sold from \$3 to \$5.50 each. Yearlings are worth from \$5.50 to \$5.70 per hundred.

Cattle.—The supply again light; the market firmer; prices advanced for choice veals, \$4 to \$5 per head, the average price being about \$5.

Milk Cows.—Only a few on offer; not many wanted; prices are a trifle easier at \$25 to \$35 per head.

Hogs.—Unchanged at present, but a great disposition to go lower next week. Choice sizers, \$1.60, and \$1.75; for thick and light fat. Thick fat, short, chunky hogs are unsold for this market; the scale is against them at all times. A large number of this class of hogs seem to be coming forward; they are a cross of the Duroc breed, and why farmers have switched off the Tamworth seems hard to understand. A cross of the Tamworth on the Yorkshire White seems to be perfectly satisfactory. Messrs. Park, Blackwell & Co. have commenced building their new pork-packing and killing establishment at the foot of Church street, and intend to have a model building costing \$100,000.

Dressed Hogs.—Receipts are more liberal on the street in farmers' loads; mixed weights are quoted at \$5.75 to \$6.15 per cwt. Provisions are moving more freely, and no stocks accumulating, as is the custom from year to year; this will have a tendency to keep prices up.

Butter.—Feeling is slightly easier, although values are unaltered; receipts more liberal than last week. Mrs. Burton, of Markham, always obtains the top price of the market—2c. per lb. Creamery, 2c. to 2c. per lb.

Hay.—The largest supply of hay on the street market (over 50 loads) this year; the price kept steady at \$3 to \$3.50.

Grain Market.—The receipts of grain were fair, 2,800 bushels all told. Wheat steady, 600 bushels selling as follows: White, 80c; red, 80c; rye, 80c; to 85c. per bushel.

Hides.—Hides cured are quoted at 8c. to 8c. per lb. No. 1 green at 8c. per lb.; No. 2 green at 7c. per lb.; No. 3 green at 6c. per lb. Sheepskins, \$1.10 to \$1.25. Calf skins at 8c. to 10c.

Wool.—Fleece, 15c. to 20c.; super, 15c. to 21c.

Barley.—Steady, 50 bushels selling at 35c. to 35c. per bush.

Oats.—Basic, 4 bushels selling at 32c. to 35c.

Flax.—Steady, 1,000 bushels selling at 55c. to 55c.

Corn.—A sharp advance of 1c. per bushel took place on this market to-day.

Chatty Stock Letter from Chicago.

Following are the current and comparative prices for the various grades of live stock:—

Table with columns: GRADES, Extreme Prices, Two weeks ago, 1897, 1898. Rows include CATTLE (1200 lbs. to 1000 lbs.), Fed Westerns, Stockers and feeders, Pigs, etc.

March receipts—Chicago, Kansas City, Omaha, St. Louis.

Table with columns: Month, Cattle, Hogs, Sheep. Rows for March 1898, 1897, 1896, 1895, 1894, 1893, 1892, 1891.

First quarter—Chicago, Kansas City, Omaha, St. Louis.

Table with columns: Total, Cattle, Hogs, Sheep. Rows for Total 1898, 1897, 1896, 1895, 1894, 1893, 1892, 1891.

A hog salesman is of the opinion that good hogs will go to \$3.75 before the first of next month, but after the May and June runs he thinks they will reach \$4.50. Average weight of hogs at Sioux City last month 254 pounds, against 254 pounds the previous month. 373 pounds in January, 249 pounds a year ago, 261 pounds two years ago, and 200 pounds the corresponding month of 1895. There is a scarcity of prime heavy hogs coming to market. Usually at this season big hogs are plenty enough so there is a premium on the lightweights. A load of common 164-pound Kentucky hogs sold at \$3.75, when good hogs of the same weight sold at \$3.90. Kentucky has a good many mast-fed hogs, which by many are considered better than corn-fed hogs, but the packers do not like them, as they are too oily.

The war scare is having a perceptible effect upon the export horse business, and a number of the representatives of foreign markets have been at least temporarily withdrawn. Among the best consignments of heavy draft horses on the market this week were the loads consigned by William Abel, of Iowa horses, and Jerry Sprowl, Mason, Ill. The highest price scored was for a roan five-year-old pair of Percherons that weighed 3,400 pounds, and sold for \$300. One black

Percheron, weighing 1,750 pounds, sold for \$130, and a bay six-year-old Clydesdale gelding, weighing 1,550 pounds, brought \$120. Mr. Abel's load averaged \$140, and Mr. Sprowl's horses averaged \$150, which is fully \$50 per head lower than the same offerings would have brought in January. Pierce A. Immel, Camp Point, Ill., and Sol. Geteman, Chicago, offered two loads of choice drivers and coach horses yesterday that averaged \$125 and \$130 per head respectively. The horses were trotting-bred animals, many of them eligible for registration. The top price of the consignment was \$45.

On and after April 15th all sheep bought for feeders at this point will have to be dipped, according to government regulations. It seems that Omaha is coming to the front quite rapidly as a sheep market. It ought to do so, as it is directly in the line of a movement from the greatest sheep-raising grounds to the consuming centers.

Toronto Horse Market.

The Canadian Horse Show promises to be a great success. A large number of horsemen have picked up animals for the purpose of competing for the many prizes offered at the Armouries. Mr. E. B. Clancy bought a pair of horses from the Armories, paying \$700 for the two—a remarkably good price for a pair at first hand from the breeder. Mr. Geo. Pepper has got a remarkably fine-looking hunter, certain to make a good timber topper. Mr. Geo. Beardmore, the popular M. V. H., has a stable of fourteen good-looking animals that will be seen to advantage in the forthcoming show. Outside the city, Mr. Adam Beck, Mr. Wm. Hendrie and Mr. Shelton Fuller promise a full contingent. The special sale of 60 horses took place at Grand's Repository, Adelaide street. Mr. T. G. Ferris, of Windsor, consigned a score of good-looking, well-matched pairs. One pair of carriage horses, that have been regularly driven in the city for the last two weeks, fetched \$300, the pair.

Montreal Markets.

Easter has come and gone, and with it the hopes of many who had built upon big prices for their cattle. Year after year very much the same results are attained by drovers and feeders who hold back for long or short periods, supposing that big prices will be paid, only at the last moment to sell out at a loss. This year has been no exception to the rule, for notwithstanding the fact that 5c., 6c., and even 7c. per lb. was paid, they were extremely scarce, and were only taken for showing purposes by one or two of the best butchers in the city, whereas the great majority are content to get beaver that cost very much less. In conversation with one of the largest salesmen in the yards—one upon whom we have every reliance—he stated that he was there Easter week selling cattle for just one-half cent per lb. less than he had been obtaining for the same beef for the past month or six weeks. His opinion was that it would be money in the pockets of the farmer if less attention were paid to the fatness of the animals, and more attention were given to sending good beaver right along to the market.

There was a surplus of good beef, and prices were accordingly low, which latter is to be regretted, for if farmers and feeders were only paid according to the quality of their stock when it is nicely finished, it would give the farmer a better breeding, but they claim, and with apparently good ground, that there is more money in the medium than in the finished beast. The reason as given above is very plain.

On Monday and Thursday, while quite a few were obtaining as much as 4c. and even 5c., the greater bulk of the beef bought for Easter was around 3c. to 4c. per lb., and perhaps some even as low as 2c. to 3c. per lb.

Lambs—that is, spring lambs—are coming in rather more freely, and prices are not so stiff as two or three weeks back, but owing to the drain the country has been put to during the winter, they are still held at good, stiff prices, ranging all the way from \$2.50 to \$4 each, according to size.

Cattle are arriving freely, but good fat calves are still scarce and command good prices, which may be placed at as wide a range as 2c. to 7c. per lb., or \$1.50 to \$2 each.

The Horse Trade.

The gloomy view of this trade taken in our last report has kind of eased off since then, although in the British markets it is the very choicest animals that are making any money. This is unfortunate, as the animals leaving this side are, with hardly an exception, a splendid lot, and it is a pity to see the shippers of them out of pocket on the deal. Locally, the past week has been a very active one, and a goodly number have changed hands, both for city and export account, the demand for the former being mostly for nice drivers for express wagons and good chunks for trucks. These have ranged from \$70 to \$125 each. For export, top prices have been paid—some very fine team of drafts making \$500, but they were something far superior to the general run of what are called choice drafts, these latter ranging from \$110 to \$130 and \$140 each, while chunks bring \$85 to \$105, and sometimes \$5 more; good drivers, on which the range is very wide, all the way from \$15 to \$150.

BOOK TABLE.

"The Domestic Sheep."

A new and thoroughly practical work on the culture and general management of sheep has just been issued from the pen of that eminent authority, Henry Stewart, author of "The Shepherd's Manual," "The Dairyman's Manual," "Irrigation for the Farm, Garden and Orchard," "The Culture of Farm Crops." This new work of 370 pages is profusely illustrated with portraits of the various breeds of which it treats in a masterful manner, also with figures of various contrivances, buildings, etc., useful to the shepherd. Chapter 1 deals with the natural history of the sheep, dwelling especially upon the anatomy of the parts and organs and their functions. Chapter 2 takes up the varieties and breeds. Chapter 3 covers the science and art of breeding, taking up heredity, climatic influence, cross breeding, influence of soils, etc., in a way to be of useful service to men who desire to learn. Following breeding comes a chapter on the science and art of feeding, in which the possibilities of reaching the climax in excellence of appearance and profit from raw crop material, barns and stables receive their due share of attention in chapter 5, while chapters 6, 7 and 8 cover, in an unassuming and clearly-stated manner: wool—its history, uses, production, care, etc.; minor British breeds of sheep; and diseases of sheep, prevention and treatment. We may say that the 63 pages of this last chapter do not attempt to cover all the ills ever known to sheep, but rather to help a shepherd in the more common troubles of the fold, such as occur in conjunction with and following parturition, and troubles from internal and external parasites, skin diseases, and such other troubles as frequently occur, especially in large flocks.

We recommend this work to the general agricultural public, and believe it will be a useful factor in the assistance and encouragement of this important but too much neglected part of farm industry. It is published by the American Sheep Breeder, Chicago. It can be ordered through this office at the regular price of \$1.50.

THE GREAT CANADIAN PUZZLE!

1st Prize, \$50.00! 2nd Prize, A Gold Watch! 3rd Prize, A Silver Watch! Gold-Plated Pins!

A PROFITABLE, INSTRUCTIVE, AND AMUSING PUZZLE.

THE management of the FARMER'S ADVOCATE have determined to increase their subscription list to 50,000. As an aid in doing this they offer the above magnificent gifts ENTIRELY FREE to competitors for obtaining NEW SUBSCRIBERS.

- 1. -A-A-A-: A progressive country.
2. H-D-O-: A large bay in Canada.
3. -T-A-R-N-E-: A noted river in Canada.
4. T-O-M-E-: A well-known Indian Chief.
5. -U-O-S-L-O-Q-I-S-: Native Indian races.
6. N-W-O-N-L-N-: A Canadian Island.
7. -O-O-: A Canadian city.
8. F-R-E-S-D-O-A-E-: A popular Canadian publication.
9. -U-B-E-R-: A Canadian export.
10. P-O-O-: A Canadian town.
11. -A-O-S-C-: A Canadian summer resort.
12. E-A-G-L-I-N-: A noted poem, the scene of which is laid in Canada.
13. -A-U-A-: A valuable time saver.
14. L-U-I-R-: A prominent Canadian statesman.
15. -A-A-A-: Visited by all tourists to Canada.
16. L-R-A-E-D-E-: Commander-in-Chief of Canadian forces.
17. -E-H-A-E-: Found in most Canadian cities.
18. - man - makes - himself - eaten - : An old proverb.

HOW TO SECURE THE PRIZES.

Send a correct list of the above drop-letter words, enclosing \$1.00 for a year's subscription (new) to the FARMER'S ADVOCATE, and you can secure the \$50.00 or other grand prizes as provided below. This puzzle may seem difficult at first, but you can do it, as there are no names or other words in the list which every school boy and girl do not see almost daily.

ANSWERING THE PUZZLE.

Put letters in place of dashes: Thus, the first word is "Canada," which is made by supplying the dropped letters "C N D," the others are worked in the same way.

"Good morning, Mr. Gill." She was trembling all over when she reached her house door. There was a subtle, easily raised wind which blows spirits about like leaves, and she had come into it with her little paper of gentian. She had hidden the parcel in her pocket before she entered the kitchen. Her husband was awake. He turned his wondering, half-resentful eyes towards her without moving his head.

yourself to death, an' I want to know the reason why. Is it anything 'bout Alfred?" "Yes—don't, Hannah." "Well, I'll go over an' give him a piece of my mind! I'll see—" "O Hannah, don't! It ain't his. It's me—it's me." "What on airth hev you done?" Mrs. Tollet began to sob. "For the land sake, stop cryin' an' tell me!" "Oh, I—give him—gentian!" "Lucy Ann Tollet, air you crazy? What of you did give him gentian? I don't see nothin' to take on so about."

GENTIAN.

BY MARY E. WILKINS.

It had been raining hard all night; when the morning dawned clear everything looked vivid and unnatural. The wet leaves on the trees and hedges seemed to emit a real green light of their own; the tree trunks were black and dark, and the spots of moss on them stood out distinctly. A tall old woman was coming quickly up the street. She had on a stiff starched calico gown, which sprang and rattled as she walked. She kept smoothing it anxiously. "Gittin' every mite of the stiff'nin' out," she muttered to herself.

Trave... Mrs. Rorer... Half pint of... WHOLE... SAUCE FOR... BAKING... Separate...

Travelling Schools of Cookery.

(Continued from page 160.)

Mrs. Rorer insists upon the thorough cooking of all starches to render them digestible. Bread baked in large loaves for one hour is frequently not sufficiently cooked for the saliva to effect the starch. Whole wheat bread must be baked longer than white bread, and it must be made in small loaves. The whole wheat bread, for which we give a recipe in this issue, is the very best food for growing children. One pound of whole wheat flour contains double the amount of gluten and three times as much mineral matter as one pound of white flour; making flesh food unnecessary. Cereals improperly cooked are most irritating to the stomach, and cause intestinal indigestion. The wheat preparations head the list of breakfast foods, and like all cereals should be put over the fire the night before in a double boiler, or cooked slowly from one to two hours in the morning—without stirring, as this makes it pasty.

WHITE BREAD.

Half pint of milk, half pint of warm water, one teaspoonful of salt; add one compressed yeast cake (dissolved in one tablespoonful of warm water) and flour enough to make a stiff dough, just so it will not stick to the hands; knead, but do not mix in too much flour; pound and pull it, which will make it light and soft; put it back into the pan, let it rise for three hours, then mold into loaves and let stand in a warm place for another hour, then bake for 30 minutes.

WHOLE WHEAT BREAD.

Half pint milk, half pint warm water; add salt and yeast cake the same as in the white bread, and sufficient whole wheat flour (not graham) to make a batter; beat thoroughly, stand aside in a warm place (about 68 degrees) for two and a half hours; then add enough whole wheat flour to make a soft dough; knead, and make into loaves at once; let stand, to rise, one hour, then bake in a quick oven for 45 minutes.

SAUCE FOR BEEF AND GAME.

Four teaspoonfuls very fine horse radish; the yolk of one egg; mix thoroughly, and add four tablespoonfuls cream whipped to a stiff froth.

POPOVERS.

Two eggs, beaten lightly; one cup of milk; one cup of pastry flour in a bowl; add the egg and milk gradually, and strain through a wire gravy strainer to make it light; have ready the muffin pan, oiled and hot, to pour in the mixture, which will make twelve popovers; thus they are nice for breakfast, well browned; or if not baked quite so much will do for pudding with sauce for dinner. They are altogether egg rising, so you must have pastry flour and a very hot oven or they will fall. The same recipe makes good Yorkshire pudding.

BAKING POWDER BISCUITS.

One pint flour, one tablespoonful butter rubbed well into the flour, one teaspoonful of salt, one teaspoonful of baking powder; mix thoroughly, and moisten with two-thirds cup of milk; cut with a sharp biscuit cutter, brush over with milk, and bake in a quick oven.

FRENCH OMELETTE.

Rub the pan first with dry salt to make it smooth; then put on it one tablespoonful of butter; separate four eggs, beating the yolks very little, and the whites until they are light, but not stiff and dead; lift the beater several times to let the air get in them; and add one-eighth teaspoonful of white pepper, four tablespoonfuls warm water, one tablespoonful chopped parsley, and one level spoonful butter; sprinkle just a little salt over while on the pan, and keep turning up from the edge to let that which is not cooked reach the pan. This is a foundation for any kind of omelette. A little chopped ham or tongue may be sprinkled on the omelette just before it is rolled, or if a sweet one is wanted, spread with cooked fruit just before taking out of the pan.

OMELETTE SOUFFLÉ.

Separate six eggs, using all the whites, and yolks of three; three tablespoonfuls powdered sugar, the grated yellow rind of half a lemon, a tablespoonful lemon juice, and as much salt as you can hold between the thumb and finger; put together in the following order: first the sugar, then the yolks slightly beaten, lemon rind, the juice, lastly, the whites folded in carefully; any flavoring may be used instead of the lemon: wine, orange, etc.; put a foundation of about one-third of the mixture on an oval dish, the remainder put into a pointed bag made of unbleached drill with a tube in the end; now squeeze this through the

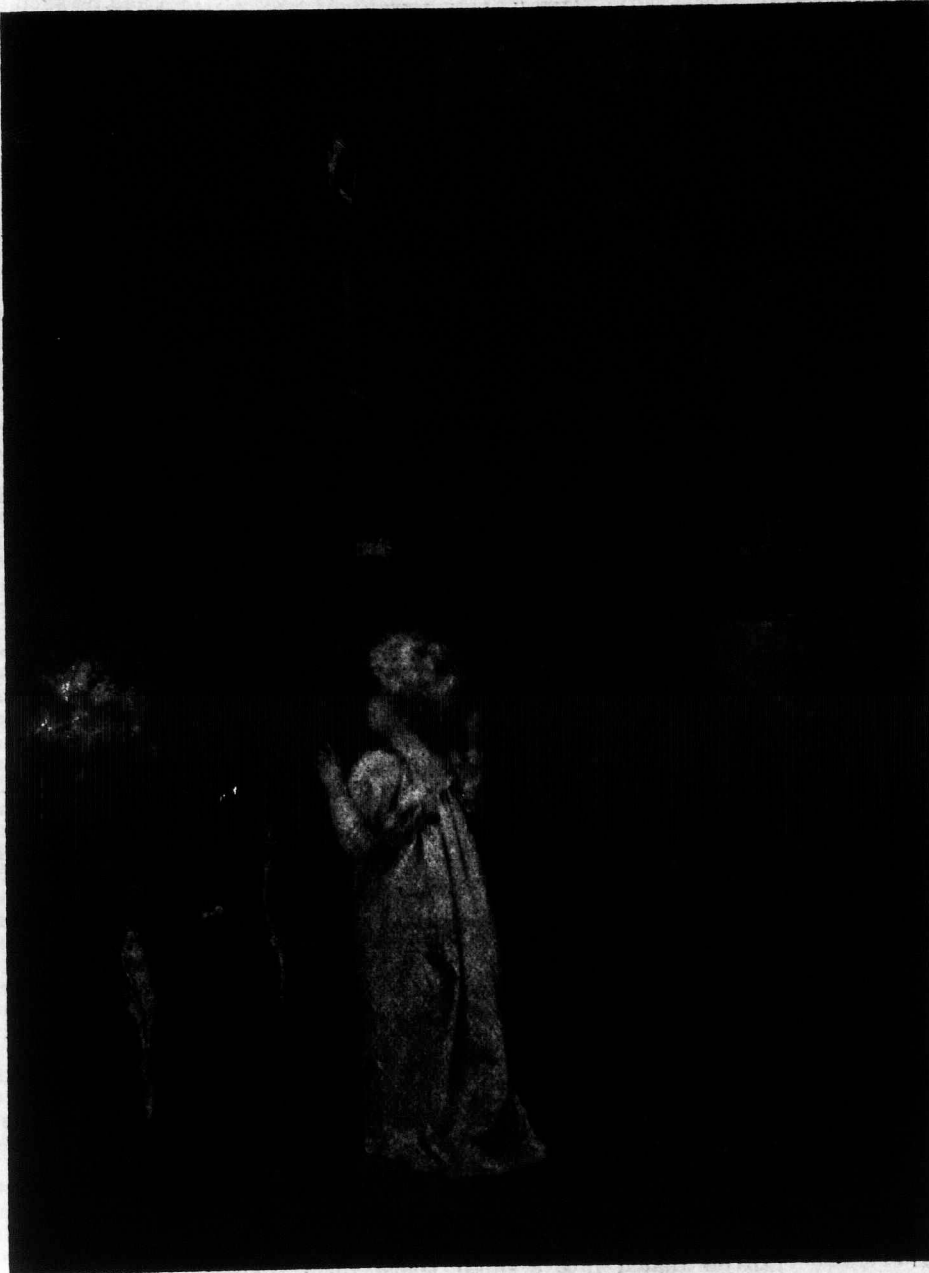
tube, going around the foundation to pile it up until there is almost a point in the center; bake in a quick oven from five to ten minutes. This must be eaten as soon as it comes from the oven.

"I Want to See the Wheels Go Round!"

Such a dainty little mite,
Dressed in trailing robes of white!
Baby Ruth, as you perceive,
Curious is—like mother Eve,
Into secrets she would pry;
Listen to the eager cry:
"Let me see what makes the sound!
I want to see the wheels go round!"

Does she stand alone, think you?
Seeking for an inside view?
Men of science, men of fame,
Darwin, Huxley, are the same,
Not content to watch the face,
They the unseen "works" must trace.
Searching "nature," men are bound
To see what makes the "wheels go round."

'Tis an instinct strong in man
Hidden mysteries to scan,
For the universe doth show
That some force doth make it go.
Learned men may never reach
Wisdom that the child could teach.
Only eyes of faith have found
The power that makes the world go round.—D.F.



"I WANT TO SEE THE WHEELS GO ROUND!"

Don't forget the great Canadian puzzle contest! Everyone a chance!

Remember the date (20th May). No answers noticed after that date.

Do not be discouraged if you cannot find all the words; the first prize is not the only valuable one.

Remember that even eight words correctly guessed, and a fresh subscription, entitles you to a handsome and useful prize.

Light Pie Crust.

Make a soft paste with one pound of flour and water, and a pinch of salt; leave for half an hour, roll it out, spread some fresh butter over it, fold and roll it out again; repeat this three or four times. Bake in a quick oven.

Ice Cream Cake.

One cup of sugar, one half cup of butter, creamed together, one cup milk, one teaspoonful flavoring, one cup flour, one half cup cornstarch, three teaspoonfuls baking powder sifted together, then add whites of four eggs beaten to a stiff froth; bake in square tin, ice and cut in squares.

THE QUIET HOUR.

Resurrection.

Again we stand face to face with the great Historical Fact to which Christians can point with quiet certainty when unbelievers try to shake their faith.

As Westcott says: "So far from being beset by greater difficulties than any other historical fact, it is the one fact towards which the greatest number of lines of evidence converge. . . . Indeed, taking all the evidence together, it is not too much to say that there is no single historic incident better or more variously supported than the Resurrection of Christ." We hear so many sermons about the death of Christ, and the necessity of faith in His Blood, why is it that the Fact which was the central teaching of the Apostles is scarcely mentioned to-day, except when the season of Easter fairly forces it into view?

The Apostles were to be "witnesses of the Resurrection." St. Paul even throws the whole weight of salvation on this one point: "If Christ be not raised, your faith is vain; ye are yet in your sins."

It is easy to see the importance of this great miracle. If the taunt hurled at the Christ, "Himself He cannot save," had indeed been true, how could He be able to save others? If He who is the Head of the Church be dead, how can there be life in the rest of the Body? The Lord Jesus spoke of His death as merely an event in His life, not as though it could even interrupt the great promise, "Lo, I am with you always, even to the end of the world."

It is not a dead but a living Christ who throughout the centuries has "filled the hearts of men with an impassioned love," and is still, by a marvellous force of attraction, "drawing all men unto Him."

It may be hard for city men to believe in the Resurrection, but to you who are living on farms it should be quite the other way. The old saying, "I will not believe what I cannot understand," is utter nonsense, as you know very well. Who can understand the thousands of resurrections which surround him in the field and garden? How does the living plant rise from the seed, bursting out as from a tomb? Think of the common Easter symbol—the egg. Can anyone explain how warmth makes the chicken develop within the shell? You, who so often place the eggs in the nest ready to be hatched, do you ever stop to think how wonderful this hatching is? There are no feathers, no little, downy chicks inside those eggs now, yet you have faith that there will be. Explain the marvel, if you can. Disbelieve it, if you dare. If you did not know it to be true, you would say it was impossible. Learn then from the common wonders of nature that "with God nothing is impossible."

The truth is, God is very patient with our weak faith, and, knowing how important it is for us to believe in the resurrection, He surrounds us with innumerable outward and visible signs of it. Each grain of wheat you sow in your fields is a silent witness to the fact that our highest life comes only through death. "Except it die, it abideth alone; but if it die, it bringeth forth much fruit;" so said He who is able to explain the meaning of Nature, for it is His own handiwork. You farmers know that those words are true. One grain is of very little value, "except it die,"

then indeed it is capable of multiplying to an unlimited extent. When your orchards are beautiful with a grand show of blossoms, you do not fret because the flowers must die, for you know if they did not, you would have no fruit next fall.

Why should we fear death, either for ourselves or for others? Do not let us be so blind to the parables of the springtime. We want life! Of course we do! A greater, nobler, wider life than we can have here; a life which can only be gained through dying. Must we then wait until death before we can taste this new life? Surely not. Every act of self-sacrifice for the good of others, no matter how small or unnoticed, is really dying to self and waking up into new life in Christ. All who are "buried with Christ in baptism," are, even in this world, called to share in His great Resurrection and "walk in newness of life."

"Boast not thy victory, Death!
It is but as the cloud's o'er the sunbeam's power,
It is but as the winter's o'er leaf and flower
That slumber the snow beneath!"

It is but as a tyrant's reign,
O'er the voice and the lip which he bids be still,
But the fiery thought and the lofty will
Are not for him to chain!"

D. F.

"Let this be thy whble endeavor, this thy prayer, this thy desire: that thou mayest be stripped of all selfishness, mayest die to thyself, and live eternally to Him."

Memory Gems Contest.

BY ALLAN B. G. SMITH, NEW HAMBURG, ONT.

I. Among the pitfalls in our way, The best of us walk blindly; So man beware! watch and pray, And judge your brother kindly. -Alice Carey. II. To each his sufferings—all are men, Condemned alike to groan: The tender for another's pain, The unfeeling for his own. -Gray. III. All our acts and words are seeds, Sown o'er the past, whence future deeds Spring up to form our wheat or weeds. And as we've sown, so reap we them. -Argoosy. IV. Nor pass the tattle curious lad Who o'er his book hangs his head, And begs of neighbor's books to read. From hence arise— Thy country's sons who far are spread, Both bold and wise. -Telford. V. He who stops to parley with temptation will be likely to yield. -Aesop. VI. What is really wanted is to light up the spirit that is within the boy. In some sense and in some effectual degree, there is in every boy the material of good work in the world; in every boy, not only in those who are brilliant, not only those who are quick, but in those who are stolid, and even in those who are dull. -Gladstone. VII. Let us have faith that right makes might; and in that faith let us, to the end, dare to do our duty, as we understand it. -Abraham Lincoln. VIII. Bless'd work, if thou wert a curse of God, what must his blessings be. -J. B. Selkirk. IX. What though you have found no treasure, nor has any rich relation left you a legacy. Diligence is the mother of good luck, and God gives all things to industry. Then plow deep while the sluggard sleeps, and you shall have corn to sell and to keep. Work while it is called to-day, for one to-day is worth two to-morrow. -Franklin. X. To be of no church is dangerous. Religion of which the rewards are distant, and which is animated only by faith and hope, will glide by degrees out of the mind unless it is invigorated and re-energized by external ordinances, by stated calls to worship and the salutary influence of example. -John Milton. XI. It is observed that a corrupt society has many laws. -Idler. XII. In general, those parents have most reverence who most deserve it, for he that lives well cannot be despised. -Prince of Abyssinia. XIII. Pleasure is very seldom found where it is sought; our brightest blisses of gladness are commonly kindled by unexpected sparks. The flowers which scatter their odors from time to time in the paths of life, grow up without culture, from seeds scattered by chance. -Johnson. XIV. A poet should blot from his works any line that does not contain some motive to virtue. -Waller. XV. When I hear of a young man of extraordinary ability, I ask if he works. If I am told that he does not, then I say, "There is no possibility of that young man becoming proficient." -Sir Morell Mackenzie.

SELECTED BY MRS. J. H. OSGOOD, SANZEVILLE, QUE.

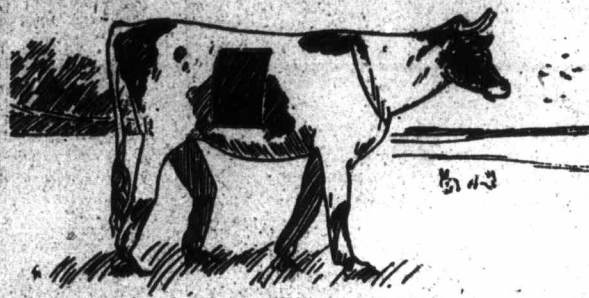
I. Four things a man must learn to do If he would make his record true: To think without confusion, clearly; To love his fellow men sincerely; To act from honest motives purely; To trust in God and heaven securely. -Henry Van Dyke. II. Our thoughts are odors, and we cannot seal them So close with action but they will creep out, And delicately-fashioned souls will feel them, And know them sweet or vile, without a doubt. -Ella Wheeler Wilcox. III. The wise men ask "What language did Christ speak?" They cavil, argue, search, and little prove. O sages, leave your Syriac and your Greek! Each heart contains the knowledge that you seek: Christ spoke the universal language—love. -British Weekly. IV. The great secret of success in life is for a man to be ready when his opportunity comes. -Disraeli. V. It is easy in the world to live after the world's opinion; it is easy in solitude to live after our own; but the great man is he who, in the midst of the crowd, keeps with perfect sweetness the independence of solitude. -Ralph Waldo Emerson. VI. 'Tis not enough to vaunt of good, To pray it be the Master's plan; That all his children should be fed; We need to live true brotherhood, To love and cheer our fellow man, If we would follow where he led. -Emma Playter Seabury. VII. There is no "little" and there is no "much"; We weigh and measure and define in vain. A look, a word, a light responsive touch Can be the ministers of joy to pain. A man can die of hunger, walled in gold; A crumb may quicken hope to stronger breath, And every day we give or we withhold Some little thing which tells for life or death! -Susan Coolidge. VIII. The web of our life is of mingled yarn; good and ill together. -Shakespeare. IX. They enslave their children's children, Who make compromise with sin. -James Russell Lowell.

X. The man who accords To his language the license to outrage his soul, Is controlled by the words he disdains to control. -Owen Meredith. XI. Youth is the only time To think and to decide on a great course. Manhood with action follows; but 'tis dreary To have to alter our whole life in age, The time past, the strength gone. -Browning. XII. He that cannot forgive others, breaks the bridge over which he must pass himself; for every man has need to be forgiven. -Herbert. XIII. For drunkenness, drink cold water; for health, rise early; to be happy, be honest; to please all, mind your own business. -Franklin. XIV. Honor is like the eye which cannot suffer the least impurity without damage; it is a precious stone, the price of which is lessened by the least flaw. -Boswell. XV. I know as my life grows older, And mine eyes have clearer sight, That under each rank wrong somewhere There lies the root of Right. That each sorrow has its purpose, By the sorrowing oft unguessed; But as sure as the sun brings morning, Whatever is, is best. -Ella Wheeler Wilcox.

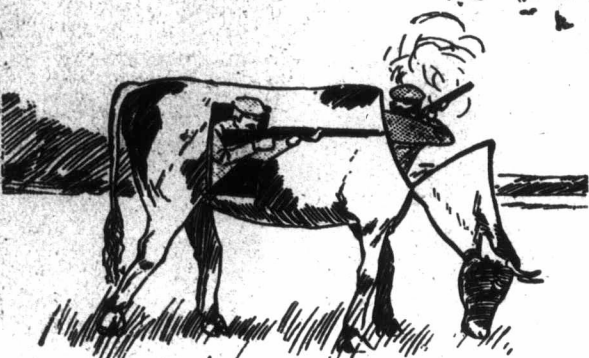
Decoy for Hunters.

WITH THE PERFECT OUTWARD SEMBLANCE OF A COW.

As deceptive and dangerous as the proverbial wolf in sheep's clothing is a patent cow just brought out by an inventive genius. The device presents the perfect outward semblance of a most peaceable and amiable cow, but the fore legs and the hind legs are in fact the legs of two men. These two men are armed with guns, and have a splendid supply of ammunition. The device has a flexible outer shell of canvas or other suitable material, decorated externally to represent the animal in imitation of which the decoy is constructed, and the said shell is adopted to be supported or held in its distended position through the



THE SPORTSMAN'S NEW DECOY.



HOW THE DECOY WORKS.

medium of a collapsible metal framework, which allows the covering and framework of the decoy to be folded into a small space for transportation. In the sides of the frames at suitable points are windows or openings, protected by outward swinging flap blinds, and through these windows the sportsman in the rear may discharge his fowling piece when the game has been successfully stalked. For the firing of the hunter in the front of the decoy there is provided a downward swinging portion, which includes the head and neck of the animal, so that by simply releasing a small catch from the inside of the framework, this swing front portion drops by gravity, and thus leaves the sportsman free.

Contest Prizes Appreciated.

DEAR UNCLE TOM,— I have just received Mrs. Browning's Poetical Works, the beautiful book which you sent me as second prize in the Memory Gem Contest, and for which I thank you. I especially appreciate it as I did not have it in my library. We consider the "ADVOCATE" our best agricultural paper. Your niece— MRS. PHILP. Beamsville, Ont. DEAR SIR,— I have received the prize awarded to me by "Uncle Tom," for which please accept my thanks. I am very much pleased with the selection, as it is a work I have long wished to possess. Yours sincerely, HEBER SHERRIFF. Vankleek Hill, Ont.

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

I presume that the greater number of you are housekeepers, or at least that you know something of the art by assisting therein. Housekeeping is woman's natural element, if I might so say. Even tiny tots of girls play at keeping house with their toys. Have you not done so yourselves not so very long ago? It is the privilege of us women to make a home comfortable. I do not mean the mere preparing of food, sweeping, dusting, etc.; that is a very small part of the work. The famous Louisa M. Alcott says: "The home-making, the comfort, the sympathy, the grace and atmosphere that a true woman can provide is the noble part, and embraces all that is helpful for soul and body. I wish our girls would see this, and set about being the true housekeepers." Do not let us make the too common mistake that any woman can be a housekeeper—that we are too well educated to descend to such trivial things as preparing dinners. Trivial? It is anything but that. Surely a woman of education ought to be better at such things than one who has had no such advantages. She can bring her training and knowledge of science to bear upon the subject, and so evolve the superior article. She knows why certain foods go well with certain others; that there is a reason for the blending. Take the simple fact that pork and beans go well together. Why? Just because pork is a fatty food and supplies heat, while beans contain more muscle-making food, and so the two assimilate well—the one supplying what the other lacks. So you see that education is a great help towards good housekeeping. The more we read, the more we shall learn—hints about this, and helps in that—all enabling us to become more deft in whatever we undertake. I could tell you of several prominent women who delighted in practicing housekeeping. Some of them not because they had to do so, but out of love for it. Take for example our own beloved Queen Victoria. In her younger days she used to be very fond of cooking dishes, such as omelettes, etc. For the benefit of her own daughters she had a model kitchen fitted up, and they were urged to try their skill in cooking. Even to-day persons who were employed in the royal establishment will proudly tell us about the Marchioness of Lorne (Princess Louise) and her successful cooking. Another royal personage, the Empress Elizabeth of Austria, is a splendid pastry-cook. You have all heard of the famous actress, Mary Anderson. At one time she and her mother were in straitened circumstances, and had a struggle to make ends meet, and so it often happened that the great actress had to bake bread and study her part for the stage at the same time. Other good housekeepers are Madame Patti, the great singer, and Miss Braddon, the novelist. So you see what a crowd of notable women we are among. Let us emulate them, and strive to do our best. Of course, we shall fall over and over again. Who does not? But never mind; we shall do better next time. Sometimes what we call failure is just what is needed to put us right. An extract from Mr. Disraeli says: "A failure is nothing; it may be deserved, or it may be remedied. In the first instance it brings self-knowledge; in the second, it develops a new combination usually triumphant." I remember a remark made by the minister of the Tron Kirk in Edinburgh while preaching: "There is no such thing as failure to the man who lives in earnest." Just change the word man to woman or girl, and take heart and go on again. And so let us read and read, and thereby we shall be better fitted for filling the housekeeper's niche. Read what other women do, think it over, and see if you cannot get some better, or easier, or quicker method of doing things, and so save your strength as much as possible. Just allow me a word more; it is from "Josiah Allen's Wife": "She wuz a good housekeeper and a good cook, so I felt that he would be kep' good-natured the most of the time. For no matter how Romance and Sentiment may scoff at the idee, good vittles play a most important part in the tune of married bliss—sometimes I think it plays the highest bugle in the orkestry." Your loving old Auntie— MINNIE MAY.

Cooking at Farmers' Institutes.

One of the most interesting features of the Farmers' Institute campaign in the State of Minnesota during the past season was the cooking department for the wives and daughters of farmers, conducted by Mrs. T. A. Hoverstad, formerly Miss Mary C. Thompson, of Minneapolis, who spared no pains to fit herself for the important work. Her first lecture dealt with the cooking of all kinds of meats in common use, the second discussed the best modes of making bread, and the third the best modes of preparing vegetables and fruits for the table. She was equipped with numerous charts, and while she talked she cooked on the gasoline stove which formed part of the outfit, samples of the cooked food being distributed to the audience. As indicating the interest awakened by her lectures, no less than 450 ladies gathered in the hall at Faribault to hear her lecture.

Be Kind to

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Be Kind to the Loved Ones at Home.

Be kind to thy father—for when thou wert young, Who loved thee so fondly as he? He caught the first accents that fell from thy tongue, And joined in thy innocent glee.

Be kind to thy mother—for lo! on her brow May traces of sorrow be seen, Oh, well mayst thou cherish and comfort her now, For loving and kind hath she been.

Be kind to thy brother—his heart will have dearth, If the smile of thy joy be withdrawn; The flowers of feeling will fade at their birth, If the dew of affection be gone.

Be kind to thy sister—not many may know The depth of true sisterly love; The wealth of the ocean lies fathoms below The surface that sparkles above.

THE CHILDREN'S CORNER.

The Sick Fairy.

(Continued from page 100.)

While these events were passing in Fairyland, there was great sorrow in a certain house in Mortal-land on account of a terrible misfortune which had happened to the youngest of the family.

"Why do you eat the strawberries?" Ernest had asked his brother; "don't you remember that mamma told us not?"

"You've eaten as many yourself, I'll bet anything," retorted Charley, with his mouth full.

"No, I haven't, not one," cried Ernest, indignantly.

"You are such a saint, or, rather, such a sneak, for I know you're going to tell," sneered Charley.

This made Ernest cry, and Charley had threatened to give him something to cry for, if he didn't leave off at once.

Ernest had disappeared, and Charley thought he heard a soft sigh and a rustle of wings.

Before the neighbors had done talking of the mysterious disappearance of Squire Morton's little boy, they had another event to interest them, and that was the sudden return of the family belonging to the castle on the hill, which had been shut up for a hundred years.

These were soon replaced by servants from the neighborhood. So many of these were required that the villagers for miles around were employed in gardening, cooking, or taking care of the horses, cows, pigs, and poultry, of that remarkable old lady, who soon began to make herself very popular.

There never was such a delightful old lady. Everybody wondered where she came from, but no one ever guessed the truth, simple as it was, namely, that she was a fairy in disguise.

One day Rose and Lily Morton were wandering sadly through the woods. Suddenly they saw the old lady of the castle coming towards them.

"How very delicious that tart looks," whispered Rose to Lily, "and I should like some of that iced lemonade. I have a good mind to come out."

"Oh, don't!" cried Lily, clutching at her sister's frock. But Rose was bolder; she came from behind the tree and stood full in view of the old lady, who beckoned her to approach.

"What is your name, little girl?" she asked. "Rose Morton, ma'am—I mean Countess."

"Well, you shall both have some lemonade when you have answered a question or two. You have no brothers, I think you said?"

"Oh, they have looked for him everywhere; we are afraid the gypsies have stolen him, or perhaps (in an awe-struck whisper) the fairies."

"Whoever has stolen him shall be made to give him back again," said the nice old lady; "mean-while, let us drink to his health. Peacock, fill the young ladies' glasses."

"No liberties," said the old lady, sternly. "I told you not to be up to those games."

"Oh, yes, Countess," "That's right. Have you any turnips?" "The turnips are all gone to seed," said Lily.

"Most remarkable! I am fond of curiosities, and shall certainly come and see it," said the old lady, "so take care of it; don't let it be pulled up. Now mind what I say."

"When you least expect me, so it will be no use making any preparations. Good-bye, children."

Puzzles.

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

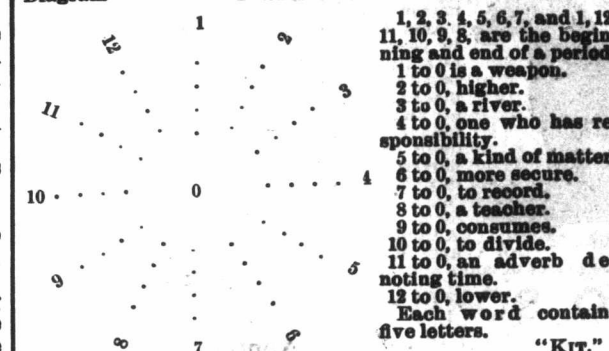
This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper).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

1—NUMERICAL ENIGMA.

- My 8, 2, 6 is a part of speech. 5, 7, 1 is an animal. 1, 16, 5 is very familiar with the water. 15, 16, 8 is what people do. 2, 3, 13 is a biped. 9, 10, 11, 12, 13 is a river in North America. 4, 10, 7, 5, 14 pertaining to war. 9, 16, 11 is a wild animal. 14, 9, 11, 13 is a certain kind of land. whole is of interest to all true Canadians.

A. ARCHIE BLIGH.

Diagram—



3—RIDDLE.

A group of trees beside the brook, Were growing tall and fair. They tossed their leaves and gaily shook The pretty keys they bore. They made a pleasant shady nook When sultry was the air. There came a fire one day And swept them clean away: No stump or limb, however lame, The silent witness bore. But still those trees were just the same As they had been before. Now tell me, if you can, What were those curious trees. "BELL."

5—DROP VOWEL.

x.p.r.nc.k.ps.d.r sch.l.b.f.ls.w.l.l.r.n.a.th.f. nd.sc.rc.n.th.t;Lr.t.s.tr.w.m.y.g.v.d.v.c.,b.t.w.o.n.n.t.g.v.c.n.d.ct.—(B. Franklin.)

MURIEL E. DAY.

4—MUDDLED AUTHORS.

- 1. Hallow lucnel tybar. 2. harpl dowla reomons. 3. lananthle wrathens. 4. crype boythe kyalse. 5. dearl samit. 6. nearoing subtrnews. "MADGE."

6—BOUQUET ENIGMA.

- 1 and 1—A coxcomb, and a wild boar. 1 " 2—A timid animal, and an instrument. 1 " 3—Untruth, and necessity. 1 " 4—Stiff, and a sweet flower. 1 " 5—A figure, or a number, and a part of one's features. 1 " 6—A songster, and an article used by riders. 1 " 7—An oily substance from cream, and a utensil. MURIEL E. DAY.

7—A DIAMOND.

- In patience. A foot mark. A near relation. Man's span of life. An animal. In hope. Man's greatest help in danger. HAZEL.

8—RIDDLE.

I am a word of seven letters, meaning carriage. Cut off either my first four or my last four letters, and I am still unchanged. "OGMA."

9—NUMERICAL.

- 1, 2, 3, an article. 10, 11, 4, to permit. 2, 3, 9, 10, to inform. 8, 6, 12, 4, 2, a planet. 5, 6, 1, a small animal. 7, 6, 9, 8, a valley. Total—A favorite poem. B. N.

10—NUMERICAL ENIGMA.

- 1, 3, 6, 9, 10 is a measure. 15, 13, 4, 14, 10 is a river in Europe. 1, 2, 3, 11 is a planet. 16, 7, 5, 19 is a relative pronoun. 17, 12, 18 means help. My whole is a town in Europe. PETER HYDE.

11—PUZZLE.

- I. Behold a short piece of timber and leave a young goat. II. Behold idle talk and leave a toy. III. Behold an insect and leave a meadow. IV. Behold a form and leave a song. V. Behold a carpenter's tool and leave a road. L. MOORHOUSE.

12—

I am a bird, behold me and I am an admirer, again and I am above, transpose and I mean to wander. "ART."

13—DROP VOWEL.

D-r-t-h-n-st-r. d-ads-nc-r. D-r-t-pl.-s-G-d-ndy.-n-v-r. n.-d-f.-r. BLANCHIE MACMURRAY.

14—JUMBLE OF LETTERS (Geographical Names).

- 1. kltolbroct. 4. dhlncrarsct. 7. Ncaora. 2. lvsacell. 5. gwalan. 8. dylancell. 3. lptwratimol. 6. boanrnl. ALICE C. L. GORDON.

15—CHARADE.

Among the puzzlers in the "Dom" There's not a second or a Tom. And if I do not make mistake, There's one who trim Jack Horner's cake, And where may Mr. "Ogma" be, In dairy, or in what country? Is the man who sued him dead? Or did he take poor "Ogma's" head? "Do not go too far," said I, Or 'twill be worse than getting in FORTUNE. Some we wish to know more BERTIE Will send their puzzles "full of fire." "Muggins" and "McGinty" come, send FIRST puzzles all the time, Or are you at the "Great Canadian," oh, so fine, "DICK."

16—NUMERICAL.

- 3, 8, 14, a verb in past tense. 9, 4, 17, 16, an atom. 2, 5, 1, 8, 14, an ant. 11, 5, 12, 13, 4, 16, old acquaintances. 7, 12, 5, 10, 2, a thick, prickly shrub. 1-17, something contributed to FARMER'S ADVOCATE. "DICK."

Answers to March 15th Puzzles.

- 1. Jack Horner; New Year; The more the merrier. 2. In (n) at one ear and out at the other. 3. An hour. 4. Shakespeare. 5. Mend-I-cant. 6. Suites. 7. MODOC. 8. Deal, lead, tea, ale. 9. Kind words are the music of the world. 10. Nightingale. 11. Chattecoches. 12. Co-nun-drum. 13. Fitch - ctoh; Yead - and; Beagle - sag; Glank - lank; Treason - reason; Pair - air. 14. Oh - ice.

SOLVERS TO MARCH 15TH PUZZLES.

"Margareta," "Kit," "Lulu," Pearl Corrigan, T. McKim, Chris. McKim, B. N., Ethel McCrea, "Madge," "Hazel," Muriel E. Day, L. Moorhouse, Alice Gordon, "Brownie," Charles Crawford, May G., Jessie Hyde, John C. Rowan.

COURTESY CHAT.

Nellie R.—Sorry I cannot use your enigma. Try again, and be sure to send solutions too. "Margareta."—Where? In a sick room, nursing. No use to make that request—we would not get it. They are pretty good to us already. Why doesn't "Fuss" come too? Yes; search for spring (and house-cleaning)! Peter and Jessie.—Certainly we'll admit you, and very willingly. "Little" folks don't take up much space, so there's always room for them. You did well—come every time. "Lulu."—You are kind to send such a nice long letter. I like to hear from my "Cousins," although I know only one or two. "Muriel."—Occasionally some of the puzzles I select are not published. This will explain the nonappearance of a recent one of yours. I will give you one sometime—do not know when. "Muggins."—Boys are not so scarce, but non de plumes may mislead. Don't dare talk of "dropping out," you truant. Why, we have not half enough to make things lively. "Kit" is clever, so are some of the others; no names to be mentioned. May G.—Very glad to hear from you; but don't do as so many have already done—come once and disappear. Indeed, you did get some right—don't despair. Chris.—You were in time, after all. Yes, this has finished the first quarter. Are you trying "The Great Canadian?" "Nesta."—Some do better, but some not so well. Too bad your paper was late. You kept up quite high in the solutions, little one. Try hard to pass the entrance, but do not give every moment to your books—come to see us regularly. "Kit."—I will note your change of address. The other was an oversight, but such is always remedied as soon as discovered. "Ogma."—Please send your name next time. ADA A.

WINNERS OF PRIZES FOR SOLUTIONS DURING JANUARY, FEBRUARY AND MARCH.

- 1st prize—\$1.50; T. McKim, Oxmead P. O., Ont. 2nd " —\$1.00; Agnes C. Scott, Columbus P. O., Ont. 3rd " —\$.75; Chris. McKim, Watford P. O., Ont. Following closely were: "Margareta," L. Moorhouse, "Lulu," "Madge," "Brownie," Ethel McCrea, "Muggins," "B. N.," A. P. Hampton, Muriel Day, and Hazel.



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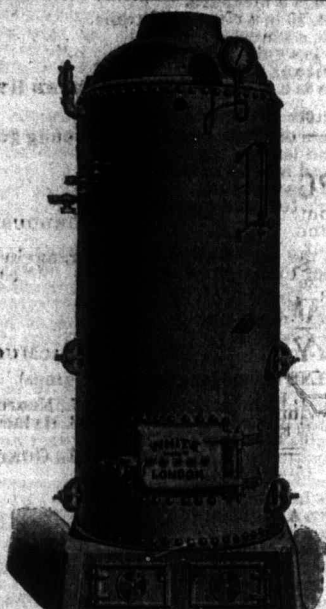
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Is carefully erected, and each machine is carefully tested before sending it out. The SEAMLESS brass tubing that composes most of the machine is not made in this country, and has to be imported. Other special features that go to make up the SPRAMOTOR equipment require time and care; therefore, prospective purchasers should not leave off ordering until they should be using, but give as much time as possible and avoid disappointment.

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This is to certify that at the contest of spraying apparatus, held at Ormsby, on April 2nd and 3rd, 1896, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the SPRAMOTOR made by the Spramotor Co., of London, Ont., was awarded **FIRST PLACE.**

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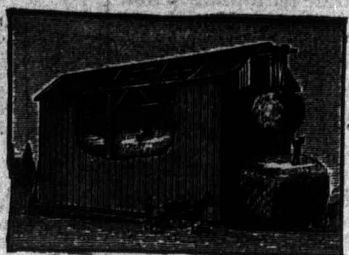
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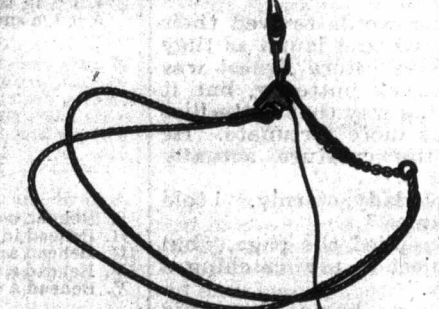
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Unloads on either side of barn floor without changing car. No climbing necessary. Malleable iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



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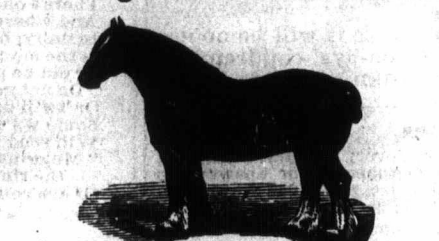
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2 or 3 Heifers One and Two Years Old.

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MENTION FARMER'S ADVOCATE

Farmers' Binder Twine Co.

(LIMITED),
Brantford, - - Ontario.

WE think it necessary to immediately advise you to refute the treacherous and scurrilous reports that are being put out and circulated against this co-operative movement of farmers by our enemies. Some are stating that this mill is closed down; others that we are pleading with the Government to reinstate the duty on binder twine; others that raw material has tremendously advanced, and that the present moment is the correct time to buy twine requirements for the harvest of 1898; while still others are claiming that the great American combine will absorb this enterprise, as it will be impossible for us to manufacture twine on a free-trade basis. We have simply to say, in answer to all these diabolical statements, that there is not a single word of truth in them; the mill is being run 300 days in the year, to its utmost capacity; that we have requested the Government not to reinstate the duty on twine; and that we are manufacturing pure Manila, 650 feet long, known as our Samson brand. It and our splendid Red Star are superior to anything that has ever yet been placed on the Canadian market. As in the past, we will again shortly set the price on binder twine for the coming harvest at a fraction above actual cost of production, and all we ask, after five years of honest and determined endeavor in the interests of the agriculturists of this country to hold this Company as an independent concern, is that they, the farmers, give us their continued loyal support. Order our twine early from our appointed agents, listen to no statements made by the enemy, and remain truly loyal in not purchasing one single pound of American or other twine in opposition to us until they inform themselves positively that every ball of this Company's twine is exhausted. Small samples and prices will be sent you in the near future, or can be had on application. We ask you, as an intelligent man, to plead with your people to realize the importance of this Company getting their undivided individual support, and to understand what our being driven from existence through indifference or scepticism on their part would mean to them in the future. The Salt Act would simply be repeated.

Yours faithfully,
-om
JOSEPH STRATFORD,
General Manager.



This is the little torpedo of a factory, 350 feet long, with its hundred spindles, that has been instrumental in holding the price on the entire Canadian output of binder twine at about cost for nearly six years. Co-operation is the secret.

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5 FASHIONABLY-BRED YOUNG SHORTHORN BULLS 5

Also cows and heifers representing the leading popular families. A few good Roanster horses. Farm six miles from Hamilton. Visit or meet at G.T.R. or C.P.R. if notified. -om

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two years old, yearlings and heifer calves out of imported and home-bred cows, and the imported bulls, Royal Member and a pair of Robins. Come and see them, or write, if you want something special.

H. CARGILL & SON,
Station on the farm. Cargill Stn. & P.O., Ont.

SHORE BROS., WHITE OAK, ONT.,

Have 4 very useful SHORTHORN BULLS still

FOR SALE.

Prices very moderate. Write for particulars.

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Shorthorn Cattle and Lincoln Sheep. The noted sire, Golden Robe - 20397 - and Nominee - 19628 - at the head of the herd. Representatives of this herd won two silver medals and the herd prize at Industrial Fair, Toronto, 1897. Prize-winning Lincoln Sheep are also bred at Spring Grove. Stock of all ages and both sexes for sale. Apply **T. E. ROBSON,** Ilderton, Ont. -om

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2 Choice Young Bulls for sale; dams are excellent milkers.

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LIGHT BRAHMA EGGS \$1.50 per 13.

I breed the largest and most up-to-date Brahmas any breeder wants to see. References as to who you are dealing with.

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Nominee, sweepstakes bull at Toronto, 1897, bred by us. We also won first prize on pen Leicesters bred and owned by exhibitor. We continue to breed the best.

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Your choice from 50 head, including cows and heifers having the most approved pedigrees. Half a dozen young bulls equally well bred. Registered Shropshire sheep and Berkshire swine.

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TWO young bulls, including Strathmore, a very promising son of Abbotsford - 19446 - from Moss Rose of Strathmore (by Imp. Vice Consul), one of the best cows of the popular Strathallan tribe, and a number of choice heifers of Cruickshank breeding.

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2 Shorthorn Bulls 2

Of Canadian Duchess of Gloster and Laverder breeding, from imported sires

Thos. Allin & Bro.
OSHAWA, ONT.

8 Shorthorn Bulls 8

Sired by Indian Statesman, and from such families as Mara's Lily, by Warden, and other good ones. All in fine form.

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Breeders of Shorthorns, Cotswolds, and Berkshires. Have for sale cows, heifers and heifer calves; also some choice Berkshire pigs. May and Octo-ber litters at very low prices.

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One of the oldest-established herds of SHORTHORNS in the province, has for sale a number of young bulls and heifers got by Isabella's Heir - 19550 - Also young cows of grand milking families.

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Two Bulls for sale. Call or write.

A. & J. Drummond,
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FORTY PURE HEIFERS

Good as well as few

Berkshire

Send for Catalogue, also several calves. Price JOHN RACEY.

Shorthorn

A splendid also several calves. Price JOHN RACEY.

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Sire and g. sire

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SHORTHORNS,

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Two young bulls, one of the best, bred by us. Price JOHN RACEY.

Hawthorn H

Stock of both breeding and

WM. GRAIN

2 SHOR

Color

JAMES BROWN

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Three choice and young Cow

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A. J. WAT

Shorthorn heifers 8 weeks

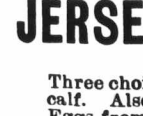
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FOR SALE - Sh

20397 - bred by Golden every respect, past three years

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BRAMPT



A FINE Y

FOR SALE - squirrel-gr Gordon of Atcote, wh latter was Pogs 3rd, bert. Dam bert's Dina by the celest the sweepst

Price right.

H. ERNEST WIL

JERSEY

Three choice calf. Also Eggs from dotes, Blau Ducks, \$1 per pedigree, a

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Breeder of choi reg. and high-g of fine quality. SWINE. Young sale at prices them.

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OFFERS FOR SALE - FORTY PURE-BRED SHORTHORN HEIFERS AND COWS, Good as we have ever had. Also a FEW YOUNG BULLS

Berkshires OF CHOICEST BREEDING AND QUALITY FOR SALE Send for Catalogue and prices. "No business, no harm." is our motto. Clarendon Station, C.P.R.; Pickering Station, G.T.R. om

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2 RATES BULLS 2 FIFTEEN MONTHS OLD.

Sire and g. sire are Dukes; dams, Princess. W. COWAN, V. S., -om GALT, ONTARIO.

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Hawthorn Herd of Deep-Milking Shorthorns Stock of both sexes for sale, of choicest breeding and good quality, prices right.

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FOR SALE 2 SHORTHORN BULLS 2 Color red. Write or call JAMES BROWN, (Box 249) Thorold, Ont.

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A FINE YOUNG BULL... FOR SALE! A. J. C. C.; age 14 mos.; solid squirrel-gray, black points. Dam Lady Gordon of Bellevue; sire St. Lambert of Atcofot, whose sire was 100 Per Gent. The latter was full brother in blood to Stoke Pogis 3rd, the sire of Mary Ann of St. Lambert's Dinah, 18 lbs. 6 ozs. butter in 7 days, by the celebrated sire, Canada's John Bull, the sweepstakes Jersey of Canada, 1885-86. Price right. Write for particulars to—

H. ERNEST WILLIAMS, "Sunnylea Farm," KNOWLTON, P. Q.

JERSEYS FOR SALE!

Three choice young bulls; two cows in calf. Also Broeze Turkey Gobblers. Eggs from B. P. Rocks, White Wyandottes, Black Minorcas, and Rouen Ducks, \$1 per 13. For particulars and pedigrees, address

W. W. EVERITT, Box 552, Chatham, Ont.

JOHN PULFER, BRAMPTON, ONT. Breeder of choice Jerseys reg. and high-grade of fine quality. Also TAMWORTH SWINE. Young stock always for sale at prices that should sell them. 12-2-y-o

MILLER & SIBLEY'S Jerseys

SPECIAL OFFERING OF 15 LOW-PRICED JERSEY COWS.

They are not

our world-beaters, but there are several excellent ones in the lot. Famous families are represented, such as St. Lambert, Coomassie, St. Heller, Signal, etc. They are great bargains at the prices quoted. Several have standard butter tests. All are registered A. J. C. C. They have been served by some of the best bulls in the Jersey breed. They have all been tuberculin tested. Any defects known are fully stated. Such a chance as this does not often happen. We haven't issued a special sale list before since 1887. If desirous of purchasing Jerseys at a low price, send at once for printed list giving all necessary particulars. Mention this paper.

MILLER & SIBLEY, NO TRADES. -om FRANKLIN, CASH ONLY. -om Vanango Co., Pa.

ONE FIRST PRIZE BULL

A. J. C. C. Sire King of Highfield, winner of 1st prize over all Canada; dam, St. Lambert's Kathleen, made 21 lbs. 3/4 ozs. of butter in 7 days; dam of King of Highfield, Signal Ross May (22 lbs. 4 ozs. of butter in 7 days, and 1st prize over all Canada 4 times), also dam of Unoma May (26 lbs. 4 ozs. of butter in 7 days, and 64 lbs. of milk a day).

J. H. SMITH & SON, Nighfield, Ont.

1 Jersey Bull 1 FIT FOR SERVICE.

Bull & Heifer Calves for Sale Good milking strain. Prices right.

D. H. KETCHESON, Hoard's Station, G.T.R. -om MENIE, ONT.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lambert), out of tested cows. Grand individuals. Prices right. 22-y-om

Pure St. Lambert Bull FOR SALE, CHEAP! Apply for pedigree, price and other particulars to BERNARD BAKER, Jersey Breeder, Whitby, Ontario. -om

SPRINGBROOK STOCK FARM HERDS

Are to the front this spring, and offering young bulls and heifers from the most noted females. My Tamworths are the best lot I ever had; both sex. B. P. Rock settings. A. C. HALLMAN, New Dundee.

Maple Hill Holstein-Friesians SPECIAL OFFERING.

A grand pair of calves, viz.: Sir Pietertje Tensen, son of Sir Pietertje Josephine Meochilde and the great Cornelia Tensen; Inka 5th's Countess, daughter of my champion show bull, Count Mink Mercedos, and the advanced registry cow, Inka 5th. Calves are about seven months old and not related, are strictly first-class. 11-y-om - G. W. CLEMONS, St. George, Ont.

"Gem Holstein Herd." STOCK FOR SALE!

We only keep and breed registered Holstein-Friesians. We have now some choice young bulls and heifers, also some older animals, all of the very best dairy quality, that we will sell, one or more at a time, on reasonable terms. Correspondence solicited. HILLIS BROTHERS, BEDFORD PARK P.O., ONT. Shipping Station, Toronto. 7-y-om

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From the 1ST PRIZE HERD AT TORONTO in 1897. Fifteen richly-bred bulls for sale. Strong in the blood of De Kol 2nd. Are one month to one year old. Splendid individuals, UNPARALLELED in breeding. A fine lot of one, two and three year old heifers and young cows of the richest producing strains. Write to-day, and state just what you want. No catalogue. HENRY STEVENS & SONS, LACONA, N. Y.

MENTION FARMER'S ADVOCATE.

Brookbank Holsteins. Champion milk and butter herd. Can sell some choice young cows, fresh and to calve in Oct., including winner of first at London. Write for just what you want. No yearling bulls left. Calves of both sexes. Quality unsurpassed. Prices right. A. & G. RICE, Oxford Co., Ont. -om CURRIE'S CROSSING.

Choice AYRSHIRES.

R. REFORD, Breeder and Importer. FOR SALE - Young cows in calf to imported Napoleon of Auchenbrair. Bull calves, sired by imported Glencairn 3rd. Write for prices to JAMES BODEN, Manager, St. Anne de Bellevue, Que. Farm close to St. Anne Station.

FOR SALE AYRSHIRE BULLS

OF CHOICEST BREEDING. One to four years old. For particulars address: Whiteside Bros., Oxford Co. "The Glen," -om INNERKIP, ONT.

Maple Cliff DAIRY AND STOCK FARM

Ayrshire cattle, Berkshire & Tamworth pigs. Two bulls fit for service and 5 bull calves dropped in Feb. R. REID & CO., HINTONBURG, ONT.; one mile from Ottawa.

AYRSHIRE BULLS

We offer for sale the fine bull, Baron Neidpath -2236-, calved April 18th, 1896, from imported Bessie 2nd of Auchenbrair, and by Beauty's Style of Auchenbrair (Imp.). Also two calves, dropped in Aug. and Nov., '97, and one Feb. and two Moh. calves, all sired by imported bulls; with one exception, from imported cows. THOS. BALLANTYNE & SON, "Neidpath Stock Farm," STRATFORD, ONT. Farm adjoins city, main line G. T. Ry. -om

IMPORTED AYRSHIRE BULLS

Also young bulls from imported sires and dams of the best milking families for sale. Terms reasonable. THORNCLEIFF STOCK FARM, Robt. Davies, Prop. TORONTO.

AYRSHIRES AND YORKSHIRES!

We have some extra fine light-colored bull calves from choicely-bred cows of superior milking strains, and got by our bull "White Chief of St. Anne's," sire "Imp. Glencairn," dam "White Floss." An October calf, a bargain. Boars fit for service. Sows ready to mate. Young pigs of both sexes ready to ship. For anything choice in either Ayrshires or Yorkshires, write or come and see us. Our prices are within reach of any farmer or breeder. ALEX. HUME & CO., Burnbrae P.O., Ont. Importers and Breeders. -om Hoard's Station, G.T.R.

CHOICE AYRSHIRES and EGGS for sale!

Two fine young Bulls fit for service, sired by Jock Morton, and from heavy milking dams. Also, Eggs for hatching from choice matings in B. Rocks, L. Brahmas, Black Spanish and B. R. Games at \$1.00 per thirteen. JAS. McCORMACK & SONS, -om Rockton, Ontario.

South Brant Stock Farm

T. BROOKS & SONS, BREEDERS OF HIGH-CLASS AYRSHIRES, IMPROVED CHESTER WHITES, AND PURE TAMWORTH PIGS. Young stock in these three lines for sale. Male or female. Breeding right, stock right, price right. T. BROOKS & SONS, Box 329, -om Brantford, Ont.

Brook Hill AYRSHIRES

are still to the front. Orders taken for young stock. Specialty in bull calves. Correspondence solicited. -om W. F. STEPHEN, Trout River, Que.

MILITARY TOURNAMENT AND FOURTH ANNUAL CANADIAN HORSE SHOW

IN THE ARMOURIES, TORONTO, CANADA, WEDNESDAY, THURSDAY, FRIDAY AND SATURDAY, MAY 4th, 5th, 6th and 7th, 1898.

Prize lists can be obtained from the Secretary. Entries close on Wednesday, April 30th, 1898, and should be addressed to HENRY WADE, Parliament Buildings, Toronto.



MARK YOU YOUR LIVE STOCK OF WHATEVER KIND WITH THE THOROUGHLY RELIABLE, RUST PROOF, NON-CORRODING, EASILY READ... ALUMINUM "STAY THERE" EAR MARKERS

One's full set, test out on live stock, and see how effective numbers on each tag. Free sample catalog, etc. WILCOX & HARVEY MFG. CO., 206 Lake St., CHICAGO, ILL.

FOR SALE: 3 POLLED ANGUS BULLS

18 months old, registered in American H.B. Descended from Logie the Laird 3rd, champion of both Highland and Royal Northern shows, Scotland, and "Kyma" (Imp. by G.A.C.), 1st prize at Royal Northern show at Aberdeen. JAMES SHARP, Rockside, Ont. -om

AYRSHIRE CATTLE.

KAINS BROS., BYRON, ONTARIO (London Station), now offer some choice females from prize-winning sires and dams, and of a strict business type. Prices right. -o

NOTICES.

Mr. J. E. Story, formerly farm manager at the O. A. C., has accepted the position of manager of Mr. A. O. Fox's Woodside Farm and Shropshire breeding establishment at Oregon, Wisconsin.

Mr. James Bowman, Guelph, Ont., advertises in this issue the heavy draft stallion Lord Douglas, No. (1064), at a reasonable price; also, on first page of cover seed peas and potatoes of tested varieties.

Mr. J. C. Snell has sold his 200-acre farm at Snelgrove to Mr. J. A. Pascoe, of Alliston, Ont., and has removed to London, where, some fifteen months ago, he accepted a position as editor of the FARMER'S ADVOCATE.

At Capt. Duncombe's sale of Shorthorns, at Waresley Park, Hunts, England, March 18th, the 3-year-old cow Sea Gem, the Royal championship winner of last year, was secured by an Argentine buyer at 410 guineas—\$2,660. Her 4-months bull calf sold for 84 guineas.

The second highest priced female was the yearling Sea Mew, which went to Lord Feverham, at 280 guineas, and the third highest to Mr. Miller, for Argentine, at 210 guineas. The average for the 55 head sold was \$285.

In glancing over the pages of the FARMER'S ADVOCATE I saw Dr. F. Harold Hayes' advertisement, Cure for Asthma. From my own experience, and many others well known to me, I firmly believe Dr. Hayes' cure does all claims, and would recommend his treatment to every sufferer from that awful disease. And more, I believe them to be a thoroughly honorable and reliable firm. Anyone wishing a full testimony can have it by writing to Mrs. H. H. Spencer, Brooklyn, Ont.

Syracuse, N. Y., Sept. 18th, 1897. I have just returned from a carriage drive to and from Connecticut, covering about 700 miles. The first day, in the afternoon, my horse was taken with a lameness. I had him examined, shoes taken off, etc. We finally reached Norwich, where we had recommended to us "Gombault's Caustic Balsam." I put it on my horse's fore leg and gave it a good rubbing. The next morning the leg was badly swollen and very feverish. I followed the printed directions as nearly as I could, gave the leg a good rub, harnessed and went on. I rubbed my horse morning, noon and night. He did not limp, after the first day, during the whole trip. We averaged fifty miles per day. So you see that it was not slow driving that cured him. I left the booklet that came with the Balsam in Connecticut. Kindly send me another, for I cannot be without it as long as I keep a horse. I think that the Balsam is the best and most remarkable remedy that I ever heard of. L. A. WORDEN.

ABERDEEN-ANGUS BULLS.

James Sharp, Rockside, Ont., offers in our advertising columns three richly-bred yearling Angus bulls which ought to find ready sale, being descended from high-class animals of this excellent breed of beef cattle.

BREEDERS' DIRECTORY.

Cards up to six line space inserted under this heading, one issue a month, \$5 per line per annum; every issue, \$5 per line. Payable in advance.

JOSEPH YULL & SONS, Orleton Place, Ont., breeder of Ayrshire Cattle, Shropshire Sheep, and Berkshire Swine. Young stock for sale.

J. P. PHIN, Breeding and Importing HEMPHILL, ONT. SHROPSHIRE SHEEP a specialty. 22

R. J. McNEILL, Ormstown, Que., breeder of registered Berkshires. Young stock always for sale at reasonable prices.

BRITISH ADVERTISEMENTS.

HAMPSHIRE DOWN SHEEP

Splendid mutton, good wool, great weight. This highly valuable ENGLISH BREED OF SHEEP is unrivaled in its rapid and WONDERFULLY EARLY MATURITY,

Possessing, too, a hardness of constitution adapted to all climates, whilst in the quality of MUTTON AND LARGE PROPORTION OF LEAN MEAT, IT IS UNSURPASSED.

At the great Smithfield Club Show in London, December, 1896, Hampshire Downs exceeded any other breed in the number of entries. The live weight of the 22 pens of wether lambs exhibited (3 to a pen) averaged no less than 17 lbs. per lamb at 10 months old, and a pen of these lambs stood reserve for the championship plate for the best short-wooled sheep in the show, against wethers 2 1/2 months old. A Hampshire Down also took first prize in the dead carcass competition against all other short-wooled breeds.

Full information of JAMES E. RAWLENCE, Secretary, Hampshire Down Sheep Breeders' Association, Salisbury, England.

W. W. Chapman

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

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

Address - FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables - Sheepcote, London.

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA!

TAMWORTH SWINE

Orders booked for spring pigs. Pairs not akin. Address - H. D. SMITH, Compton, Que.

EXCELSIOR STOCK and DAIRY FARM Guernsey Cattle, Duroc-Jersey and Chester White Swine.

We have for sale a few lengthy, deep-sided, strong-boned D.-J. boars which are ready for service, the type in demand by pork-packers. A few choice sows bred, due to farrow soon. WM. BUTLER & SON, DEREHAM CENTRE, ONT.

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared. Address: SYDNEY FISHER, Alva Farm, Knowlton, P. Q.

SMITH EVANS, Gourrock, 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

JOHN DRYDEN, BROOKLIN, ONT., BREEDER OF CHOICE Shropshire Sheep AND Shorthorn Cattle.

EDMUND WELD, Barrister, Solicitor, Notary Public, Etc. Moneys loaned on real estate, at lowest rates. Investments procured. Collections made. Address, 87 Dundas Street, London, Ont.

STEAM ENGINEERING

(Stationary, Locomotive, Marine); Mechanical Drawing; Architectural Drawing; Machine Design; Electricity; Architecture; Plumbing; Railroad, Marine & Bridge Engineering; Surveying and Mapping; Metal Pattern Cutting; Bookkeeping; Shorthand; English Branches; Mining; Metal Prospecting. All who GUARANTEE SUCCESS. Fees Moderate, Advances or Installments. Circular Free; State subject you wish to study. International Correspondence Schools, Box 900, Scranton, Pa.

Sheep Men

KILL THE TICKS AND RELIEVE YOUR SHEEP. The tick is a very hard animal to kill, being covered with a bony shell which is hard to penetrate. No non-poisonous preparation on the market will destroy the eggs (the unhatched tick).

MILLER'S TICK DESTROYER

Positively kills the ticks, eggs and all; is easy to use, and put up in tins which hold enough for 20 sheep, and sold at 35 cents.

HUGH MILLER & CO., Druggists 167 King St. E., Toronto, Can.



To Farmers, Stock Dealers and Wool Growers: FOR SHEEP, CATTLE AND HORSES. Leicestershire Tick and Vermin Destroyer. It effectually destroys Ticks, Lice, Worms or Grub, to which sheep, horses and cattle are subject, and enables the animals to thrive. It will be found far superior to other preparations used for the similar purpose. The proprietors will guarantee perfect success when used according to directions, as will be found on each box. It prevents scurf and scab, and renders the wool bright and clear. It is put up in tin boxes, price 30 cents each. One box is sufficient for twenty ordinary sized sheep. It only requires to be tried to prove itself all that is claimed for it. Sold by Druggists and Grocers. Manufactured by G. C. BRIGGS & SON, 31 King St. West, Hamilton, Ont.

LITTLE'S PATENT FLUID 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 stockmen.

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 75c. Sufficient in each to make tins at 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. Robt. Wightman, OWEN SOUND, ONT. Sole agent for the Dominion.

BEES

Italian and Hybrids—best Queens Wax Wanted Weed Patent Process Foundation. Gold, Shapley & Muir Co. Limited, Brantford, Can.

W. R. BOWMAN

MOUNT FOREST, offers for sale Yorkshire and Berkshire boars and sows from 2 to 3 months old for \$6 to \$15. All stock eligible for registration, and selected from the very best prize-winning herds in Canada.

GOSSIP.

Jas. Lenton, Park Farm, Oshawa, Ont., advertises in this issue eggs for hatching of three varieties of fowl—B. P. Rocks, and Golden and Silver Wyandottes; also of Bronze-turkeys. Thomas Allin & Bros., Oshawa, Ont., in remitting for advertisement of Shorthorn bulls, write:—"Our ad. has brought us lots of correspondence, and we have sold the one-year-old bull. We have an excellent roan Scotch-bred bull, two years old the 22nd of March; having 13 imported crosses in his pedigree, being sire by Earl of March 17252, by Barmpton Hero 324, dam Duchess of Gloster 15th, by imported Duke of Albany (47709), and tracing to imported Duchess of Gloster 13th, by Champion of England (17526). A bull of such breeding should be worth looking after."

\$500.00 TO BE OFFERED BY THE AMERICAN COTSWOLD RECORD FOR 1898. Special premium at the following State and Provincial fairs will be offered on registered Cotswold sheep: Ohio, Pennsylvania, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Oregon, and Toronto and London. For the best pen, consisting of ram of any age, ewe two years old or over, yearling ewe and ewe lamb, premium, \$10. For best pen four lambs, consisting of two rams and two ewes (to be bred by exhibitor), premium, \$10. At the Trans-Miss. Exposition, to be held at Omaha, prizes will be given as follows: Ram, 2 years or over, 1st premium, \$15; 2nd premium, \$10. Ram, 1 year and under 2 years, 1st premium, \$15; 2nd premium, \$10. Ram lamb, 1st premium, \$15; 2nd premium, \$10. Ewe, 2 years or over, 1st premium, \$15; 2nd premium, \$10. Ewe, 1 year and under 2, 1st premium, \$15; 2nd premium, \$10. Ewe lamb, 1st premium, \$15; 2nd premium, \$10. Flock of ram any age and 3 ewes of grades ages, 1st premium, \$15; 2nd premium, \$10. Pen, four lambs, consisting of 2 rams and 2 ewes (to be bred by exhibitor), 1st premium, \$15; 2nd premium, \$10. Champion ram of the show (if won by a Cotswold), \$50. Rules governing entries. All sheep must be registered and bear the Association labels. Sheep winning an Association prize once are debarred from showing for the same prize at another show, except at the Trans-Miss. Exposition. No premiums will be paid except on presentation of certificate, signed by the superintendent of sheep department, or secretary, giving the record numbers of winning sheep.

A CHAMPION SHORTHORN BULL SOLD FOR BEEF IN HIS SEVENTEENTH YEAR. Late numbers of Charlottetown, Prince Edward Island, papers report an auction sale of fat cattle at the Provincial Government Stock Farm, at which one fat heifer, a daughter of Challenge, was knocked down for \$101.00, and cows for \$87.00 down to \$70.00. The famous old Shorthorn bull Challenge 2333, in his seventeenth year, was also sold as a butcher's beast. This champion of many a show in Ontario and elsewhere in days gone by is said to have been useful as a sire down to the last, and was active on his feet, healthy and vigorous. Is not the sale of so valuable a bull to the butcher, while his usefulness as a sire is unimpaired, a great mistake? Surely a Government stock farm, in so prosperous a farming country as that Province is understood to be, can afford to keep one of the most famous Shorthorn bulls now living in Canada as long as he is known to be useful. Challenge has out-lived his illustrious sire, Barmpton Hero, and by the success of his great son Stanley as a champion winner in Ontario, and his grandson Lord Stanley, and his granddaughters at the World's Fair, Chicago, in winning honors for Canada, in competition with all beef breeds, has proved his power to perpetuate his grand qualities, not the least of which is his constitutional strength and longevity. If not too late we feel like pleading, "Woodman, spare that tree."

NOTICES.

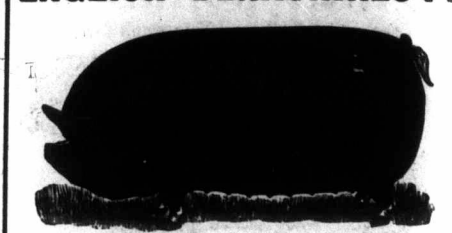
The Woodstock Wind-Motor Co. (Limited), of Woodstock, Ont., issue a creditable catalogue of the specialties they are manufacturing, including their Dandy Steel Windmills with graphite bearings, which it is claimed will run safely for long terms without oil. They also manufacture Steel Tower Pumps, Saw Tables, Grinders, and Watering Troughs. See their advertisement in this issue, and send for their catalogue.

The Locked Wire Fence Company (Limited), London, Ont., report that many careful farmers and stock breeders are now refusing to use barb wire at any price. And at the low price this Company are supplying material, and ready to farmers, both in the older provinces as well as the Northwest, they state they are shipping more material than ever before. Those who require a strong fence of heavy material and cheap tools used in fence building, should correspond with them at their office, London. Their terms to agents are also most liberal.

PRIVATE REGISTER FOR SHEEP BREEDERS. We have received from Geo. Harding & Son, breeders and importers, Waukesha, Wisconsin, a copy of the private flock register issued by them for keeping a record of breeding ewes and their produce; also of the sale and destination of animals disposed of. There are one hundred pages in the book, and the pedigrees of two producing ewes can be kept on each page, as well as the record of their produce, making a very convenient register. To Canadian breeders it will be especially valuable, as all the data required by the U.S. customs to pass sheep duty free is directly before you in each pedigree as indicated by the printed headlines. The price of the book is \$1.00, post-paid, and orders accompanied by the money may be sent to THE FARMER'S ADVOCATE.

RICE'S BUTTER AND CHEESE SALT. C. C. Macdonald, Winnipeg, Man., writes:—"Having made a thorough test of Rice's Butter and Cheese Salt, made at Goderich, which you so kindly supplied to the Manitoba Government Dairy School, I beg leave to say that we found the salt in every respect perfectly pure. I have no hesitation whatever but rather take pleasure in recommending this brand of salt to the butter and cheese makers of Manitoba."

ENGLISH BERKSHIRES I I



Come to headquarters for pigs of either sex if you want Berkshires that will make you money. Orders taken for spring pigs. Write for J. G. SNELL, Prices. Snelgrove, Ont.

Farmers and Breeders

If you are wanting to raise Bacon Hogs try the Long English Berkshires for breeding purposes out of the "Bow Park" herd. Prices reasonable.

The Bow Park Company, Limited, BRANTFORD, ONT.

LARGE ENGLISH BERKSHIRES. We now offer for sale stock boar, Bright Star; also Boars and Sows, 2 to 4 mos. old, B. P. Rock Eggs. Write for prices or call. H. BENNETT & SON, St. Williams, Ont.

ROSE HILL FARM.

JAMES DORRANCE, SEAFORTH, ONT., BREEDER OF REGISTERED: BERKSHIRES Of the most approved type. Choice young stock always for sale. Write at once and secure a bargain. 15-3-y-o

English Berkshires. Herd headed by three first-prize boars. Large size, strong bone, fine quality, and a choice lot of breeding sows. Orders booked for spring pigs. GEORGE GREEN, Fairview P.O., Ontario. Stratford Station and Telegraph Office.

BERKSHIRES

One yearling boar, 1 boar pig, 3 mths. A few young sows. GEO. N. HARRIS, LYNDEN, ONT. BERKSHIRES, BERKSHIRES, BERKSHIRES My herd contains such blood as Baron Lee, Varna Duke, and other imported strains, with the celebrated sire, First Prize, at the head. 2-3-yo WM. McALLISTER, VARNA, ONT.

FOR SALE. A number of extra good Large White YORKSHIRE BOARS AND SOWS THREE TO FIVE MONTHS OLD.

Sows in pig to show boars, and young pigs 6 to 8 weeks old, of early farrow. Also lengthy Berkshire sows in pig to show boars, and sows from 8 weeks to 5 months. Orders now booked for spring pigs of both breeds. Inspection invited. Write H. J. DAVIS, Box 290, Woodstock, Ont.

OAK LODGE HERD OF YORKSHIRES

Highest quality of bacon hogs, profitable to the feeder, and correct type for the packers. Orders now being taken for young pigs suitable for exhibition purposes. Largest herd in Canada to select from. Write for prices. J. E. BRETHOUR, BURFORD, BRANT CO.

R. HONEY, BREEDER OF Warkworth, Ont., Northumberland Co., Reg. Noistens, Large White Yorkshires, and Cotswold Sheep.

Choice young Yorkshires for sale at prices to suit the times. Orders booked for choice Cotswold ram lambs. 12-2-y-o

The Ontario Veterinary College (Limited)

Temperance St., TORONTO, CANADA. Affiliated with the University of Toronto. Patrons: Governor-General of Canada, and Lieut.-Governor of Ontario. Fee, \$25.00 per session. Apply to ANDREW SMITH, F.R.C.V.S., Principal. 15-2-y-o

HERMANV

SPRING PIG One to two mos. old, crated and pressed any day after 1 day to \$5. Noose papers furnished for registration order booked. HERMANV P.O. on the far

Poland-Chi

Six young mos. also two from Lady Du No. 1106, sire amoores, imp., farrowed. Ap price \$15 each. WM.

Oxford Herd

Having w... For... Brantford Pa... justified in st... position to of... ask for from... ming stock.

Oxford Co.

DUROC Our herd... of the... offered at Tor... hibition, and... portion at... and Ottawa... justified in... Canada. Fin... at all times.

MERTON I

Herd of Ch... and Tamw... are in full b... and are of... choice sto...

THE... AVON H

Are in fr... Orders are... ring book... April litt... notable st...

Henry He

o Avon F...

CHESTER

Two boar... mos. old. O... mos. old. E... EGGS for... ing, B. B... horns, Bar... Pekin Duck... CA... Near Lewis

Whi

W. E. WRIG

JERSEYS

Wyandotte \$1 per setti... Sheldan P... JOS.

OAK HIL

FOR SA... from Black... Rocks, S. V... Langshans... Mr. R. J.

HERMANVILLE IMP. YORKSHIRES

Tamworths (red), Duroc-Jersey Pigs, AND NONE BETTER. SPRING PIGS. One to two months old, crated and expressed anywhere after 1st May...

HERMANVILLE FARM, P.O. on the farm. om HERMANVILLE, P. E. I.

Poland-Chinas.

Six young male pigs, also two females from Lady Darkness No. 1106, sire Black-smoore, imp., No. 940, farrowed April 22...

WM. J. DUCK, MORPETH, ONT.

Oxford Herd of Winning Poland-Chinas.

Having won the herd prizes at Toronto, London, Ottawa, and Brantford Fat Stock Show, we feel justified in stating that we are in a position to offer you what you may ask for from gilt-edge prize-winning stock.

W. & H. JONES, OXFORD CO. MT. ELGIN.

HEADQUARTERS FOR DUROC-JERSEY SWINE

Our herd secured nine of the first prizes out of the eleven offered at Toronto Exhibition, and a similar portion at London and Ottawa. We are justified in saying we have the best herd in Canada.

Address—TAPE BROS., RIDGETOWN, ONT.

MERTON LODGE

Herd of Chesters and Tamworths are in full bloom, and are offering choice stock of both breeds and sexes.

H. GEORGE & SON, CRAMPTON P. O., ONT.

THE AVON HERD OF CHESTERS

Are in fine form. Orders are now being booked for April litters from notable strains.

Henry Herron, Avon P. O., Ont.

CHESTER WAITES and BERKSHIRES

Two boars and 3 sows—Chester Whites—5 mos. old. One boar and 2 sows—Berkshire—5 mos. old.

CAMPBELL & MARTINSON, Near Lewisville, G. T. R. NORTHWOOD, ONT.

E.D. GEORGE

PUTNAM, ONT. Importer and Breeder of Ohio Improved Chester White Swine

Chester White Hogs

White Holland Turkeys

W. E. WRIGHT, GLANWORTH, ONTARIO.

JERSEYS, TAMWORTHS, POULTRY.

White Plymouth Rocks, White Wyandottes, White Langshans, Black Langshans, Cornish Indian Games, Houdans, Silver-laced Wyandottes, Barred Plymouth Rocks, Eggs, Shetland Ponies—all ages. Write

JOS. STRATFORD, Brantford, Ont.

OAK HILL HERD OF TAMWORTHS.

FOR SALE.—Boars fit for service. Eggs from Black Minorcas, Black Spanish, B. P. Rocks, S. Wyandottes, Red Caps, P. Cochins, Langshans, and Rouen Ducks, at \$1 per set.

R. J. & A. LAURIE, Wolverton, Ont.

GOSSIP.

MR. W. D. FLATT'S SHORTHORNS.

On his neat and well-appointed "Trout Creek" farm, on the Guelph road, six miles from Hamilton and near the Village of Mill Grove, Ont., Mr. W. D. Flatt has established an excellent herd of some 40 head of superior Shorthorn cattle, which have been bred and selected with care, and which represent a number of standard families of good repute...

That Mr. Flatt is enterprising, and that his ambition is to secure the best of any reasonable cost, has been evidenced by his purchases in the spring sales of 1898, where he has paid the highest prices for his choice of the offerings; and that he regards a first-class sire as a superlative factor in maintaining the character of a herd was attested by his plucky bidding for his choice of the imported bulls at the March sale, in March, when, in competition with leading breeders from Canada and the United States, he secured, at \$720, the handsome and symmetrical Golden Drop bull, Golden Fame, a general favorite with the critical company present at the sale...

The second bull in the herd is the rich roan, Crimson Knight—26077—, of the favorite Scotch-bred Crimson Flower tribe, by Canada—18536—, a Toronto, and a Crimson Flower—14381—, 1st prize three-year-old at Toronto in 1893, by Muscatel, a son of the imported Cruickshank Victoria bull, Vice-Consul, winner of the championship at Toronto Industrial Exhibition. The dam of Canada—18536—, Bonny Jean, was by the great prize bull and sire, Barmpton Hero, by imp. Royal Barmpton, out of imported Mimulus, both bred by A. Cruickshank, Sittytton, and the dam of Clan Stewart was Village Bud, out of the imp. Cruickshank Village Blossom, of the same family as Young Abbotsburn, winner of the championship over all beef at the World's Fair at Chicago, a combination of the blood of several of the best families known courses the veins of Crimson Knight, and he does credit to his forbears by the smoothness of his contour, and the quality of his flesh and hair, which is all that could be desired.

Prominent among the females of the herd are the members of a quartette of red cows with calves at foot, representing the favorite Strathallan family, descended from imported Rose of Strathallan, by "Allan" (21172), a first prize winner at the Highland Society's Show, and a son of the great show bull and sire "Forth," winner of first prize at the Royal Show at Newcastle in 1884. Those who remember the imported cow and have followed the history and record of the family since the sixties will freely concede to them a high standing among the aristocracy of the breed, and visions of the long line of prize-winners and champions they have produced will involuntarily come to mind, including the stately Lord Strathallan; the Peerless Lady Strathallan, invincible in the hands of the Millers, of Brougham, and the Sinders, of German Mills; and the matchless Strathearn, sold for more money at Luther Adams' great sale, in Iowa, than the famous imported Cupbearer. The records, we believe, will show some ten or twelve championship prizes credited to members of the family at State and Provincial fairs.

Of the four Strathallan cows in the Trout Creek herd, Daisy of Strathallan 15th was the highest-priced cow in the Simmons dispersion sale, being knocked down at \$325, and afterwards purchased by Mr. Flatt at an advance on this price, the three cows of the family bought at that sale costing him an average of about \$275. The Daisy of Strathallan 11th, 13th, and 14th, and Lady Strathallan, are lengthy, low, level and smooth, and show fine breed character, as one would expect from their pedigrees, which in their top crosses show the names and the benefit of the blood of such richly-bred and finely-formed bulls as Indian Chief, Red Knight, Excelsior, Mins Chief, Victor Regalis, The Doctor, and many others of similar stamp, besides the firm foundation of their earlier ancestors.

Crimson Jewel 2nd, by the imported Kinellar bred bull, Hopeful (5903), is a large and finely-finished red cow of the Crimson Flower tribe, the dam of the young bull, Crimson Knight, referred to above, and is a daughter of imp. Red Knight, by the Victoria bull Vermont, bred by Mr. Cruickshank. Red Empress 3rd, a handsome and symmetrical three-year-old cow, by Kinellar 2nd (18560)—dam by the Sittytton-bred Maggie, by Marshal, yearling daughter of the Roan Betty family, of Kinellar extraction, and through the sire of the former get the benefit of the blood of the Cruickshank bulls, Barmpton Hero and Royal Saxon, Vice-Consul, Barmpton, and through his dam trace to imported Matchless 16th, bred at Sittytton. Mins 2nd, a rich roan two-year-old heifer, by Royal

Saxon, a first prize winner at Toronto, a son of imported Excelsior (51233), and of Matchless 19th, by the imported Nonpareil bull, Statesman, represents the Mins family of Kinellar, and is out of Mins, by Mins Chief, by imported Indian Chief, progenitor of a long list of prize-winners. The red and white two-year-old Lady Blithe, by the imp. Cruickshank bull, Prince Royal—6418—, traces to the imported Scotch-bred Mins Syme, and has for grandsire Sir Ingram, by Ingram's Chief, by the Royal winner, Sir Arthur Ingram, whose sire, Master Harbinger, was also a Royal winner. Jolly Jill 2nd is a smoothly-formed three-year-old of fine character, sired by Royal Saxon—16737—, by the Sittytton-bred Baron Lenton, and out of imp. Charlotte, bred at Kinellar, and tracing to imp. Juliet, by Gladstone. Miss Ducie, a roan five-year-old, was the highest priced cow at the dispersion sale of Mr. James Hunter's herd, while her yearling daughter, Mins Canada, realized the highest price for yearlings at that sale. She has for sire The Baronet, imp., and for grandsires, Sir Ingram, Socrates, and Baron Booth of Killerby, by imp. Knight of Warlab, and traces to imp. Miss Syme.

The ever-popular Rose Duchess tribe, rich in the blood of the best of the Duchess and Oxford tribes, is represented by the 62nd and 74th of that name, and they show their good breeding in their handsome heads and breezy appearance, both having for grandsire the famous imported 4th Duke of Clarence, a sweepstakes winner at Provincial and State fairs, and one of the greatest bulls of his day. The last named has for sire Kinellar 2nd, a son of Mysie of Kinellar 4th, by Hubert—5114—, by Barmpton Hero. Duchess of Lincoln 2nd is a five-year-old daughter of imported Duchess of Lincoln, and of Ingram—14572—, by imp. Ingram's Chief, by the Royal prize-winner Sir Arthur Ingram, and is a substantial stamp of cow, of good quality. Space forbids special mention of a score or more of uniformly good young cows and heifers of standard sorts, topped by high-class bulls of modern type, carrying a fine quality of flesh, combined with good milking proclivities and good feeding qualities, which go to make up one of the best all-round herds of cattle it has been our privilege to review, and which, in the hands of the enterprising and enthusiastic owner, we feel sure is bound to make its mark in the history of Shorthorns in Canada. Mr. Flatt, who has his home in Hamilton, also breeds and deals in high-class harness horses, and will cheerfully meet visitors, if notified, at either G.T.R. or C.P.R. station, and convey them to the farm behind a horse of no mean mettle.

Barred Plymouth Rocks & Pekin Ducks

(EXCLUSIVELY). Stock and eggs for sale from imported and best Canadian strains. Farm-bred and very vigorous. Eggs, \$1 per 13.

MISS P. J. COLDWELL, Constance, Huron Co., Ont.

BARRED PLYMOUTH ROCKS

from choice breeding stock—"prize-winners." One setting (thirteen eggs), \$2.00; two settings (twenty-six eggs) \$3.50. If this advertisement is sent with order a reduction of 50c. on the order will be made.

Address—R. F. HOLTERMANN, Brantford, Ont.

EGGS FROM WINNERS.

Mated to produce winners in Buff Cochins, L. Brahmans, Houdans, Black Spanish, Red Caps, S. L. Wyandottes, \$1.50 per 13. High-class Exhibition Game (four varieties), \$2.00 per 13. Barred Rocks, White and Brown Leghorns, \$1 per 13. Mammoth Pekin Ducks, \$1 per 13. Our stock won 288 prizes the past season. Satisfaction guaranteed.

J. C. LYONS, Lucknow, Ont.

EGGS FOR HATCHING

from the following varieties of poultry: B. P. Rocks, Golden and Silver Wyandottes, \$1 per 13. Bronze Turkey Eggs, 25c. each, or \$3 per 13. JAS. LENTON, Park Farm, Oshawa, Ont.

W. P. ROCK EGGS

\$1.50 per 13. I have got together the largest, whitest and best leg-colored pen of Rocks any breeder ever saw. See Review, March number, for prizes won. Ask me for references. L. KENNEDY, Clinton, Box 175 Phone 4.

ANNUAL SPRING SALE OF POULTRY.

Fifty Barred Rock Hens, bred to produce brown eggs. Priced to suit the farmers. Also a few S. C. Leghorn Cockerels. Eggs from B. P. Rocks, Silver Wyandottes and S. C. Leghorns, \$1.00 per 13. Pekin Ducks, \$1.00 per 13. W. R. GRAHAM, Bayside, Ont.

White Holland & Bronze Turkeys

Tamworth, Duroc-Jersey and Poland-China swine, from 3 to 4 months old. Also Oxford sheep and Collie dogs. A. ELLIOT, POND MILLS, ONT.

Poultry.

L. and D. Brahmans, B. and W. Rocks, S. and W. Wyandottes, Black Minorcas, Indian Game and Red Caps. Young stock and eggs from above breeds. Eggs, \$1.25 for 13; \$2 for 26. Satisfaction guaranteed. JACOB B. SNIDER, German Mills.

SNELGROVE POULTRY YARD.

Barred Rocks exclusively. Eggs for hatching, \$1 per setting; 3 settings at once, \$2. My pens are all heavily bred from "Perfection," a bird costing \$25. oe W. J. CAMPBELL, Snelgrove P. O., Ont.

Eggs for Hatching

From my prize-winning birds: Blue Andalusians, \$2 per 13; Black Minorcas, \$2 per 13; Silver Grey Dorkings, Brown and Black Leghorns, \$1.50 per 13; Pekin Ducks, \$2 per 13. Also young stock for sale. W. R. KNIGHT, Bowmanville, Ont.

SHOEMAKER'S STOCK WINS!

In the hands of his customers it wins and keeps winning every prize in sight. Never beaten! Always Victorious. We lead in quality and low prices. Largest and best stock. OUR POULTRY ANNUAL & ALMANAC FOR 1898 is a corker. 100 pages best paper. It tells all about everything in the poultry line. Is fully illustrated with finest engravings. It should be in every library. Price only 15c. Money refunded if not satisfactory. Address, G. G. SHOEMAKER, FREEPORT, ILL., U. S. A.

Dark Brahmans

Prize-winners at Ont. Poultry Show and sale. Will sell pen Buff Leghorns (6) for \$7; pen R. C. White Leghorns (6) for \$10; pen Black Cochins (5) for \$8; pen White Cochins (4) for \$8. Eggs from thrifty farm-bred Barred and White P. Rocks, \$1.50 per 13. Address: A. J. GEORGE, 52 Clarence Street, LONDON, ONT.

Eggs! Eggs!!

FOR HATCHING

From S. G. Dorkings, B. Minorcas, S. C. Brown Leghorns, B. P. Rocks, W. Wyandottes, considering quality, at low prices. Write—om T. & H. SHORE, White Oak, Ont.

EGGS

From prize-winning fowls: S. L. Minorcas, Silver Hamburgs. Also Berkshire pigs. GEORGE THOMPSON, Bright, Ont.

ROSE BANK POULTRY YARD.

Red Cap, Blue Andalusian, R. C. W. Leghorn, Golden Poland, Black Langshan, White Wyandotte, L. Brahma, S. G. Dorking, Houdan, price, \$1 per 13 eggs. F. N. HAIG, Hoard's Sta., Ont.

EGGS FOR HATCHING

from three splendid pens of Black Langshans. Send post card for circular. om JOHN F. HILL, WELLAND, ONT.

Toronto Incubators

Best hatching machine built. Awarded silver and bronze medals. For circular, address: T. A. WILLETTE, 514 Dundas St., Toronto, Ont.

If West's Fluid...

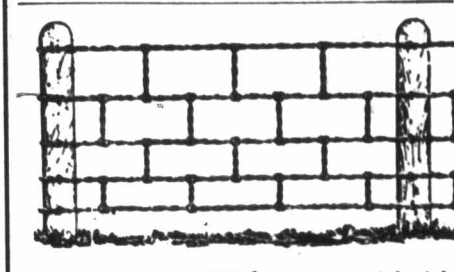
If properly used it is a positive preventive for such diseases as contagious abortion and hog cholera, as well as the best known treatment for scab, ticks and lice in sheep, fleas and lice on dogs and poultry; and a most effectual disinfectant, simply because it is a strong antiseptic and destroys the germ upon which such conditions depend, and does not contain corrosive or irritating properties.

Price per gallon, \$1.50; 5-gallon can, \$6.50. Special price in barrel lots.

Circulars containing all information as to use, etc., upon application to—

THE WEST CHEMICAL CO., TORONTO.

Live agents wanted in Manitoba.



We can cut your 1898 fence account just in half. We claim we have the most practical fence on earth. Four miles of it in use at the Experimental Farm, Guelph. Send for prices.

TORONTO PICKET WIRE FENCE CO.

221 RIVER STREET, TORONTO, ONTARIO

FREE FENCE MACHINE.

To introduce the best fence made, in new localities, we will give Machine and License free to any person buying 100 rods.

CANADA FENCE CO., London, Canada.

BOWEN CABLE STAY FENCE CO.

\$10 For a machine to build the cheapest, strongest and best fence made of wire. No royalties, no farm rights, machine easily and quickly operated by any farmer. Send for large circulars.

NORWALK, ONT., O.

FENCE MACHINE

Will weave your fence of any kind of wire, 40 to 50 rods per day. Price saved in one day's work. Agents Wanted. Write for particulars. High-grade Coiled Wire for sale. MCGREGOR, BANWELL & CO., Windsor, Ont.

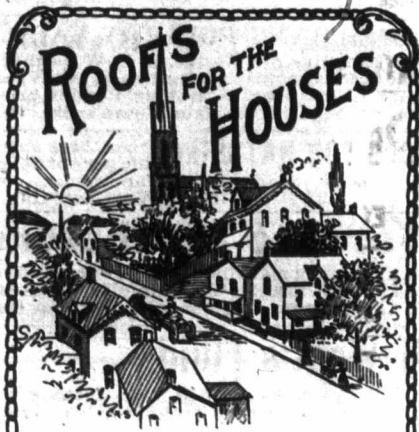
Fruit.

Trees and Vines become hardier, and their products better colored and better flavored when liberally treated with fertilizers containing at least 10% actual

Potash.

FREE An illustrated book which tells what Potash is, and how it should be used, is sent free to all applicants. Send your address.

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



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

We give You

the benefit of our long experience—any of our big catalogues—and up-to-date information on these goods on receipt of a post card.

The Pedlar Metal Roofing Co.
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ASTHMA CURED TO STAY CURED

By a large staff of experienced physicians who have made a lifelong speciality of this depressing condition. We have thousands of unsolicited testimonials. Our patients are our most effectual advertisers. Full particulars and advice as to curability free of charge.

P. HAROLD HAYES, M. D.
-om BUFFALO, N. Y.

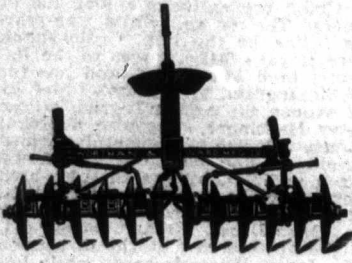
In buying seeds "economy is extravagance," because the cost of cultivation wasted on inferior seeds always largely exceeds the original cost of the best and dearest seeds to be had. The best is always the cheapest. Pay a trifle more for

FERRY'S SEEDS

and always get your money's worth. Five cents per paper everywhere. Always the best. Seed Annual free. D. M. FERRY & CO., Windsor, Ont.

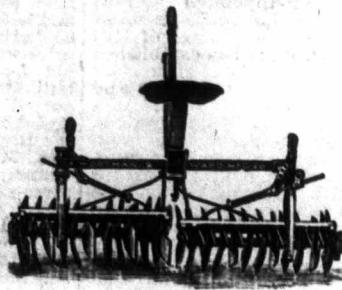
ADVERTISE IN THE ADVOCATE

ROLLER BEARING DISK HARROW.



The celebrated and only spade. The best implement for pulverizing hard land known. Look at it and you will be interested. Use it and you will be convinced. These are the only Harrows having coil pressure springs by levers in easy reach of the driver. Strong enough to make the Harrow rigid if required.

ROLLER BEARING SPADE HARROW.



THE DAISY BARREL CHURN

WITH ROLLER BEARING STAND is the favorite, and takes the lead everywhere. There are MORE SOLD than ALL OTHER KINDS. An improved vent supplied when required. The old style clumsy stand is not to be compared with our ROLLER BEARING, neat, common sense new one.



Buy the "Daisy"

or you will miss it. Manufactured by

The Wortman & Ward Mfg. Co., Limited, Headquarters, LONDON, ONT.

Eastern Branch, MONTREAL, QUE.

Amalgamated Ayrshire Association.

An adjourned meeting of delegates from the Canadian and the Dominion Ayrshire Breeders' Associations was held at Montreal, March 25th. Those present representing the Canadian Association were: H. Ness (chairman), D. Banning, D. Drummond, John Morris, and W. F. Stephen. From the Dominion Association, W. W. Ballantyne, Jos. Yuill, J. C. Smith (Hintonburg), and H. Wade, secretary. The minutes of the Ottawa joint meeting of March 10th were considered and read. The secretary of the Quebec breeders' meeting held in Montreal on the 21st March read the resolution adopted at that meeting: Moved by J. L. Wilson, seconded by G. H. Muir, "That the report read be received and adopted, and that the executive committee be empowered to make final arrangements with the special committee of the Dominion Ayrshire Breeders' Association, and enter into amalgamation." It was then moved by Jos. Yuill, seconded by D. Drummond, that we the authorized delegates from the Ayrshire Importers and Breeders' Association and the Dominion Ayrshire Breeders' Association do hereby agree to amalgamate on the basis of resolutions already reported at the Ottawa meeting, and that from this date there be only one Ayrshire Breeders' Association for the Dominion of Canada. Carried.

It was also resolved that the "Stay-there" ear markers, made of aluminum, and supplied by Wilcox & Harvey Mfg. Co., Chicago, be used by this Association, and a corresponding number to the number on the certificate be supplied with each pedigree, with the understanding that it be put in the ear of the animal that is recorded by that number, also that the exhibition associations be requested to pass resolutions insisting that these markers be in the ears of all animals of this breed exhibited.

GOSSIP.

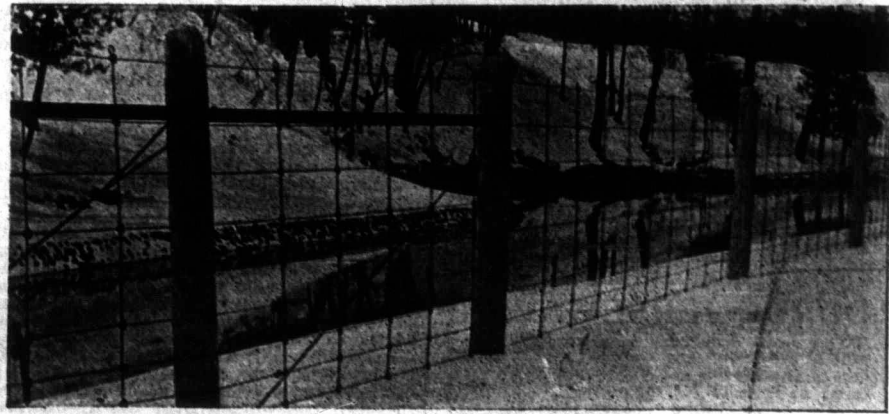
Mr. W. D. Platt, Hamilton, Ont., reports the sale of the four-months Shorthorn bull, sire W. 117 rcd., by N. 12 a, Reformer—23127—, by Waterloo Duke—15th, by 4th Duke of Clarence, dam Hazel—13575—, by Nelson Wonder, by Prince James—963—, by imp. Knight of Waraby.

A. W. Smith, Maple Lodge, Ont., writes:—"The young bulls we offer for sale are really very choice ones. Either of them can be made an excellent show bull. The youngest, got by Calithness—23065—, is a very handsome young bull, and from a cow by Conqueror—6537—, and from our very best milking strain; and the dam of our stock bull Calithness gives us over 50 pounds milk per day. The other young bull is a regular Scot., about 16 months old; thick and deep and straight, with a nice mellow hide. His breeding is excellent, got by a son of Abbotford—1944—, and Vanity, the first prize cow at Toronto and London. His dam was by a son of the great show bull, Young Abbotford."

ONTARIO VETERINARY COLLEGE CLOSING. The 1897-8 session of the Ontario Veterinary College was a successful season's work. The March 24th. The occasion was a brilliant one, reflecting credit on the principal, Dr. Andrew Smith, F. R. C. V. S. Besides the presenting of medals, prizes and diplomas, interesting, instructive and eloquent addresses were given by Hon. E. J. Davis, Provincial Secretary; Major Lloyd; Dr. Thorburn; Charles Elliott; St. Catharines; Dr. Amyot, of Toronto University, and others. The graduating class numbered some 75 men, from a large number of American States, England, Scotland, P. E. Island, Nova Scotia, Manitoba, and other places. The guest speaker was Mr. C. W. Fisher, of Cabot, Vermont. An interesting event was the presentation of a photo group of the graduating class to Principal Smith.

PATRONS OF HUSBANDRY.

The 23rd annual meeting of the Dominion Grange was held in London, Ont., March 16-17. The report of the agricultural committee showed a marked improvement in the condition of farmers. A permanent and profitable trade is anticipated in supplying Great Britain with butter and cheese under the cold storage system. Many farmers had reported the past year the most successful in their experience. Officers elected: Master—W. F. W. Fisher, Burlington. Overseer—Robert Curry, Wingham. Secretary—Robert Wilkie, Rlenheim. Treasurer—Peter Hapin-stale, Fordwich. Lecturer—George Fisher, Freeman. Chaplain—J. Murdock, Palmerston. Steward—W. Pranglen; assistant—R. M. Carr. Corde—Mrs. J. Robinson, St. Thomas. Pomona—Mrs. J. Cummings, London. Flora—Mrs. S. Austin, Whitby. Lady Steward—Mrs. Geo. Lethbridge, Glencoe. Executive Committee—H. Glendonning, J. Robinson. Auditors—J. McDougall, E. Peart. Delegates to National Grange—J. Robinson, W. F. Fisher.



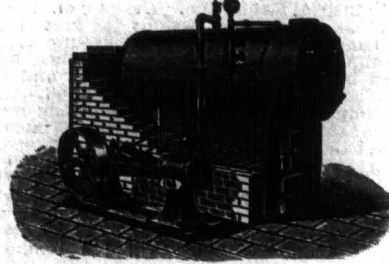
CITY WATERWORKS RESERVOIR, LONDON, ONT.

W. E. H. Massey, the head of the Massey-Harris Company, of Toronto, selected our fence over all competitors last year, putting up over five miles of the famous Jones Locked Wire Fence on his model farm, near Toronto. Prices from 20c. per rod. This Company also manufactures Metallic Shingles and Siding.

AGENTS WANTED. The LOCKED WIRE FENCE CO., Limited, LONDON, ONT.

E. LEONARD & SONS

London, Ontario.



Engines and boilers in full variety for Cheese and Butter Factories. We carry a full stock ready for quick shipment. Please write, giving size and style required, and whether Engine with Dairy or Upright Boiler.

THE OLD ESTABLISHED

PARIS PLASTER MILLS

MANUFACTURERS OF

Land Plaster

FRESH MINED AND FINE GROUND.

Write for prices and special freight rates on fifteen tons to all points in Ontario. We have it in barrels, bags and bulk.

PARIS PLASTER MILLS,

PARIS, ONTARIO.

OUR 15TH FREE PRICED CATALOGUE

is now going to customers. If you want a TREE, VINE, ROSE or PLANT of any sort, send for it. It surely will interest buyers. They write us if they had known of our Nursery sooner it would have saved them many dollars. Satisfactory results from good stock. Try ours!

A. G. HULL & SON,
ST. CATHARINES, ONT.

TORONTO ENGRAVING CO.

92 BAY ST
CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALTY.

There's No Risk In Using FLEMING'S LUMP JAW CURE

It cures any case of Lump Jaw that is returned. Does it quickly and for good. Hundreds of cases cured during the last year. Easily applied. Safe to use, and every bottle sold under this GUARANTEE: That if it fails your money is to be returned. Price, \$2 a bottle. Sent by mail upon receipt of amount. Illustrated treatise on Lump Jaw FREE.

TESTIMONIAL:

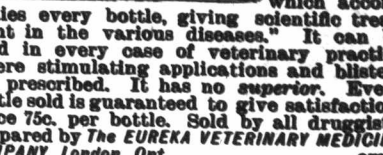
Crossfoot, N. W. T., Jan. 20th, 1898. Dear Sir,—I have used several bottles of Fleming's Lump Jaw Cure, and can certify it is a cure every time if applied before the lump is too far advanced. I have cured the lump on a young and old cattle. One application will cure any case of an early stage. Two applications never fail. It is no longer necessary for farmers and ranchers to shoot their lumps. All that is necessary is Fleming's Lump Jaw Cure, and a little elbow grease to rub it in.

Yours truly,
JOHN CLARK, JR.
Address: W. J. FLEMING, Prince Albert, N.W.T., or J. H. FLEMING, St. George, Ontario.

IMPORTANT TO BREEDERS AND HORSEMEN.

Eureka Veterinary Caustic Balm

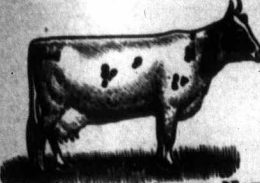

A reliable and speedy remedy for Curbs, Splints, Spavins, Sweeney, etc., etc., in Horses, and Lump Jaw in Cattle. "See pamphlet which accompanies every bottle, giving scientific treatment in the various diseases." It can be used in every case of veterinary practice where stimulating applications and blisters are prescribed. It has no superior. Every bottle sold is guaranteed to give satisfaction. Price 75c. per bottle. Sold by all druggists. Prepared by THE EUREKA VETERINARY MEDICINE COMPANY, London, Ont.



LIVE STOCK AUCTION SALES

Conducted in all parts of the country. Pedigree stock a speciality. Write for terms. References: J. C. Snell, Edmonton; John I. Hobson, Guelph; Hon. M. H. Cochrane, Compton, P. Q.; or this office. 14-2-y-o JOHN SMITH, Brampton.

W. C. EDWARDS
AND COMPANY,
IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm,
NORTH NATION MILLS, P. Q.

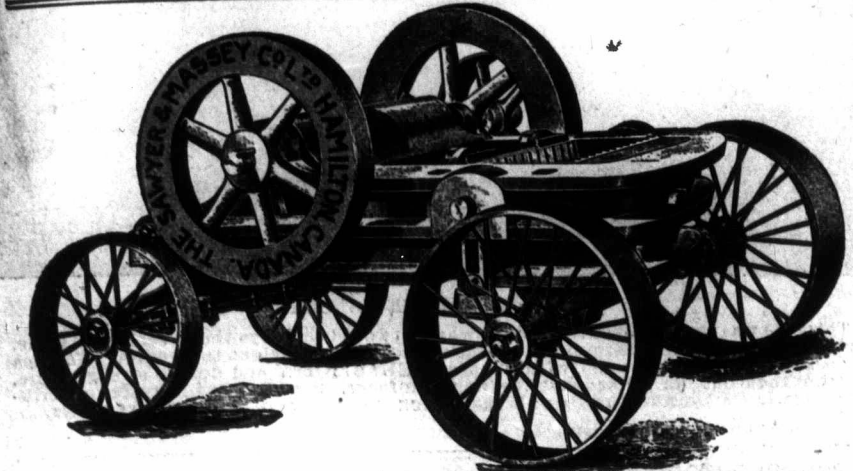
Pine Grove Stock Farm,
ROCKLAND, ONT.

Ayrshires, Jerseys, Shropshires, Berkshires.

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lissar Fogie of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.
H. D. McLEMAN, Manager.

Shropshires and Scotch Shorthorns.

The imported Missie bull, Scottish Pride, at head of herd, assisted by British Knight. Special bargains in young bulls, young cows and heifers of the best of breeding.
7-1-y JOS. W. BARNETT, Manager.



THE AULTMAN STONE CRUSHER

ALSO HIGH CLASS THRESHING MACHINES, ENGINES, HORSE POWERS, CLOVER HULLERS, AND SAW MILLS. FOR DESCRIPTIVE CATALOGUES, PRICES AND TERMS, APPLY TO

Sawyer & Massey Co., Limited, - Hamilton, Ont.

Famous Five Range
of FLOUR
INTO 212
LOAVES
IN 5 HOURS
USING ONLY
ONE FIRE POT
of COAL.

THE McCLARY MFG. CO.
LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER
IF YOUR LOCAL DEALER CANNOT SUPPLY WRITE OUR NEAREST HOUSE

A CHURCH'S ALABASTINE

The Permanent Wall-Coating.
Does not RUB or SCALE from any hard surface.
Coat over coat can be applied.
No more washing or scraping of walls necessary.
Alabastine is The Sanitary Wall-Coating.
Displaces Kalsomines, which decay on the wall.
Equally adapted for Ornamental work and plain Tinting.
Pleasant Painters as well as the general public.
Easily applied by anyone who can handle a brush.
Sixteen beautiful tints and White.
Put up in Five-pound packages, and never sold in bulk.
Ready for use by mixing in Cold Water.
No hot water being needed, SAVES TIME AND WASTE.
Full directions for use on every package.
"The Decorator's Aid" furnished painters, free.
Ask your dealer for Tint-Circular showing colors.
BEWARE OF IMITATIONS bearing similar names.
Sold by leading Hardware and Paint dealers everywhere.

THE ALABASTINE CO'Y. (LIMITED) PARIS, ONT.
ANYONE CAN BRUSH IT ON, NO ONE CAN RUB IT OFF.

NOTICES.

The Metallic Roofing Company, Toronto, is supplying a handsome metal ceiling for the Walker House, of that city. It will be elaborately decorated and is to be a work of art throughout.

The Kent and Romney Marsh Flock Book, Vol. III., has been received from the Secretary, W. W. Chapman, Room 32, Fitzalan House, Arundel St., Strand, London, Eng. Besides containing the pedigrees of rams Nos. 377-4416, ewes 3-4, and flocks 1-49, it gives members' list, by-laws of association, list of registered flocks, owners, names, histories, etc., and such information as should be expected in such books. The volume is clearly printed, neatly bound, in a manner creditable to the association it represents.

The Farmers' Binder Twine and Agricultural Implement Manufacturing Company, of Brantford, Ontario, Limited, are again to the front, notwithstanding the heavy advance in the price of raw material. They purchased in the year, twenty months' supply and state that every other manufacturer and dealer in this country is now waiting and looking forward for them to set the price, which it is evident others will have to follow, as it is the Farmers' Company's intention, as heretofore, to place their price at a shade above actual cost of production. Their "Season" brand of pure mangle 850 feet, and also their "Red Star," are regarded as brands of the very highest type of binding twine. Read their striking advertisement.

A WORD FROM GOULD, SHAPLEY & MUIR CO'Y (LIMITED), BRANTFORD, ONT.

Many of our friends and patrons are aware that fire did serious damage to our main factory and its valuable contents on the morning of March 1st. We are glad to say that we had a fair stock of Ideal Steel Windmills, "Maple Leaf" Grinders, and Iron Spray Pumps completed since the busy season ended in January, and stored outside the main factory building, so that these were not injured by the fire. In consequence we are filling orders with our usual promptness and expect to continue to do so, as we have already completed arrangements to run enough machinery to finish such parts as may be required before we get fully settled again. The bee supplies department suffered severely, but we will have the "Weed" patent process foundation machine running in a few days, and will be able to fill all orders in this line with little delay. We have also completed arrangements to supply Snow White Scotions, Hives, etc., promptly. Last fall we had such an unexpected rush of orders that we were compelled to keep many customers waiting for power windmills especially. We are planning to double our factory facilities, and expect this season to be in a position to fully meet the continued and rapid increase in sales of "Ideal" windmills and "Maple Leaf" grain grinders. If intending purchasers are wise, they will place their orders at an early date for the power windmills, and not wait until fall, when our agents and experts are overcrowded with work. We thank the numerous friends who have written words of sympathy, and are glad to assure them that we expect right speedily to resume operations in all lines, and will continue to aim at the production of the best, for quality is our first consideration.

GOSSIP.

Joe N. Reid, Wellington Co., Ont., writes:—"I have been a reader of the FARMER'S ADVOCATE for over fifteen years, and like it better the longer I take it. I do not know how a dollar could be better expended than in subscribing for your paper."

The sixth session of the dairy school at the Ontario Agricultural College, Guelph, closed on March 25th. The number in attendance was 110, including several young ladies. The majority of these remained for the full term of three months, and forty-eight wrote for certificates, of whom thirty-seven passed in all subjects.

D. H. Ketcheson, Meaford, Ont., in sending us change of advertisement, adds:—"I am pleased to state I have made the following sales: One cow to W. H. Brotherton & Son, Norwood; one bull calf to W. H. Brotherton & Son, Norwood; one yearling heifer to Edwin Wilson, Esq., Campbellford P. O.; bull fit for service to Wm. Lemon, Esq., Bethesda P. O.; one bull fit for service to W. C. Shearer, Bright P. O."

The Toronto Industrial Fair will be held this year from the 29th of August to the 10th of September, being the same two weeks as last year. Managers Hill received an application from Messrs. Saunders & Co., London, Eng., manufacturers' agents, for from three to four thousand square feet of space in the main building for the exhibit of the products of over fifty British manufacturers, who desire to be represented at this year's exhibition.

Mr. Horace N. Crossley, Rossau, Ontario, writes under date of March 21st, 1898:—"I beg to inform you that the Shire stallion, Bravo II., has been sold to go to Mitchell, Ont., which is known to be one of the best sections in Ontario for heavy draft horses. Since being in my possession Bravo II. has twice won the silver medal and sweepstakes at the Toronto Industrial Exhibition, medal and diploma at Montreal, diploma at Ottawa, also diploma at London, when he competed against all imported Shires and Clydes. He has also been first in his class seven times. Before coming to this country he was commended, in a class of 41 entries, at the London Shire Horse Show. His stock also have gained many 1st and 2nd prizes, and a son of his was first in the aged class at the Shropshire and West Midland Show, held at Shrewsbury, Eng."

Still Reads the "Advocate."

Editor FARMER'S ADVOCATE:
Dear Sir,—Allow me to compliment you on the very interesting issue of April 1st. Without wishing to detract merit from any other farm journal, permit me to say that, although not engaged as an active farmer, but as one of those who commended life on the farm and still much interested in all that pertains to farming, and a regular reader of the ADVOCATE, your April number ought to be in the hands of every farmer, even if it cost the price of a year's subscription. Yours truly,
D. THOM, Mfr. Thom's Implement Works, Wainford, Ont., April 5th, 1898.

ESTABLISHED 1889.

BELLEVILLE
BELLEVILLE, BUSINESS COLLEGE
ONTARIO.

The system of training is Normal, Specific, Thorough, comprising full instruction and practice in

- I. BOOKKEEPING—Double and Single Entry, Business Papers, Law and Practice.
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This College is OPEN THROUGHOUT THE YEAR. Students may enter at any time. Now is the Time.

ROBERT BOGLE,
J. FRITH JEFFERS, M. A., } PRINCIPALS.
WRITE FOR CALENDAR.

FAMILY KNITTER!

Will do all knitting required in a family, home or in factory yarn. SIMPLEST Knitter on the MARKET. We guarantee every machine to do good work. Agents wanted. Write for particulars.

Dundas Knitting Machine Co., DUNDAS, ONT.
Price, \$2.00.

CATALOGUE Many of the best Catalogues in Canada are produced by us.

PRINTING Latest type faces, designs, ornaments, and modern machinery.—Best in America.

SPECIALTY. Up-to-date covers designed by special artists without extra charge.

THE LONDON Printing and Litho. Co. (Limited).
LITHOGRAPHERS AND PRINTERS, London, Ont.

Good Salt, Good Cheese.

The very freshness of the curd of milk requires the salt of sense—Windsor Cheese Salt. The absolute purity of its delicate salt crystals imparts the flavor you want and need to keep the curd from souring. And it dissolves quickly—the full strength is felt at once.

Progressive Grocers Sell

Windsor Salt.

The Windsor Salt Co., Limited, Windsor, Ont.

ROCK SALT
FOR HORSES AND CATTLE.

Car lots or less; 500 pounds, \$3 here. Cash with order.

TORONTO SALT WORKS,
TORONTO.

BUY

Coleman's Salt

THE BEST

No other make of salt will give such satisfaction. Every package is guaranteed to the purchaser.

Address—
R. & J. RANSFORD,
CLINTON, ONT.

Consumption Cured.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all throat and lung affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper: W. A. NOYES, 230 Powers' Block, Rochester, N. Y.

GRAND TRUNK RAILWAY SYSTEM

Settlers' Trains to Manitoba and Canadian N.-W. T.

Passing en route through principal Canadian cities, the great Western City of Chicago, the twin cities of St. Paul and Minneapolis, and the States of Minnesota and Dakota. Special trains with settlers' effects and household goods, if sufficient business offers, will be run from Toronto every Tuesday during April, 1898, leaving Toronto at 7 p. m. Tuesdays; Georgetown, at 8.35 p. m. Tuesdays; Guelph, at 9.35 p. m. Tuesdays; Ber. in, at 10.17 p. m. Tuesdays; Stratford, at 11.10 p. m. Tuesdays; Barrie, at 8 a. m. Wednesdays. These trains, with free Colonist Sleeping Cars attached, will run through to Winnipeg, Manitoba, via Chicago and St. Paul. Book your intended date of departure with our agents, who will be fully advised of these trains in ample time in advance for you to complete your arrangements. Free Colonist Sleeping Cars on express trains to Winnipeg, via Chicago and St. Paul, for passengers travelling without live stock, leaving Toronto every Tuesday at 11.30 p. m., and every Wednesday at 7.50 a. m. Baggage checked and freight forwarded through without Customs examination. Apply to any of the Company's agents, or write M. C. DICKSON, D. F. A., Toronto.

CANADIAN PACIFIC RY.

IS THE ONLY DIRECT FAST ALL-CANADIAN LINE TO TAKE FOR THE

KLONDIKE and YUKON GOLD FIELDS.

LOWEST RATES. FASTEST TIME. ACCOMMODATION UNSURPASSED.

6 TOURIST CARS EACH WEEK TO PACIFIC COAST.

Full information and pamphlet "Klondike and Yukon Gold Fields," free. Apply to any Canadian Pacific Railway Agent, or C. E. McPHERSON, A.G.P.A., Toronto.

ALLAN LINES

THREE DISTINCT SERVICES FROM MONTREAL WEEKLY.

Royal Mail Service of Passenger Steamers, Montreal to Liverpool, every Saturday, calling at Quebec and Londonderry.

DIRECT SERVICE MONTREAL TO GLASGOW

Direct Service Montreal to London.

These steamers are of most recent construction; are of the highest class, and their record for the safe carriage of cattle is unexcelled. Special attention paid to the best methods of stowing and carrying cheese, apples and other farm produce. Steamers fitted with refrigerators for perishable freight. For schedule of sailings, rates of passage or other information, apply to J. D. HUNTER, Western Freight Agent, Corner King and Yonge Streets, Toronto, or H. & A. ALLAN, Montreal.

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Large and fast passenger steamers, twin-screw, electric light, speed and comfort. First cabin accommodation amidships, rate \$32.50 and upwards; second cabin very superior, rooms of 2, 4 and 6 berths, rate \$34 and upwards, which includes free ticket Liverpool to London; stowage accommodation in 2, 4, 6 and 8 berth rooms, rate \$22.50 and upwards to all principal ports. For full particulars apply to any agent of the Company, or DAVID TORRANCE & CO., General Agents, MONTREAL.

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STRAFORD, ONTARIO. This school does first-class work in every department, and enjoys a large patronage. A commercial school of the highest grade. None better in Canada. Students can enter at any time. Catalogue free.

W. J. ELLIOTT, Principal.

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

A. M. & Robt. Shaw, Brantford, Ont., change their advertisement for this issue, as their young bulls are all sold.

Wm. Grainger & Son, London, Ontario, writes: "In sending in a change of advertisement would say that our cattle are coming through the winter in nice condition. We never had such a demand for bulls. We have sold all but one—a dark red ten-months-old, a great grandson of 2nd Fair Maid of Hullett—9047. Our stock bull, Beaux Ideal—22554, is proving himself an A1 stock-getter, leaving calves with lots of substance and full quality. We have sold the following bulls: Doctor, dam 2nd Fair Maid of Hullett—9047, to Fred T. Skinner, Indian Head, N.-W. T.; Earl of Hawthorn, dam Red Princess 2nd, to W. H. Waymouth, London, Ont.; George Johnson, dam Isabella, to the worthy reserve of McKillop, John Morrison, Winthrop, Ont.; Pride of Alma, dam Maid of Hawthorn, to Robert Parker, Atwood, Ont.; Roan Ronald, dam Roan Princess, to Valentine Ficht, Orie, Ont. They are all an excellent lot of young bulls and from first-class dairy cows. Our heifers are also an excellent lot. We wish the ADVOCATE every success."

H. E. Williams, proprietor Sunnyside Farm, Knowlton, P. Q., writes: "Having purchased St. Lambert of Arofof 36943, bred by William Rolph, of Markham, Ont., I write to give you a short description of this bull, one of the finest of the celebrated St. Lambert Jerseys. His color is solid fawn, black points. He was bred by One Hundred Per Cent, who was full brother to Stoke Pogis 3rd, the sire of Mary Anne of St. Lambert, whose official butter test was 36 lbs. 12 oz. in seven days. The dam of St. Lambert of Arofof was St. Lambert's Dinah 69451, 18 lbs. 6 oz. butter official test, whose color is solid fawn, black points. The latter took first prize and sweepstakes at Toronto in 1885 and 1886, and headed first prize herd for special A. J. C. C. herd prize of \$100 for Canada at Toronto in 1887; also special Dominion sweepstakes medal. St. Lambert of Arofof weighs about 1,700 pounds, and for style and dairy points could be hard to outclass in any showing. I have also several young bulls and heifers of great promise by St. Lambert of Arofof. My stock is looking fine, numbering about eighty head."

The thirteenth annual meeting of the American Holstein Breeders' Association was held in Buffalo, N. Y., in March, with 26 members present. The Secretary's report showed that there has been issued during the year ending March 5 certificates of registry of 2,325 cows, numbered from 41970 to 44195; 738 bulls, numbered from 23067 to 23805; and 1,528 certificates of cow transfers have been issued, numbered from 6850 to 37373, and 91 of bulls, numbered from 15407 to 15978. The Treasurer's report showed a balance on hand of \$14,810. One of the principal items of business was the amalgamation of the Association with the Western Holstein-Friesian Association. The board appropriated \$1,000 for the purchase of a building for the Association, and \$2,000 for literary committee in disseminating information about the breed. Officers elected: President—W. A. Matteson, Ufa, N. Y.; Vice-Presidents—S. Burdard, Hamilton, N. Y.; W. B. Barney, Hampton, Ia.; W. S. Carpenter, Menominee, Mich.; W. J. Gillett, Rosendale, Wis.; Treasurer—Wing R. Smith, Syracuse, N. Y.; Secretary—Frederick L. Houghton, Brattleboro, Vt.; Supt. Advanced Registry—S. Hoxie, Yorkville, N. Y.; Directors two years—W. G. Powell, Shadyside, Pa.; L. T. Yeomans, Walworth, N. Y.; Isaac Damon, Cochrane, Mass. (one year)—D. H. Burrell, Little Falls, N. Y.; J. H. Coe, Ufa, Jr., Galesburg, Ill.; Henry Stevens, Tacoma, N. Y.; Executive Committee—L. T. Yeomans, S. Burdard, D. H. Burrell, Wing R. Smith, and F. L. Houghton. Literary Committee—S. Hoxie, E. A. Powell, W. J. Gillett, H. Langworthy, and F. L. Houghton. Committee on Special Prizes—S. Burdard, W. A. Matteson, and F. L. Houghton. The next meeting of the Association will be held at Buffalo, June 7, 1898.

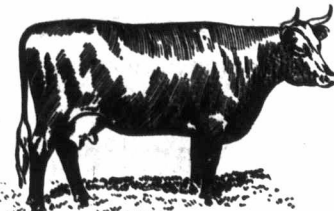
Jas. I. Davidson & Son, Balsam, Ont., write: "We have had a visit from Mr. C. J. Woods, Gardner, Ill., who bought eight females, viz: 3rd Duchess of Gloster, a roan; sire Scottish Prince 121084, dam 3rd Duchess of Gloster, by Grand Master (52973), bred by A. Cruickshank; 2nd dam 17th Duchess of Gloster, by Red Duke 24525; 3rd dam 12th Duchess of Gloster, by Champion of England (17326); 19th Duchess of Gloster, red; sire Scottish Prince 121084, dam 4th Duchess of Gloster, by Hospodar, imported; grandam 39th Duchess of Gloster; also 51st Duchess of Gloster, by Village Boy 111130870; dam 4th Duchess of Gloster; and 50th Duchess of Gloster, red; sire Scottish Prince 121084, whose sire was (imp.) Sussex 100699, and his dam Sorie, both of the Secret tribe; her dam is 4th Duchess of Gloster, by Duke of Lavender (imp.) 63290; grandam 43rd Duchess of Gloster, by Lord Abbott (51536); Necklace 21th, roan; sire Village Boy 9th 130867; dam Necklace 22nd, by Hospodar (51409); grandam Braconet, alias Necklace 17th, by Councillor of State (51028); also Necklace 25th, by Sittytion Hero 130833; dam Necklace 22nd, by Hospodar (51409). The Gem, red, with little white; sire Village Boy 9th 130867; dam Minnie May, by Gravesend's Heir 118502. Also, Red Blossom, red; sire Village Boy 9th 130867; dam May Blossom, by Field Marshal, 97963. Their ages vary from seven to twenty months. We also had a visit from C. C. Norton, Cornish, Iowa, who bought Sittytion Hero 2nd, a red bull calf, six months old; dam 39th Duchess of Gloster, by Grand Master (52973). Mr. Norton has purchased great many Short-horns which I imported, but I am mistaken if he ever got a better one than this, if he goes on the way he is doing. Mr. Jas. V. Smith, of Unionvale, Ohio, also called and purchased a red bull calf, five months old, Sittytion Hero 3rd; sire Sittytion Hero 130833; dam Necklace 23rd, by Scottish Prince 121084; grandam Braconet, alias Necklace 17th, by Councillor of State (51028). His dam is from the dam of Mr. Barber's celebrated Necklace, which he showed with so much success. The above lot would compare favorably with any I ever imported."



"OVER THE FENCE IS OUT."

This rule was unquestioned in the days when "two old cat" was the favorite ball game. Applying the same rule to farm stock, we raised the standard height to five feet. Through the fence is as bad as over. So, with abundant ELASTICITY and double strength wire, we "shut them out" (or in) and rule the world on fence. Send for our illustrated advertising matter. THE PAGE WIRE FENCE CO., LIMITED, WALKERVILLE, ONT.

P.S.—See our ad. in next issue.



A Combination Dairy Cow

The common cow is generally very hardy but even her robust constitution will be the better and stronger, and her dairy value enhanced manifold if during the winter you add some of

Dick's Blood Purifier

to her feed. It sharpens the appetite of an indifferent eater, tones up the system, strengthens the generative organs, and keeps her in good health for the Calving Season.

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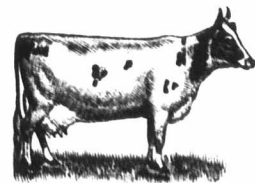
A new implement, thoroughly tested and endorsed by prominent agriculturists. The most labor-saving tool on a farm. Send for catalogue.

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Ayrshire AND Guernsey Cattle, Imp. Yorkshire Swine

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Ayrshire herd headed by the noted bull, Matchless 500; sire Imp. Glencairn, dam Nellie stock of both sexes, in both Ayrshire and Guernsey, at very low figures. Also bargains in Shropshire and pigs for the next month.



J. N. GREENSHIELDS, Prop. by om T. D. M'CALLUM, Mgr.