

**PAGES
MISSING**

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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No. 450.

EDITORIAL.

A Few Plain Words with Legislators.

Some time ago we noticed several articles in an influential British paper on the subject of "Private Enterprise vs. State Aid," strongly favoring the former, and it will be remembered that the suggestion of State aid made by the Chancellor of the Exchequer of England to promote the pure-bred live stock industry last year was coldly received, not meeting with favor by the breeders themselves, and with opposition in the press, based mainly on the experience of European countries, where similar grants gave unsatisfactory results. Maritime Province breeders have protested against the action of one Government buying pure-bred stock for the people, especially when through incompetent judges inferior animals were imported. England is singularly free from meddlesome paternalism, and in that land farming and stock-rearing have reached a degree of perfection that challenges the world's admiration. In the line of scientific agricultural investigation, that carried on for half a century past at Rothamsted by Gilbert and Lawes entirely by private enterprise probably stands without a peer. It is on this continent of boasted independence and freedom that we have seen the plans of officialism to "help the farmer" reduced to a fine art. It has almost become a fad, worked out in various schemes designed to make political capital, create offices and patronage, and promote the prestige of officials. Witness the scandalous Yankee free seed distribution, the free publication business, a great deal of which is simply wasted, petty devices for advertising the wares of individuals at public expense, and so on. We do not wonder that men of independent spirit have cried out, It is time to call a halt! Farmers know perfectly well that they have largely to pay the fiddler. Unless for legitimate educational measures, subsidies to assist any branch of business, as a general rule, savor of class legislation and discourage individual effort. To train up any class to hang on the skirts of the Government is to lower the standard of ambition. The greatest success in the line of live stock improvement has been attained by private enterprise and healthy rivalry. Pap-fed industries are dependent, lacking in self-reliance, always asking for more help and doubting their own ability to cope in the open field, something which has not and need not be said of the Canadian farmer or breeder.

The Governments, Federal and Provincial, of Canada have ample legitimate work to do in relation to agriculture. Let them exert their powers to preserve fair rates of transportation and suitable accommodation for the shipment and marketing of animals and agricultural products from great corporations that by virtue of subsidies and bonuses are entitled to render an adequate return, facilitating access to new markets and guarding the farmer against combines. Here is real work to be done; let legislators roll up their sleeves and tackle it.

Again, exhibitions of various kinds are essential to the progress of agriculture and the general well-being. Most of them cannot be made self-supporting, hence Government aid, given through our excellent live stock and other associations, is needful, though some of the larger expositions, like the Toronto Industrial, have been successful without Government grants, while the old Provincial failed with them.

Reference has been made to educational work, such as that carried on by our dairy, fruit-growers', beekeepers', poultry, road improvement associations, and so on. Besides these, we have the more recent Farmers' Institute movement, which is proving the means of bringing farmers together occasionally to discuss the best methods, develop-

ing platform talent and stimulating social or fraternal relations.

Governments may also very properly institute and carry on agricultural schools and colleges, or schools to promote dairying and horticulture, such as we have in the Maritime Provinces, Manitoba, and Ontario, but students should not expect to get all the advantages of these institutions gratis at the public expense no more than the students for any other avocation or profession.

Our experimental farms and stations afford ample opportunity for undertaking investigations in connection with animal husbandry and the science of agriculture with which private individuals may not be able to cope. That all the details of such investigations should be carefully recorded in reports for the use of farmers and students is obvious, but in the U. S. we have seen such work wastefully overdone. The press of Canada is a credit to any country; in fact, is unsurpassed, and so cheap as to be within access of everyone. Every farmer can have his agricultural paper, his general news or county paper, and his religious paper, and, as heretofore, these can be depended upon to serve the best interests of their readers, keeping them thoroughly posted on agricultural and other matters, so that the Government printing-press need not be run overtime. We have been rather surprised to hear the suggestion to tax this splendid agency for the use of the mails, while loading the service with free Government literature of all sorts, political campaign sheets included, towards the cost of which agricultural and other publishers are taxed, and we think it will be freely admitted that the agricultural press has generously co-operated with the experiment stations and the stock breeders' associations in disseminating information regarding their work.

Representing specially the farming interests, it might be thought that the FARMER'S ADVOCATE would throw up its hat in favor of bigger subsidies and more officials to boom the cause of agriculture. Now, at the last session of the Ontario Legislature, the large sum of \$214,000 went through the House, we are informed, without scarcely being challenged. Both political parties either must have thought it all perfectly right and wise, as most of it may have been, or else they had their eye on the so-called "farmer vote." At the same time, all such expenditure should be closely scrutinized just the same as in any other department. Being the backbone industry of the Province, it deserves reasonable aid, but subject to the same common-sense principles that apply to all other public expenditure.

Detailed statements of the outlay of these large association and other grants should be furnished our Parliaments for publication so that the people may know that their money is being wisely spent, not doing for individuals what they can as well do for themselves, nor imposing on the rights and enterprise of others.

The Chair of Biology in the Ontario Agricultural College.

We notice in the Guelph *Mercury* that the students of the Agricultural College are feeling uneasy about the Chair of Biology in that institution, left vacant by death of the late Prof. Panton. It is said that certain Guelph politicians are pressing the Government to appoint a young, inexperienced graduate who, the students say, is not qualified for the position. We hope that there is no grounds for the fears referred to, but we venture to utter a word of warning. Under President Mills, the Guelph College has been singularly free from politics, and Hon. Mr. Dryden, the Minister of Agriculture, has discreetly made his appointments without reference to politics or religion; but now that he is in the shade, politically, for a time, there may be danger of the other members of the Government yielding to pressure from men

who seek appointment on the ground of political services or church relationships. If Mr. Hardy is wise he will resist all such pernicious solicitations. If he yields to them, he will make the mistake of his life. There are appointments in which such considerations may be taken into account, but they have no place in agricultural educational institutions. The Chair of Biology (dealing with botany, entomology, zoology and geology) in the Agricultural College is a very important one. The occupant of that chair will be in constant intercourse not only with the students but with farmers and fruit-growers, and it must not be filled by an inexperienced youth, nor by one regarding whose practical judgment, scholarship or attainments there is any doubt.

Township Fairs.

At a meeting of representatives of fair associations, held in Toronto on Feb 16th, a discussion arose as to the advisability of doing away with township fairs. We are not aware that any resolutions upon the question were adopted, and from the meager report of the convention published we judge that no agreement was arrived at and no decided action taken. The question is one on which we are aware there is considerable difference of opinion. Some are of the opinion that township shows, especially in the older settled districts, should be discontinued, and the county fairs only sustained, while others claim that the township shows are, as a rule, more successful than are the county fairs, and productive of quite as good results. Viewing the question on the whole, and from a disinterested point of view, we confess to a feeling of sympathy with the local associations, and favor their encouragement. We believe that, as a rule, they are doing good work, are fairly well conducted and are approved of by a large majority of the people of the districts in which they are maintained. We do not wish to be understood as counselling an increase of the number of fair associations in the districts contiguous to the large central exhibitions, or where union exhibitions of county and township associations are held. If in these districts the people are content to join for the support of the large show it is well, but whenever the people desire and are willing to maintain a township fair, we say by all means give them encouragement. The local fairs have an influence in promoting a healthy rivalry in the improvement of stock and in the cultivation of the best varieties of grain, roots, vegetables and other products of the farm. It is well known that the beginner in the breeding of pure-bred stock cannot afford the expense of taking a single animal, or a pair, to the large shows, and if he undertakes it he has small chances of winning, but at the local show he can make a start which gives him encouragement to continue and to aim at the larger shows in the course of time when he has had the benefit of more experience. With this end in view we can see no valid objection to limiting the competition to residents of the municipality in which the show is held, if a majority of the members of the association so decide, in order to shut out the professional showman, who is not always a breeder in the true sense, but often buys up a set of animals to make the circuit of the fairs and scoop in all the prize money hung up. We would gladly see the local shows, and the larger exhibitions as well, made purely agricultural, and free from the horse-racing element and the counter attractions which have become so common in connection with most of our agricultural exhibitions, and the tendency of which is to distract the attention of the people from the useful and educational features of these institutions, but we counsel the farmers to exercise vigilance in seeing that any movement looking to the abolition of the local shows, or the diverting of the Government grant for the encouragement of the township associations into other channels without the consent and approval of the majority of those immediately concerned, be met by a vigorous protest.

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THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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JOHN WELD, MANAGER.

- 1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month. It is impartial and independent of all classes or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada. 2. TERMS OF SUBSCRIPTION - \$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, 6s. or \$1.50. New subscriptions can commence with any month. 3. ADVERTISING RATES - Single insertion, 30 cents per line. Contract rates furnished on application. 4. DISCONTINUANCES - Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given. 5. THE ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law. 6. THE LAW is, that all subscribers to newspapers are held responsible until all arrears are paid and their paper ordered to be discontinued. 7. REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible. 8. ALWAYS GIVE THE NAME of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done. 9. THE DATE ON YOUR LABEL shows to what time your subscription is paid. 10. SUBSCRIBERS failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once. 11. NO ANONYMOUS communications or enquiries will receive attention. 12. LETTERS intended for publication should be written on one side of the paper only. 13. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper. 14. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are such and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

Address - THE FARMER'S ADVOCATE, 47 THE WILLIAM WELD CO., LONDON, ONTARIO, CANADA.

Co-operative Pork-packing.

A Queen's County, P. E. I., reader writes us as follows: "As a constant reader, who highly appreciates your publication, believing that you subordinate all other interests to that of the farmer's, I beg to ask your opinion in the matter of co-operative pork-packing by private enterprise. A packing establishment of a capacity of say 800 hogs daily was started in Charlottetown about the 20th of Nov. last. The prices paid for choice hogs have been: November, 5c.; December, 4c. to 4 1/2c. Of late, am informed a little better prices obtain. However, by a letter published in our local paper, we are told that we are being 'fleeced, literally robbed,' by this packer. Although I must confess as a farmer this is not my view of the case, still, as a result, a large meeting of the farmers of Prince County convened in Summerside on January 28th and resolved to have a co-operative packing and shipping house established at Summerside, ready for operation by September next. Now, certain it is that there is not sufficient hogs as yet to supply one factory, and supposing there was plenty for two, do you advise we farmers to invest in such an enterprise? In your opinion, is the pork-packing to-day in the hands of a combine? About what ought we to be getting for choice hogs at present? What has been the average price of Canadian bacon in the English market, say from September? What the American, during the same period? Please reply next issue."

A LETTER ON THE SUBJECT.

To the Editor FARMER'S ADVOCATE:

SIR, - In reply to enquiry of the 22nd inst., re the proposed Farmers' Pork-packing House, I beg to state that I have heard of such industries being started in towns in the Province of Ontario by farmers on the co-operative system. You ask, "Do you consider it advisable for farmers to launch into such an enterprise which costs so much to equip and requires such an expert staff to manage and run." In reply I beg to state that so far as my observation goes in regard to farmers' co-operative establishments where large capital is required, I am led to believe that it is not advisable for farmers to put their money into an enterprise of this kind for the following reasons:

- 1st. - The amount of money required for buildings, plant, the running of the business and establishing agencies in Britain would amount to a large sum. 2nd. - That in a co-operative institution of this kind there are too many individuals to please, as each shareholder has a voice in the matter, and farmers are not likely to sanction such large outlays of money as would be necessary at times to meet competition that do not always yield a profit. 3rd. - I have not seen it shown by any person that the profits of the business are unreasonably high, or that any combine exists among the packers to keep the price of hogs down below proper values. 4th. - The history of co-operative institutions amongst the farmers of Ontario is such as to make prudent men careful about investing their money in an undertaking of this kind. Everything goes

well while good profits are being realized, but there usually comes a time of keen competition, that the limit of profitable investment is overstepped, and, perhaps, the market gives away at the same time. Then is the time that every man interested should stand firm and face the difficulty, but instead of that you have dissatisfaction, followed by desertion of the penurious and weak-kneed, who leave the better men to face the trouble.

5th. - If such an enterprise should meet with great success at the start and divert a large portion of the trade from the regular packing houses then these establishments would for a time pay the farmers five or ten cents per hundred pounds more for their hogs than could be realized through the co-operative plan. This would be sufficient to demoralize the whole business and bring loss to the stockholders of the new system. This is no mere theory, but the history of farmers' co-operative ventures when they come in direct contact with large modern business establishments.

I think that the whole has been profitable to those that engaged in it, and there may be room for more establishments of the kind, but I would not advise the farmers to put their money into them with the idea that they will make a fortune out of the business. The Canadian farmer will find it profitable to improve his breed, management and feeding of hogs, raising the kind that are demanded by the packers for their bacon trade in the British market.

Victoria Co., Ont. H. Y. GLENDINNING.

THE QUESTION OF PRICES.

To the Editor FARMER'S ADVOCATE:

DEAR SIR, - We are now paying \$5.12 1/2 per hundredweight for selected singers delivered at our factory. Your second enquiry, we judge, arises from a desire to compare the relative values of American and Canadian bacon in England. We fear, however, that this will be an almost impossible task. England is peculiar. Nearly every county uses a distinctive cut, and establishes a price of its own for that particular variety. Now, the Canadian curer makes what is known as a Wiltshire side; practically, this represents his total effort in export meats. The American packer, on the contrary, does not make Wiltshire sides to any extent; his hogs do not lend themselves to this cut, and their meats go to an entirely different class of consumers and a different section of the country. Therefore, we do not keep in close touch with the average price made for American product, inasmuch as it does not in any sense come in competition with Canadian. Yours truly,

J. W. FLAVELLE, Managing Director Wm. Davies Packing Co. Toronto, March 5th.

[NOTE. - As a general rule, the old adage, "Let the shoemaker stick to his last," is a good one, and the business of farming is important and intricate enough to require the best energies of most men, but the success which has in the past attended cheese factories and creameries run on the co-operative plan is one exception to the rule, though there is obviously a good deal of difference between running a cheese factory and a modern pork-packing establishment. At the same time, the FARMER'S ADVOCATE is anxious to promote any plan of handling farm products calculated to be of real and lasting benefit to the farmers. Hence the above subject is a good one, the discussion of which we welcome, and would be glad to hear from any one who has any actual facts to give of experience in co-operative pork-packing among farmers, successfully or otherwise. - EDITOR.]

STOCK.

Fads in Stock-raising.

BY WALTER LYNCH, WESTBOURNE, MAN.

[A portion of an address delivered at the Live Stock Breeders' Convention in Winnipeg, February 17th.]

Perhaps you may think I ought to say something about fads in breeding, but I will not, for there are none in it. If there are any in connection with it they are in the market. The ordinary breeder is simply a merchant trying to supply the demands of the market. He may try to influence it, which is quite right, for each one has the best kind, the best of the kind, and wants to make the best out of it when he puts it on the market; but they are equally willing to supply you with cattle without horns, cattle with short horns, or cattle with the longest kind of horns for dehorning purposes, though why any one should want to cut a decent pair of horns off a decent, well-behaved cow is more than I can understand. If you think hornless cattle more quiet I may say I have had some mulley cows and I never had one that could not lick any horned cow of equal weight. Whenever I have seen dehorned cows they were always of you ever seen a person or a cow badly gored? I never did, and I have been among cattle all my life; but I have known people to be knocked down and trampled, and I know of a man just now who has his leg broken by a kick from a dehorned bull, and I respect the bull for it. I have always found cows' tails more troublesome than their horns, and I

would be very glad to see some improvement made in that part of their anatomy if it can be done without impairing their milking qualities; but I am afraid that it is not possible, for our dairy cattle experts have proved, to their own satisfaction at least, that a cow cannot give good milk or much of it whose tail is not of the proper length. I think the rule is the longer the cow's tail the longer the yarn her owner is justified in spinning about her. Some people say dehorned cattle thrive better. Those I have seen have not proved it to me. Others say a cow will make more butter after the operation, and I have lately seen an ingenious theory to account for it. I give it to you for what it is worth. It is, a dehorned cow having no place to wear her rings makes them up into butter. I said I would give you the theory for what it is worth, but I know it is correct, for I have seen the rings in the butter and heard of them in the market. Others say the operation makes a market for dehorning tools and gives employment to the dehorning fend, and I think perhaps those people have struck the key to the dehorning fad.

After carefully weighing all the arguments I have seen for and against dehorning, I have come to the conclusion that although it may be somewhat more painful, it is quite as useful as cutting off pigs' tails. You may not all remember it, but fifty years ago the man who allowed his pigs to wear their tails was considered a very poor, slovenly farmer. His pigs were generally of the kind known as razor-backs, very like some of those we see at our exhibitions, and both pig and owner were held in utter contempt by progressive farmers. The owner was considered what our smart writers now would call a "back number." But the back number has come to the front, and brought his pig with him, tail and all; - the very identical pig that prosperous farmers tried for fifty years to get rid of, and now he is not only allowed to wear his tail in good society, but progressive farmers hail him as the perfection of hoggishness. By the way, I would like to ask pig breeders if they know anything of that wonderful, long-sided bacon hog that brings such a high price in the market; or of that other equally wonderful, early-maturing, easily-fattened pig that makes four pounds of pork for every pound of food he consumes? I may have this thing wrong; it may be one pound of pork for four of food, but it does not make much difference. Of course to obtain these results you must feed a "balanced ration," and you will have to go to your chemist to find out what this is. I don't know of any farmers, except "Farmer Brown" and "Invicta," who know what a "balanced ration" is. In fact, a good many farmers think the animal itself is an important factor in balancing his ration, and that prescribing a certain ration for a lot of differing animals is a good deal like a doctor feeling one man's pulse to diagnose some other man's disease. I presume the scientific definition of a balanced ration would be "one containing the proper proportions of the elements necessary to build up an animal regardless of cost." But the practical everyday ration is the one that gives the best results for the least cost. I don't want to be understood as classifying a balanced ration as necessarily a fad, though it may easily be made one; but I don't want any one to ask me any questions about it, for I cannot answer them, and won't try. It is a problem containing a large unknown and unknowable quantity, and that unknown quantity is the animal itself. An analyst can tell just what amount of heat is in a given quantity of coal, but he cannot even guess what amount of useful force it will develop in an unknown engine, with an unknown stoker; but if he is also a good mechanical engineer, and can examine the engine and stoker and all the surrounding conditions, he can tell very nearly what effective force it will develop. But this man is dealing with much more material things than animal life, and is not confronted by that unknown quantity. So too an analyst can take a steer to pieces and resolve him into his original elements and tell us what they are and what foods contain them, but he cannot build him up again, and can only guess what proportion of the elements consumed are in evidence or by what process nature formed them into a steer. He may figure out a fairly correct theory, but he will have spoiled the steer for practical purposes, and in order to test his theory must have another, and there may be enough difference in the physical organism of the two steers to materially affect the result, and it is only by careful and intelligent observation of each individual animal we can even approximately estimate this unknown quantity.

We have been told by analysts that turnips contain very little food, and that wheat straw contains a great deal, but the foolish steer goes on eating turnips and gets fat, while the wise scientist steers him away to the nutritious straw stack, and there proves - what? That his animal economy was not calculated on a wheat-straw basis. These scientific problems relating to animal life are very like three-legged stools; if the legs are all in, and the proper length, they are all right, but a three-legged stool with only two legs is no good, and you had better sit on the floor at once, as you are bound to come there, and probably get hurt by the fall.

But you are beginning to think this paper is an unknown quantity and has no end, but you are wrong, it is finished, and, in conclusion, allow me

to say I do not in fact, I think of good than meeting of man United States, Institute work, liar he startled his lies. Some as this worthy contain germs and pruned, w knowledge. B trustful of their get more, thei state, a kind of those fad germ too rankly bec there were no f possible a breez drop a fad ger grow into prof other breeder, into trouble for

This is the now just one paper seems to tific knowledge tific knowledge less of it. I v know very little teach me. Ge can, but make s ber of legs of th stool in the fir Examine it ca looks, and whee your own exp utilizing the e giving of your t that from out e edge will come

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How Scotch

To the Editor F I see some lambs. The r of Scotch shep end of the sc testicles they catches them with a part of that he will c will catch the a lamb he tak hand, then he with the head the right posi the thumb an hold of the en cuts off the e been practic and I never k knives, one t larger and str approve of cl allow anyone

to say I do not look upon fads as an unmixed evil; in fact, I think in different ways they contain more of good than evil. I lately saw an account of a meeting of managers of Farmers' Institutes in the United States, where one manager said the best Institute worker he ever had was such an infernal liar he startled people and set them investigating his lies. Some fads may do good on the same lines as this worthy Institute worker, but many of them contain germs of truth that, if carefully cultivated and pruned, would grow into branches of useful knowledge. But the trouble is, farmers are so distrustful of their own knowledge, and so anxious to get more, their minds are always in a receptive state, a kind of perpetual summer-fallow where those fad germs fall and take root, and growing too rankly become troublesome weeds. I said there were no fads in breeding. I repeat it; but it is possible a breeder might, accidentally or otherwise, drop a fad germ into this prolific soil that might grow into profit for himself and trouble for some other breeder, but is much more likely to grow into trouble for those who cultivate it.

This is the conclusion of the conclusion, and now just one word more. If anything in this paper seems to savor of want of respect for scientific knowledge, I disclaim it. No man holds scientific knowledge in higher esteem than I do, or has less of it. I wish I had more, for I often find I know very little more than those who are trying to teach me. Get all the scientific knowledge you can, but make sure the stools have the proper number of legs of the proper length, but do not throw a stool in the fire because one leg seems defective. Examine it carefully, it may be better than it looks, and whenever it is possible measure them by your own experience and known results, freely utilizing the experience of others, and as freely giving of your own in return. Then we may hope that from out the eternal clatter of faddists knowledge will come for future generations.

Shear the Sheep Early.

The practice of the majority of the most successful sheep-raisers in the Dominion in these days is to shear their sheep unwashed, especially the yearlings, early in April, selecting fine weather and keeping the sheep closely housed for a few days. In the case of breeding ewes it is not practicable to shear so early, and we would not advise doing so till after they are well over the lambing season, when, if they are in fair condition, we would shear them without waiting for warm enough weather to wash before shearing. We have known sheep to be sheared with perfect safety in December and January by keeping them in warm quarters for a week or two, and they thrive and do better without their fleeces. It is not best to shear them very close to the skin, but a little roughly, leaving say half an inch of wool as a partial protection, which will occasion no loss, as it will be secured in the next crop. In a week or two after shearing the sheep should be washed or dipped in a warm solution of one of the prepared "dips" on the market, which will rid them of ticks and lice and leave the skin and wool in a healthy condition. To any one who has observed how sheep thus shorn and treated thrive during the warm spring months, when those with heavy fleeces and infested with ticks are suffering, there can be but one opinion as to the benefits of early shearing. The one objection that has any weight is the undue discrimination which dealers are disposed to make in the price of unwashed wool as compared with so-called washed wool, which has in many cases been only run through cold water and is far from being cleansed. But by dealing with practical men who understand their business a fair allowance may be secured, and in our opinion the difference between the price of washed and unwashed wool should not be more than 33 per cent. Even if a little sacrifice has to be made in this respect we are satisfied that it will be more than compensated for in the increased thrift of the sheep and consequent increased growth of wool and their better appearance in the fall of the year if offered for sale. We confidently and unhesitatingly recommend early shearing and dipping of the sheep and docking and dipping the lambs as good practice.

How Scotch Shepherds Castrate Lambs.

To the Editor FARMER'S ADVOCATE:

I see some person inquiring about castrating lambs. The method practiced by a large number of Scotch shepherds is to cut off just sufficient of the end of the scrotum so that when they press the testicles they will protrude; the operator then catches them with his teeth and draws them out with a part of the cord. This is done so quickly that he will castrate as fast as two or three men will catch the lambs for him. When a man catches a lamb he takes hold of a hind and fore leg in each hand, then he raises the lamb up against his breast with the head up to his shoulder. This is about the right position for the operator to work. With the thumb and forefinger of the left hand he takes hold of the end of the scrotum, and with the knife cuts off the end as above. I may say that I have been practicing this method for over forty years, and I never lost a lamb by castration. I use two knives, one to castrate with, and the other, a larger and stronger one, for docking. I would not approve of clipping off the scrotum. I would not allow anyone to perform such an operation on my

lambs. I consider it important that the lambs are castrated when young; two or three weeks old would be the proper age, if done in the way I recommend. I can see no reason why any lambs should be lost in castrating if the lambs are healthy, but when large and fat there is a great deal more risk. I therefore consider it a great mistake to put off this operation till the lambs get big.

JOHN RENTON.

"Braeside Farm," Winchester Municipality, Man.

Castration of Lambs.

In answer to the question of one of your correspondents re castration of lambs, I may say I have had extensive experience, having attended to over 300 cases last year without the loss of one. The proper way is to cut the end off the purse so as to be sure to get both testicles, and hold them tight with the hand on the lamb's belly while with the teeth you draw them out. If the lambs are on grass let them stay there. They will lie down, but the owner should go around among them in two hours and put them up. There is no need for stabling them, for if they are put in they lie too long and get cramped; but if they are out they will go with their mothers, but if it rains put them in, for rain is not good for them. The man that holds the lambs gets all four legs in his hands and gets their back tight against the front of his shoulder, so that the one performing the operation can readily get at them.

W. B.

Lincoln Co., Ont.

Death of Mr. W. S. Marr.

Few names will be more honorably associated with the annals of Shorthorn history than that of Mr. W. S. Marr, of Uppermill, Aberdeenshire, whose death, at the advanced age of 88 years, occurred on the 20th of February last. He was regarded as an excellent judge, and was frequently called to officiate in that capacity at leading shows in the United Kingdom. As a breeder he made his mark high on the honor roll, animals of his breeding ranking high in the competition for



The late Mr. W. S. Marr, of Uppermill, Aberdeenshire, an eminent breeder of Shorthorn cattle.

prizes at the great shows in Great Britain and America, and he played a prominent part in the evolution of the modern Shorthorn, many of the most noted animals of the day having been bred at Uppermill, and the records of the annual sales of bulls in Scotland attest the high estimate placed by eminent breeders on those bred by Mr. Marr, who is succeeded by his son, Mr. W. S. Marr, who, it is said, shares the enthusiasm which was one of the secrets of his father's success.

Black Polls on the Range.

To the Editor FARMER'S ADVOCATE: SIR.—In your issue of Feb. 15, Mr. Gibson, in the paper he read before the Shorthorn Breeders' Association, says: "Speaking of the cattle on Western ranges, Shorthorns and Herefords are decidedly in favor, while the Blacks have no friends on the range." While looking over the ads. in a Western States stock paper, of Feb 16th, I noticed one from South Dakota asking for tenders for 100 bulls, Polled Angus or Herefords preferred. Also one from Wyoming asking for tenders for 20 bulls, Polled Angus or Herefords preferred. Now, sir, I don't know what they want on the ranges, but they ask for Blacks in their ads. Yours truly, JOHN TRAQUAIR. Welwyn, N.-W. T.

Worth One Hundred Times Its Cost.

W. H. MILLER, an old subscriber, of Victoria Co., N. B., writes:—"I have always been intending to say a good word for the FARMER'S ADVOCATE when sending in my subscription, but seemed never to have got that far, but you shall have it this time. I have been a subscriber to the ADVOCATE a number of years. I have sent for sample copies of different papers and magazines throughout the country, but none of them can compare with the ADVOCATE. It is really worth to a farmer ten times ten more than he pays for it."

London (Eng.) Shire Horse Show.

The nineteenth annual show of the British Shire Horse Society was held at Royal Agricultural Hall, London, on Feb. 22nd to 25th, inclusive. The exhibition, if not the largest, was certainly one of the best that the Society has ever held in point of average quality of stock and attendance of visitors. The total number of entries was 526, made up of 300 for stallions, 210 for fillies and mares, and 16 for geldings. The largest class was for three-year-old stallions, which numbered 68, while there were 55 two-year-olds, 44 yearlings, 45 four-year-olds, and 40 between four and ten years. Two-year-old fillies were most numerous, numbering 51, as against 47 yearlings, 40 three-year-olds, and so on down to 6 five-year-olds and over.

The contest for the championship cup for the best mare three years old and under was won by the three-year-old, Lockinge Loiret, got by Prince William. She was bred by Lord Wantage and exhibited by Mr. Henderson. The best mare four years and over, also the best mare in the show, was found in Mr. Henderson's Aurea, while Grandage's Queen of the Shires, last year's champion, by Harold, was given the reserve ticket. The cup for young stallion went to Mr. Henderson's two-year-old Buscot Harold, by Markeaton Royal Harold, and out of the champion Aurea. In the older division, a clear victory awaited Mr. Henderson's Markeaton Royal Harold (last year's champion), the reserve going to Lord Rothschild's Cœur de Lion IV., by Hitchin Conqueror. The champion cup was contested for by Markeaton Royal Harold and his son above mentioned. The latter won amid great applause, the honor falling alike to both contestants.

FARM.

SEEDING OPERATIONS.

(Continued from page 103.)

Get New Seed About Every Third Year.

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

Our rotation is as follows: (1) Oats, peas, or oats and peas mixed; (2) roots, manured; (3) wheat or barley, seeded with grass; hay, which is cut so long as it yields a profitable crop. From now on, or at least until I have gone all over my farm, I will introduce a bare fallow during the second year, probably sowing rye in the fall to plow down or cut the following spring. This year I propose to sow the following varieties of grain, which I have found to give me the best satisfaction: White Russian wheat, Banner oats, Duckbill barley, and Mummy peas. Land for all crops is, if possible, plowed the previous fall. Oats or peas, or the two combined, are usually sown on sod, nearly always broadcast, but in my own case with a drill. Turnips are the next crop. The stubble is plowed the preceding fall. In the spring the land is well harrowed, manured, gang plowed, thoroughly harrowed, and ridged up with a double-moldboard plow. If the manure contains much long, undecomposed straw, it is often applied by spreading in the drills. Wheat or barley follows the turnips, and, if possible, receives a light dressing of stable manure or special fertilizer. With these grains it is usual to sow grass seed, a mixture of one bushel timothy, eight pounds late red clover and two pounds Alsike. We generally trust to the roller to cover the seed, but very often give it a scrape with a light-tooth harrow. We have no permanent pasture (I mean cultivated land laid down to pasture and maintained as such), but a great many feed off the after-growth of the meadows in the fall. The cultivated portions of the farms here are seldom or never used for pasture, all dependence in that direction being placed in the uncultivated and rough portions and in the woodland, and our natural grasses form an excellent pasture.

Fertility of the land is maintained by the use of stable manure and kelp (seaweed), with superphosphate and bone meal. When kelp can be got my practice is to use it on my root crop, applying the stable manure the next year to the grain crop. The frequent cultivation of the roots frees the ground of weeds, and by keeping the soil in a fine, loose condition, conserves the moisture. The only way that I know of whereby moisture may be retained in the soil is to prevent evaporation by keeping the surface soil in a fine, loose condition, and I think it will be the general practice before long to cultivate all crops while they are growing.

I have never treated seed grain for bugs or smut, and so far as I know the practice is not common in Nova Scotia. I have never been troubled with bugs in peas and have seldom seen more than an odd head of smutty grain. It is the general practice here to get new seed about every third year, most of which seed is imported from Ontario and Manitoba.

Manure the Clover and the Clover will Feed the Following Crops.

BY J. A. MACDONALD, QUEEN'S CO., P. E. I.

We follow two different rotations. On a block of land contiguous to the barn, for growing crops manured with barnyard manure, such as roots—turnips, potatoes, etc.—we have adopted a 5-year rotation as follows: First year, sod plowed for oats and wheat, according to strength of land; second year, roots—potatoes and turnips; third year, spring wheat, seeded to clover and timothy; fourth year, grass cut for hay; fifth year, grass and

pasture. The sod is broken for oats and wheat in the fall, and early in the spring following three bushels Island black oats are sown as early as the ground is fit to work, well broadcast and harrowed in with the spring-tooth and disk harrows. If wheat is sown in the broken sod, instead of oats, one and one-half bushels White Russian is sown about the same time and harrowed in the same way. Have not grown much peas, but think next spring of withholding about half the quantity of the seed oats and supplying its place with peas, making the seeding one and a half bushels oats, and one and a half bushels peas, and covering the peas with the Acme harrow, as we find peas sown broadcast difficult to cover with ordinary harrows. The pea crop is harvested for grain about last of August, and as soon as the field is cleared the ground is immediately plowed for the coming root crop, harrowed, and allowed to thus remain in *statu quo* for the manure, which *should* (but is not always done) be thrown out during the winter and spread on the snow; otherwise the manure is drawn out in spring and spread at once, and, for turnips, plowed under quite shallow, and allowed to remain thus till about June 1, receiving, however, several harrowings in the meantime. About this time, when all other small grains are in the ground, this land intended for roots is plowed deeply, harrowed, and drilled lightly, and the seed is sown at the rate of two pounds per acre. The root land is plowed in the fall soon after the roots are gathered, and in the following spring in this locality the wheat is sown from May 20 to 25, broadcast, at the rate of one and a half bushels per acre, and harrowed in with disk and spring-tooth float harrows, and immediately rolled. Now clover and timothy are sown. With regard to the amount clover seed sown per acre, we sow as many pounds as we think we can afford to get, as it often costs fourteen cents per pound, the error always being that we do not sow enough of clover seed. The clover and grass seed is covered by a single scratch of the harrow. Whether it is better to plow the root land in the fall or delay the plowing till spring is with the writer an unsettled question. Our principal reason in plowing in fall is to hasten spring work, but I find many good farmers in these parts do not plow till spring, and by so doing they expect a better stand of grass by placing the small seeds in the mellow earth. Since the introduction of the White Russian variety of spring wheat, which does best when sown moderately late, and is the heaviest and most reliable of all spring wheats, spring plowing the land is all right, because the land may be plowed the first week in May and allowed to stand till the 20th, when the wheat is sown. All things considered, when White Russian seed is used, and for the good of the grass and clover, spring plowing of land is best. With the Fyfe varieties, spring plowing of the land is not so convenient, because the Fyfe varieties require to be sown early. The Fyfe is the better milling wheat, but the Russian is the better cropper. The introduction of the White Russian has saved the importation of thousands of barrels of flour to this Province. Campbell's White Chaff is a variety that is fast ingratiating itself into popular favor.

On the land remote from the barn, where no barn manure is ever drawn, we adopted a 4-years' rotation, thus: First year, oats; second year, barley, seeded to clover and timothy; third and fourth years, hay and pasture. The preparation is the same as for roots. The oat stubble is plowed in the fall, and again in the spring, and common six-rowed barley sown broadcast at the rate of two bushels per acre. I am not satisfied with this rotation, and am constantly making changes. Last year we grew our roots in a one year clover and timothy sod, but this year we will not be able to do so. I am not at all favorable to an oat stubble for growing roots; it requires oceans of manure. I particularly favor a one-year-old clover sod for a root or corn crop. I am in favor of a straw cutter to cut all straw for bedding cattle, horses, sheep, and swine, and throw the manure out daily or weekly, as made, and the ideal place to put this daily and weekly drawn manure is on the ground that is to be seeded to clover with a nurse crop and some small grains that is to be cut before it is mature—for hay and green feed. Let the barnyard manure be used to grow a crop of clover, and the clover in turn will manure the next crop.

Rotation and Cultivation at the Ontario Experimental Farm.

Our rotation of cropping at the Experimental Farm, Guelph, is a four years course. Instead of having the farm cut up into fields, as formerly, the cross fences have been removed and it is now divided into four sections. The rotation is as follows: First and second years, hay and pasture; third year, corn, roots, potatoes, rape and peas; fourth year, fall wheat and spring grain seeded down. The portion required for pasture is fenced off with a portable fence, which is removed in the fall (see illustration and description elsewhere in this issue. No fence is required in the third year, as the section is in hoed crop; neither in the fourth year, as it is then in grain.

During summer and early fall, the second year sod land is plowed (three to four inches deep) and immediately harrowed to conserve moisture and hasten decomposition, the essentials for which are heat, air and moisture. Shallow and thorough cultivation during the early fall will clean the soil of perennial weeds, destroy weed seeds, and by this method of cultivation humus is formed and made available for plant food by the bacteria working on it during warm weather. To prevent the decomposed vegetable matter

from leaching away and evaporating during fall and winter, it is advisable to rib the land, using a double mold-board plow, about twenty-two inches wide. Before doing so, however, all barnyard manure on hand should be spread on the surface and ribbed in with the vegetable matter. This makes a superior quality of plant food for any kind of crop, more especially for corn and roots, as these crops are heavy feeders.

After the corn is harvested, cultivate and in the fall rib the land, which is preferable to plowing. The root land is ribbed across the drills without cultivating. The tops are thus mixed with the humus, making a large amount of superior plant food for the succeeding grain crop, viz., spring wheat, barley and oats.

Before sowing in spring, the drills are leveled by harrowing and cultivating with a spring-tooth cultivator. The grain is drilled in, sowing not more than one bushel and a half per acre. The grass seed is sown at the same time, in front of the spouts. The following mixture is used: Seven pounds Red clover, three pounds Alsike and four pounds timothy.

After seeding, the land is harrowed across with a horse weeder, somewhat resembling a horse rake with three rows of teeth. The land is not rolled until the grain is up and the surface of the land thoroughly dry, because a smooth and compact surface increases capillary attraction and in consequence the land is liable to dry out.

WM. RENNIE, Superintendent.
Experimental Farm, Guelph, Ont.

OTHER PHASES DISCUSSED.

The following letters, besides dealing with crop rotations, varieties and quantities of seed sown and the preparation of the ground for same, deal fully and in a practical manner with the selection and preparation of seed, the mixing of grains for forage or for feed grain, and the sowing of flax and rape along with grain crops. Every letter is worthy of a careful perusal.

A Three-Crop Rotation.

BY W. G. BALDWIN, ESSEX CO., ONT.

I follow a three-crop rotation—clover, corn, and wheat (fall wheat). Spring wheat does not succeed with us. The varieties sown last fall were D. S. Golden Chaff (a trial one acre), Diamond Grit and Genesee Giant. Oats—Early White Egyptian, Barley—Mensury. No peas here, except with oats for feed. In preparing clover sod for corn, I plow about six inches deep, about two weeks before planting; harrow and cultivate with disk harrow again. Mark out the ground 34 feet each way, and plant four kernels of good bright seed in each hill, and cover about 3 1/2 inches deep, and as soon as it is one inch high cultivate with Diamond tooth cultivator, well let down so it does not throw the soil in a ridge, but loosens the soil beneath the seed, lets in the air which dries and warms the soil, as that portion of a corn row cannot be touched again during the growth of that crop. This crop of corn is followed with wheat in the fall (sometimes a small portion with oats the next spring). The portion sowed with wheat is plowed a little deeper than for corn, rolled, disked, and rolled again, then sown with two bushels of good, clean wheat per acre and left to the elements until the harvest. The same preparation is given in the spring to the land sown to oats, and good clean seed, sown three bushels to the acre, with all land sown to small grain again, sown with 10 to 15 pounds red clover (clean, bright seed) to the acre. For barley I would give the same cultivation, with two bushels seed per acre.

As to the preparation of seed, I have it run through a grading mill to get just the largest kernels to sow, and by a judicious change of seed—more particularly oats—I have no smut, and with the quantity of seed named to the acre, I have no weeds in small grain. I have had no experience in sowing mixed grain, except peas and oats for feed grain, but my soil is not adapted to peas, and, again, we are so troubled with the pea bug that it does not pay for the trouble. We find the use of crimson clover, for filling up space where red variety has not taken, to sow after harvest and harrow in, is a good practice to keep down weeds and also make good pasture, so much so that it seems an indispensable adjunct to our rotation.

Select Seed from Early Portions of Field.

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

Rotation of Cropping.—Clover sod (or clover forage) manured and late summer-fallowed for wheat, rape sown on wheat stubble, sown again in spring with cereals, then seeded with grass seed with oats and barley—this is my general system of cropping, but if not practicable I deviate onto corn sown on clover or grass meadow and sown after with spring cereals. I usually seed down with grass seed every three years.

As this locality is not adapted for the growing of spring wheat, oats and barley are grown in larger quantities on this account, therefore probably more care is given to other spring cereals in the way of preparing the soil. I have found that fall wheat stubble makes an excellent piece of land to utilize after harvesting by gauging or shallow plowing and sowing rape at the rate of three to four pounds to the acre as soon as possible after the wheat has been harvested. It affords excellent pasture for lambs and young cattle till early winter, and is also splendid for cleaning land of noxious weeds and grasses. In the following spring manure heavily and plow to a fair depth, and you will have by cultivation a first-class plot for either oats or barley. I usually sow barley at the rate of two to two and one-half bushels per acre, and oats from two and one-half to three bushels per acre. I always sow with drill. Another system of preparation I have found to give good results is (providing your recent or last year's corn stubble is free of grass) to manure what you can thoroughly. Put under by gauging-plowing as early in the spring as possible. If you can succeed in having it well cultivated by seeding time you have an excellent piece of soil for oats or barley, and nine cases out of ten you will be rewarded with a heavy yield, provid-

ing the season is at all favorable. Peas are sown on clover or new land (if the former it must of course be manured), plowed fairly deep, and sown with from two to two and one-half bushels per acre, but as the pea weevil has been so destructive the majority of farmers in this locality, as well as myself, have been forced to stop sowing them. My land is sand, gravel and clay loam, on which I candidly believe fall plowing an injury rather than a benefit.

In preparing my seed grain I select the most vigorous and earliest-matured pieces of crop when we are harvesting, and aim to garner, thresh and store it separate from the rest, and when cleaning it in spring to sieve out all the small grain and noxious weed seeds, if any, and leave a uniform size, evenly and early matured grain for seed. It is really a great saving at all times to have a good mill.

In reference to sowing mixed grains for forage, I believe it to be a good idea. I have found rye sown in the fall (one and one-half bushels) and rape sown with it in spring (two to three pounds) splendid pasture for late summer. As for feed grain, I prefer to grow it separately. As I have had no experience with flax, I cannot therefore give you my views in reference to it; but for rape, I have grown it successfully for a number of years, and for it I am all praise. And it is indeed a good forage crop sown with oats or barley, providing you do not sow it too thickly—two to three pounds is sufficient to the acre. If a drill is used in sowing the grain it can be put on in as small quantities as needed, and very evenly as well.

Depend Mostly on Home-Grown Seed.

BY JAMES TOLTON, BRUCE CO., ONT.

My system is the eight-year rotation. I would not say it is the best, but it seems to be the best adapted to my soil and methods. My soil is a clay loam, not at all heavy, with a clay, gravel subsoil, and seems to be peculiarly adapted to the growth and propagation of the Canada thistle. Our rotation is as follows: 1. Peas on sod, plowed in the spring or fall (prefer plowing in the spring). 2. Fall wheat on pea stubble. 3. Oats. 4. Roots (mostly turnips). 5. Spring wheat and oats; the last two years mostly oats and seed to grass. 6. Grass cut for hay. 7 and 8. Pasture. The thistles are well checked in the cultivation of the roots, and being under grass three years seems to prevent them from propagating. We shall sow spring wheat mostly on our root ground, of the Colorado variety—an old sort, but did fairly well last year. We prefer to plow the root ground in the fall, making a seed-bed before sowing, with a disk or some other harrow or cultivator, and sow 1 1/2 bushels per acre.

On the fall wheat stubble we shall sow oats, sowing the same varieties that we have done the last two years, they having succeeded fairly well, viz., Siberian and American Banner. We go over the fall wheat stubble as soon as practicable after the wheat is off, with a twin plow about three inches deep, and harrow to start any weed seeds and out the thistles; after this, plow with a single plow either in the late fall or spring, sometimes both fall and spring. Sow, in an ordinary way, two bushels per acre. We always have a few acres of rape, and follow it with Mensury barley or oats. The last few years there has been but little profit in growing barley for sale. I grow some for feed and find I get more grain and straw from the Mensury than the ordinary six-rowed. Sow two bushels of barley to the acre. I shall sow peas on sod plowed in the spring, well harrowed and rolled, so that there shall be a level bottom for cutting the crop. Varieties—the old variety, Multiplier, or Golden Vine. I have tried Rennie's Silver King, Mummy, and some other kinds, but find the Golden Vine gives rather the best satisfaction. Of the small varieties, sow two bushels, and of the large about three bushels to the acre.

I change my seed grain occasionally and frequently try new kinds of merit, but depend mostly on seed of my own growth, and as I aim to keep the farm as free of weeds as possible (have not seen on the farm as yet many of the known weeds), when harvesting select some of the best for seed, and depend on a good fanning mill for the rest.

I have not yet sown any mixture of grain for feed purposes, but am of the opinion that peas and oats sown together in the proportion of two bushels oats and one of peas is a good mixture and profitable. Although I have not so far sown flax or rape with spring grains, I would not say but that in some cases it might answer, more particularly rape sown with barley, sowing two or three pounds of rape seed. The seed is not very expensive, and barley growing a small bulk of straw would not shade the ground very much nor choke the rape so much as some other grains.

Secure Seed from a Different Soil in the Neighborhood.

BY ALEX. HUME, NORTHUMBERLAND CO., ONT.

In breaking up sod our first crop is peas or sometimes oats, then one or two crops of ensilage corn, manuring previous to corn crops, then oats and seeding down, or if desirable a crop of barley to seed with. If no catch is secured and the ground is clean, a crop of peas, a coat of manure, well worked up by gang-plowing immediately after taking off peas, followed by a good plowing with single plow, and sowed to fall wheat, again seedling. We cut usually two crops of hay; sometimes one. Pasture one to three seasons, just as other land is working. If no corn, two crops of oats instead of corn, and so on. Since adopting silo eight years ago we do not summer-fallow as before, as we have larger quantities of a better quality of manures to return to the land. I do not know name of spring wheat, but intend to buy seed of a variety that has done well in the immediate neighborhood. American Banner oats, six-rowed Canadian barley, small and Prussian Blue peas will be grown this year. We usually gang plow as soon as possible after taking off the harvest, then with the single plow, beginning as late in the fall as we can get ground all plowed before freezing up. We haul our manure out to the field as made. Have our stable so that we can drive through behind the cows with them in and clean it out, with either sleigh or wagon, as is necessary. We put the manure from the horse stable in the gutter of cow stable to soak up liquid and all is taken out together. We use an up-to-date cultivator in spring to work up the soil, finishing with a fine

harrow, sow with harrow, then the and one-half bush two bushels barley two and one-quarter

We secure our who has had a good properly cleaned v

We sow a mixt per acre for soiling sow rape with oat

Allow No Fou

BY J. FREN

I have been c rotation of cropping to seed down as thereby get as m soil. The breaki regulated by the c generally plow la favor time the fo favorable to peas or barley are to on top, but never late summer and decomposition of do not ridge up would be better. without bringing as the pea straw r wheat. Roots an manure is applied small heaps, or and calf pens is r from either horse five or six loads commences. Thi wheat and seede aim to have grou before it is prop In sowing grain the loose soil and below, and the lo if the grain is so some is near the s loose, dry soil, an

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BY ROB

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Rich and S

BY J. D

Have never in a general way stable, spread r roots, chiefly th seed down; cu plow up again plowed in July we sometimes extent on accou Have tried s but find the ord Will sow Banne As to quant oats, 2 to 2 1/2; t lbs., and white alfalfa to cut fo what about tw part of March seedling down taken down breasted, we t the barley is so

harrow, sow with drill, and if necessary follow with a harrow, then the roller, sowing one and one-quarter to one and one-half bushels of wheat, one and three-quarters to two bushels barley, two to two and one-half bushels of oats, two and one-quarter to three bushels of peas per acre.

We secure our seed off a different soil, from a local man who has had a good crop free from all foul seeds, and have it properly cleaned with a modern fanning mill.

We sow a mixture of two bushels of oats and one of peas per acre for soiling and hay only. Some of our neighbors sow rape with oats with apparent success.

Allow No Foul Seeds to Ripen in Grain Field.

BY J. FRED DAVIDSON, PETERBORO CO., ONT.

I have been endeavoring of late years to shorten the rotation of cropping as much as possible, or, in other words, to seed down as often as circumstances will permit, and thereby get as much vegetable matter as possible into the soil. The breaking of sod and the time for doing it is regulated by the crop that is intended to follow. For peas, generally plow late, when it is left loose and friable until seed time the following spring; and this is a condition favorable to peas—a loose, open, warm seed-bed. If oats or barley are to follow sod, it is plowed early and worked on top, but never turned up. By means of top working in late summer and autumn, a firmer seed-bed is gained and a decomposition of the sod begun on our loamy land. We do not ridge up to frost, but on heavy land I believe it would be better. We now aim to sow wheat on pea land without bringing up the sod, but with shallow cultivation, as the pea straw roots and sod roots make excellent food for wheat. Roots and corn follow oats or barley. Where our manure is applied through the winter, the finer parts put in small heaps, or spread, and the coarser from sheep pens and calf pens is mixed along with some stronger manure from either horse stable or beef cattle stables, in piles of five or six loads together, and turned as soon as heating commences. This corn and root ground is then sown to wheat and seeded down without plowing. In spring we aim to have ground well and evenly worked, not deep, nor before it is properly dried, and all grain sown with a drill. In sowing grain with a drill the seed is deposited under the loose soil and in direct contact with the moisture from below, and the loose soil acts as a blanket over it, whereas if the grain is scattered broadcast through this loose soil some is near the surface, some deeper, and is surrounded by loose, dry soil, and in a dry time will not do nearly as well.

The varieties I propose sowing this year are: Wheat—Harrison's Bearded; oats—Siberian for higher and drier land, and Joannette for heavy or damp land where other varieties are liable to lodge; barley—the Duckbill; peas—Canadian Beauty. I just sow one bushel per acre of Harrison's Bearded, one bushel of Joannette oats, 1½ bushels Duckbill barley, and 3 bushels of Canadian Beauty peas, and 1½ bushels of Siberian oats. All seed grain is selected from best parts of field and best ripened. We allow no foul seeds to ripen, as we go through the grain in the summer, removing all such, believing this way preferable to cleaning grain in the barn.

I always sow some peas, oats and barley, mixed, for feeding, and find they do well. One gets a grand fodder and more grain. They are mixed according to the size of grains and the varieties: about 1½ bushels of oats, 1 bushel of large peas, and ½ bushel barley per acre. This makes grand feed for horses in fall, if cut on green side and run through cutting box along with some hay or straw and a little more ground grain added after damping the feed. You will get a larger yield per acre by mixing these grains than by growing them separate, both in straw and grain. I have grown some flax along with barley with good results. The trouble is the flax will ripen a little soon for most grains and shell out. Barley is about the nearest you can get to it. I sowed about two pints per acre along with barley.

Underdraining Tells to Good Effect.

BY ROBT. NESS, CHATEAUGUAY CO., QUE.

As a rotation the six-year system is followed; that is, two years crop, two hay, and two grass. Spring wheat is rarely sown here now; oats is the predominating crop, the Banner oats being the favorite. Barley is little sown now, except in small quantities. The common white field pea is mostly sown. We plow all in the fall, and in the spring as soon as the land is dry, and this is where properly drained land tells—the work can be done some days earlier. All kinds require a good seed-bed. We use all kinds of modern implements, as cultivation can't be too thoroughly done. I am a firm believer in mixed sowing of grain. We sow oats and barley one to four, and find the barley extra. This we grind as it grows, adding sometimes a few peas. This makes good feed for all kinds of stock.

Rich and Well-Cultivated Soil will Not Suffer from Drought.

BY J. D. THOMPSON, MIDDLESEX CO., ONT.

Have never followed a regular system of rotation, but in a general way manure the poorest land direct from the stable, spread evenly and thick, and plant to corn and roots, chiefly the former. The next year sow barley and seed down; cut hay two or three years, then pasture or plow up again. We generally sow fall wheat on sod plowed in July and August. Sod plowed late in the fall we sometimes plant to corn. Do not sow peas to any extent on account of the bug.

Have tried selected Canadian Thorpe and Mandsehuri, but find the ordinary six-rowed barley to be the best yet. Will sow Banner, Siberian and Black Beauty oats.

As to quantities of seed: barley, 2 bush. per acre; oats, 2 to 2½; timothy, 4 lbs.; red clover, 8 lbs.; Alsike, 2 lbs., and white Dutch, 1 lb. Have sown half an acre of alfalfa to cut for calves, bulls, etc. Sow timothy with fall wheat about two weeks after wheat is up, and the latter part of March or first of April sow the clovers. When seeding down in the spring with barley, which is sown broadcast, we thoroughly pulverize the soil and roll after the barley is sown, then sow the clover and timothy and

give a stroke with diamond harrows. Sow the grass seed with small crank seeder.

We keep about 125 head of stock, including all classes, through the winter, feed and bed them well, drawing the manure each day to the field.

Keep corn and root ground clean, and run from 20 to 35 sheep on pasture. Keep the soil rich and thoroughly cultivated and the crops will not suffer much from drought.

Prepare for Spring Seeding.

The wise farmer will look ahead, make his calculations, lay his plans, and make preparation for the spring seeding before the time is upon him when he ought to begin the seeding operations. He should have his mind made up as to what crop he will sow on each field, and have a sufficient supply of good seed provided for each. The yield of the coming crop will depend very much upon the variety of seed sown and the quality of the seed. Special pains should be taken in cleaning the seed to get out of it all weed seeds and all imperfect seeds of the grain, so that only sound seed of good size and well developed shall be sown. If the varieties that have been sown in former years have proved satisfactory it may not be necessary to seek a change of seed, as there is always some risk in making a change to a variety you have not tried on your farm, and changes had better be made on a limited scale for the first year till it is seen how they are adapted to your soil. If the seed or the variety you have had has not been satisfactory and a change is determined on, care should be exercised in making the change to see that a variety is introduced which has proved very successful on soil somewhat similar to your own, or a variety that has been tried and found successful in the hands of careful men in many different sections of the country, and has been grown on a farm free from bad weeds. The seed should be cleaned, measured and set aside ready to be bagged and taken to the field as early as the land is in fit condition for cultivation and seeding. We are fully persuaded that it will pay well to treat all seed spring wheat, oats, and barley with a solution of bluestone for the destruction of the fungus of smut which is increasing rapidly in most districts and proving a menace to the production of good crops. This treatment is largely practiced in Manitoba and the Northwest, and the best farmers will not think of neglecting it. It seems hardly necessary to add that the implements to be used should be looked over in good time and put in proper condition for doing good work, which can only be done by the harrows and cultivator teeth being sharp. The horses should also be prepared for their work by proper feeding and exercise, their collars being put in good repair and well fitted, and the harness, whiffletrees, clevises, etc., should all be looked over and made ready for effective use when required. These precautions being observed, the up-to-date farmer will be ready to push on the seeding at the earliest date when the land is fit to work, knowing from experience that as a rule the earliest sowing is the surest for a good crop.

Farm Fencing.

As a country grows older and the timber becomes scarce, the fencing problem becomes more and more a serious matter. The old plan of getting out cedar, basswood, ash or elm rails can no longer be resorted to in most Canadian sections, which after all is not a matter for serious regret, as there is perhaps no greater harbor for weeds and rubbish than the zigzag rail fence. Besides this, it takes up double the land it should, and unless it has been exceedingly well constructed and firmly staked at the corners it frequently gives way to the ever-increasing wind storms due to the removal of shelter. The snake fence has also the objection of yielding readily to the crafty old mare that leads the other horses into the grain fields. While the old fence was the best in its day, we need not mourn its departure, as its place is being taken by more satisfactory structures.

While metal fences are gradually replacing former wooden ones, invention has given us numerous means of utilizing the remnants of rail fences by a more economic use of the remaining sound rails. We would like to hear from readers who feel that they have a satisfactory plan of converting failing zigzag fences into straight ones by the use of posts, stakes, wire or other means. We believe a live discussion on this subject will be exceedingly helpful to one and all, providing the writers give details as to methods of construction and cost of same.

Where rail fencing has passed away and new material has to be purchased, wire fencing (smooth or barbed) of some sort is resorted to. A discussion touching upon their merits, cost, mode of construction, distance apart of posts, number of wires high, size of wire, best means of setting the corner or end posts, bracing, etc., would be helpful to many if clearly outlined by those who can speak from two or more years' experience. In order to open a discussion we will offer a suggestion as to the best means of setting the corner or end posts, knowing that all wire fences depend to a large extent on these terminal stays. It is needless to state that a heavy, solid post is necessary. For this at least a 4½-foot hole should be dug. This hole should be at least 4 feet square, and around the post after it is placed in the center should be built up with stone, leaving three or four inches between the post and stones. This space should be filled in with soft cement, well rammed down, so

as to be forced to some extent between the stones. We believe if the hole were filled to the surface of the ground in this way a week or ten days before putting on the wire, that a well-nigh everlasting firm corner post would be the result, and a well-constructed wire fence maintained in almost perfect condition. Another plan, and perhaps a better one, would be, instead of building in stones, get a good wagon load of clean gravel, and with it mix rock cement in the proportion of six of gravel to one of cement. These should be thoroughly mixed, moistened, and well rammed down in six-inch layers, filling the four-foot hole from the post to the edge. All cement work should be done when there is no frost. In addition to having the post made perfectly firm in the ground, unless a very large post is used it may be well to put in a stiff brace from the bottom of the second post to the top of the end one. Will readers suggest a better method of setting a corner or end post for a wire fence, and then take up the other questions?

Third Annual Meeting of the Nova Scotia Farmers' Association.

(Continued from page 104.)

Farming on Business Principles.—Mr. Hopkins, Superintendent Dairy Station at Nappan, in an address spoke strongly against the feeding of turnips to dairy cows. The tops, he said, should never be fed, nor the roots for at least one month after pulling. In his address he said: "The great question among farmers to-day is, 'How can we meet competition?' This is an age of agriculture, and in the race of competition farmers are suffering more than any other class, and those who lack knowledge, skill or industry are crowded out. When agriculture suffers other businesses feel the effects. He pointed out how easy means of transport had increased competition, and advised farmers to keep posted in agricultural matters by reading agricultural papers. Successful farming, he said, was a business, and must be conducted upon business principles. The farmer's goods were his stock—his bank account, the fertility of his farm. Who draws on his bank account must also pay in. He thought there could be no better machine upon a farm than a good dairy cow. The farm should be a manufactory where the raw materials were converted into milk, butter, cheese and eggs, thereby increasing their value and saving the fertility. Farmers should exercise skill. It required skill to cause a cow to give 6,000 pounds of milk a year instead of 2,000 pounds, or to produce butter that would sell for 20 cents instead of 12 cents. One ton of butter worth \$400 could be sold and not as much fertility taken off the farm as in selling one ton of oats worth \$20.

A long discussion took place upon the benefits of continuous stabling and indoor watering. Opinions were very conflicting. Hugh Fraser, of Elmsdale, found more satisfaction in turning cows out to water. He thought continuous stabling made them tender, and weakened their constitution. Mr. Robertson thought it better to give a cool drink in a warm stable. Experience had shown that dairymen could not afford to turn cows out of doors. Continuous stabling would tend to foster disease if it was present, but it would not create disease. C. P. Blanchard did not believe in hot stables. He thought 40 or 45 degrees was about right, and that cows kept in a temperature of 60 or 65 degrees had not such good appetites. During the late cold spell there had been a good deal of frost in his stables, but there had been no decrease in the yield of milk. He thought the constitution of cows constantly stabled deteriorated. Mr. Robertson thought cows could be better developed in the stable, and that cows that did not lose in the yield of milk when turned out were not doing their best at the time.

The Hon. T. R. Black in an address claimed that farmers should look upon their calling as a profession, and if it were intelligently pursued it offered a positive certainty of success and independence. There was no reason why a farmer's son should not take the old homestead or buy a farm on credit and make a good living. He (Mr. Black) had started with nothing. He had bought a farm, going in debt for the whole of the purchase money. He had paid the debt, made money, and had a good time. He thought farmers denied themselves too much pleasure. The children should be encouraged to stay upon the farm by making the farm attractive for them and by teaching them to respect the farmer's calling. They should be encouraged to labor while young and allowed to participate in all the pleasures possible. A good horse and rig was a great inducement for a young man to remain upon the farm. Farmers' children could be just as well educated as those of the city. City life appeared gay and easy to them, but it was a delusion. By sticking to the farm they would have a competence in after years when many of those in the city had nothing. When farming would not allow him to own a fast horse and give him time to drive it himself he would leave it.

J. R. Starr thought the Hon. Mr. Black a living illustration of the fact that farming does pay, and that young men make a great mistake in going to the States. If they made more money there they had to work harder. The same amount of hard work here would enable them to drive a fast horse and assure them of a competence in the future.

Agriculture Needed in the Schools.—Peter Innis thought farmers did not realize their present position, and that the prospects for agriculture in Nova Scotia were very black. While one, like Mr. Black, had made money by farming, there were thousands, like himself, who had failed. He thought the Government was not doing enough, and urged the establishment of a department of agriculture with a minister at the head. Children should be taught how to make a living and agriculture should be taught in the schools. He thought a technical education was required and that it should partly replace the present literary curriculum.

The Government's Position.—Hon. Mr. Black said he thought the work of the Association was outlined in the

Act which established it. Mr. Fielding's idea at the time the Association was formed was that the farmers should meet together and discuss agricultural questions, and give the Government information as to their needs. He thought the Government was always ready to render help, and that the present trouble was due to the farmers, in that they had not properly asserted themselves. They should never take a position second to anybody. He thought his position in the Government, as the representative of the agricultural interests, should receive consideration. He found great difficulty in pressing the claims of agriculture, as representative men of other callings opposed those claims. They could not see why mining and fishing should not be subsidized as well as agriculture. Speaking as a farmer, he would not listen to any proposal to withdraw the grant, and proposed that the Association send a delegation to wait upon the Government.

Feeding of Plants and Animals.—Col. Blair, of Nappan, gave an address upon the feeding of plants and animals. A knowledge of the subject would be of great benefit to the young people, and would give them an interest in farm life. It was our duty to make them understand the science and beauty of farming in order to excite a love for it in them. If they were properly instructed, farming would appear a fascinating and profitable calling, and it would be a pleasure to pursue it. He did not think this Association need concern itself about the rich agricultural districts, it was the poor sections that required scientific treatment. The condition of the poor farmer was deplorable; better information was their only hope. A correct knowledge of how plants and animals grow would be of great benefit, as he would then know what his soil lacked and how it could be best supplied. The Government farms could only give general principles, each man would have to think for himself. Plants and animals require three things, air, water, and food, in order to develop. The power of reproduction in them is very similar. In some plants the male and female organs are contained in a single flower, while in others the male flower grows upon one plant and the female upon the other. In the latter case fertilization takes place through the medium of insects which carry the pollen from one plant to another. In order to grow plants properly we must know what they require, and this can be found by experiment or by analysis. With the exception of three things—phosphoric acid, nitrogen, and potash—all soils contain enough of plant food. These three can be supplied by special fertilizers, barnyard manure or by plowing down green crops. While plants require water to grow, too much water is bad for them, and therefore wet land should be underdrained. While draining will remove the surplus water, good cultivation will enable the soil to retain sufficient moisture for the use of the plant. The seed-bed should be made firm in order that the young roots may easily penetrate it, and the top soil kept loose, thereby preventing evaporation. The kernel of grain itself supplies food to the young plant until its roots have pushed out into the soil and are able to find their own sustenance. He spoke of the necessity of getting strong germinating seed, and said that seed grown in Nova Scotia was weak in this respect, only 70 per cent. of it germinating in certain experiments, as against 94 per cent. of grain grown in other provinces. Selection of seed and good cultivation were the best guarantees of a good yield.

Cattle wanted food which they could eat and digest. Grass is their natural food, and none better can be found than our native agricultural grasses. Fifteen tons of corn to the acre can be grown in Nova Scotia with good cultivation. One ton of corn at the glazing stage was equal in feeding value to two tons at the silking stage. Turnips can be grown for \$2 a ton when labor is \$1 per day. He would not undertake to keep cows without ensilage. He fed roots by themselves, and the hay was cut, moistened, and the meal added. He recommended saving all ashes and bones and the growing of clover, as they would furnish as good fertilizers as any to be bought.

Needs of Technical Education.—Saxby Blair, Supt. of Horticulture at Experimental Farm, Nappan, spoke upon the needs of technical education. He thought the present system of education defective, as no subjects relating directly to agriculture were taught. If a young man wanted a practical agricultural education he had either to go to Guelph or to the United States. The School of Agriculture at Truro did good work, but it imparted instruction to Normal School pupils principally. It was impossible for one man, as was the case at Truro, to successfully manage half a dozen different departments. There should be three at least. The future of farming depended upon the young people, and these should be prepared to successfully carry it on. Instruction was only laying the foundation for the structure which each must erect for himself. Knowledge of the sciences was only formulas by means of which investigation could be carried on. It was the duty of the Government to promulgate education—patriotism demanded it.

Prof. Smith, of the School of Agriculture at Truro, said that thirteen years ago, when the School was first started, he had been brought here, given a bare room, and told to go ahead. By the Act which established the School it was bound to give instruction to Normal School pupils. Before that time no scientific knowledge had been required of them. Now they spend one half of every day from the 20th of October to 1st of July in working at the School of Agriculture, and they were required to show that they had a satisfactory knowledge of agriculture before they could get their certificate. Only first-class teachers took this course, and through them 2,000 children received agricultural instruction in the common schools. He complained that too few farmers' sons attended the schools. It was now made a stepping-stone by others to obtain an education.

Peter Innis asked if the Model Farm was run on a paying basis. If it paid its expenses it would be a good object lesson, but if it did not of what was its use? Secretary of Agriculture B. W. Chipman said that it was a training-school only, and had been of great benefit to the Province. The stock upon the farm was poor. That department had been started wrong, and he had not yet been able to remedy it. Another speaker said that in the matter of agricultural

education the farmers could do a great deal to advance it. They should choose for their schools those teachers holding certificates from the School of Agriculture. The Government farm was there for instruction and not for experimental purposes. He thought the Government was willing to do more than the farmers to take advantage of their help. Hardly half the agricultural societies sent delegates to these meetings, and as the Government paid half their expenses he thought those which did not send delegates were misappropriating their money. W. A. Ferguson, M. P. P. for Guysborough, said he thought it was very much in favor of agriculture that this Association was started, and that it was important that it should be kept alive. He thought the Government did wrong in reducing the number of the Exhibition Commissioners appointed by the Association, and argued that a strong appeal be made to the Government to continue the grant.

Exhibition Matters.—Peter Innis submitted the prize list for approval by the Association. He said that last year the prizes had been increased from \$12,000 to \$20,000. At the close of the exhibition there had been a deficit of \$10,000. As the exhibition had to be made to pay, he recommended that a reduction of 20 per cent. be made from the list. He thought too many prizes were given to breeders and not enough to other products. The prize list for pure-bred stock was larger than that of any other exhibition in Canada. He thought breeders should consider the fact that an exhibition was the best advertisement they could get. The prizes for grade cattle should be increased. The prizes for fowls were poor and there were not classes enough; and the classes and prizes for grain should be remodeled.

Mr. Edlerkin, the other Commissioner, said that while the last exhibition had been a good one, it had been a failure financially. He thought the agricultural interests were not properly represented in the Commission. When the Commission was formed it was provided that the Government should appoint five members, the City of Halifax five, and this Association two members. When the prize list was passed by the Commission it was two members short, there being only three to represent the Province. The vote upon its adoption had been a tie, and the President, Hon. Mr. Longley, had decided in its favor. He thought no reduction should be made in the prize list for pure-bred animals, and that every class of pure-breds should have a corresponding class of grades; that a spirit of competition should be aroused and breeders given every encouragement. The breeders' herd prize should not have been struck out, and a champion herd prize should never be given, as herds of different breeds could never be judged one against another. He thought there should be a great reduction in the amount spent for special attractions; they were expensive, and detracted interest from the exhibits. This was the first time this Association had had a chance to criticize the prize list, and it would not be accepted by the Government until approved by the Association. Secretary of Agriculture B. W. Chipman said that the Government had not yet accepted the prize list. He recommended some changes involving an increase of \$300, and thought no reduction should be made on live stock. Hon. Mr. Black said that it would only be in extreme cases when the Government would interfere. The most important industries should receive the most attention. Horses were not so important as cattle, and the prizes on cattle should not be reduced and those on horses retained. He thought more attention should be given to sheep. Mr. Innis said the great question was how to meet the deficit. Neither the Government nor the city would pay it, and the Commissioners had to make two ends meet. The only way it could be done was to reduce the expenses, and he thought the prize list should share in the reduction. He maintained that the money spent for special attractions was well spent, as it drew crowds and paid expenses.

As the discussion was getting rather warm and personal, it was moved, seconded, and carried, that the reports be adopted, thereby cutting short further discussion.

San Jose Scale.—Mr. Eaton spoke for a few minutes upon the San Jose scale. He thought orchardists should post themselves about it, and that nurserymen should give a guarantee with their stock. He brought in a resolution asking the Government to legislate in respect to it. Mr. G. de Wolfe, of Kentville, delegate of the Nova Scotia Fruit Growers' Association, seconded the resolution, and said that the Fruit Growers' Association had already asked the Government to legislate. The resolution was adopted.

It was Resolved,—That this Association express its disapproval of the change in the prize list from that of 1897, and ask the Exhibition Commissioners in future to make the lists no smaller than that of 1897 so far as horned cattle, sheep and pigs are concerned. The resolution was carried.

Secretary of Agriculture Chipman said he thought he had come to the funeral of the Association, but it had turned out a birth. He had been present at its formation three years ago, but thought it was making a better start now than then. It had not done much during the past year because the Government had said that no more expense was to be incurred, but it had established the exhibition and that had been a good work. He did not think the Government by withdrawing the grant intended to do less for agriculture, and was sure the Government would give favorable consideration to representations of the Association. He would do all in his power to assist the Association.

The election of officers for the ensuing year was begun and took up the whole of the evening session: J. R. Starr, Port Williams, President; Col. Blair, Nappan, 1st Vice-President; Wm. Corning, Yarmouth, 2nd Vice-President.

Directors.—W. A. Ferguson, M. P. P., Guysborough; J. R. Moore, Shubenacadie; W. W. Jones, Weymouth; J. M. Bailey, Pictou; D. W. B. Reid, Musquodoboit.

Auditors.—Wm. McKerrow, Halifax; S. C. Parker, Berwick.

Exhibition Commissioners.—J. R. Wyman, Yarmouth; G. C. Lawrence, Port Hastings.

Mr. H. W. Smith, Principal of the Nova Scotia School of Agriculture, under date of February 21st, 1898, writes us: "Each year your paper seems to excel the preceding one, although just how you can improve it more I do not see."

Maritime Notes.

In my last letter I spoke of the New Brunswick Government's proposal to encourage wheat-growing, and said that while I believed that wheat could be profitably grown (that is that a good average yield could be obtained) it yet remained to be proved that it could be manufactured into a good marketable grade of flour. A test was recently made with wheat grown in Antigonishe Co., N. S. A lot of wheat grown at the Trappist Monastery at L'Acadie was sent to the mills of the New Glasgow Milling Co. to be ground. They reported that it made a No. 1 grade of flour, but that on account of not being dry enough it required a little more than of Western wheat to make a barrel. As the climate and conditions and the quality of the wheat grown are very similar in Nova Scotia and New Brunswick, this test would also apply to New Brunswick. More tests of a similar kind, with wheat grown in different sections of the Province, should be made before the Government commits itself by any legislation. The dampness of the wheat is the greatest difficulty to be overcome. Our autumns are wetter than those of the West, and it is harder to properly cure grain, but I think the greatest of damp wheat is to be found in the present system of harvesting. It is the general practice to cut all grain with the scythe one day and haul it in the next, allowing it to sweat and cure in the mow. This, it seems to me, is the very root of the evil. The wheat must be cut before it is thoroughly ripe and hardened, and the large amount of moisture in both grain and straw can never properly dry out in the mow, and the heat engendered must darken the flour. If the grain were bound, stooked and capped, and allowed a sufficient time to become thoroughly dry and hard before storing in the barn, I think a very much finer quality of flour would be obtained.

At the last meeting of the Nova Scotia Farmers' Association great stress was laid upon the need of better facilities for obtaining an agricultural education. That is true, and no doubt the Government should do more than it now does in the matter, but farmers are very slow to take advantage of the means already within their reach. They can obtain for the children elementary instruction in their local schools by employing teachers who have graduated from the Normal School in Truro. These teachers, if they hold a first-class certificate, will also have taken a course at the School of Agriculture, qualifying them to teach. More advanced instruction can be obtained at the School of Agriculture in Truro. This school, which has a fine farm attached, combines both theoretical and practical instruction; that is, the student spends part of the time in the classroom and part in actual work upon the farm. The school, while well equipped with buildings and apparatus, is in great need of more professors, there being at present only one. Prof. Smith has done good work, but he cannot handle a great number of subjects and do them justice. It remains with the farmers to remedy this matter. If by sending their sons to the School of Agriculture they will show that they recognize its necessity, I have no doubt the Government will do all in its power to increase its efficiency. The only hope of future advancement is in the better instruction of the young. Good farmers are scarce among us. Modern and improved methods are known to but few and practiced by still fewer. We are producing the same things in the same way our grandfathers did, only not so much of them or of such good quality. We have been going backward rather than forward. It is time to stop and make a forward movement. It must of necessity be a good country when, with farming carried on as at present, our people are able to make a living, and I maintain that there is no place in America which offers better prospects to a good farmer than Nova Scotia and New Brunswick.

There is a complaint from farmers from all parts of the country that they cannot sell a great part of their produce for cash, but must take payment in trade. It seems a pity that so many old-fashioned ideas should still be in existence. They all tend to retard progress rather than advance it. Dealing in trade is not only a poor system of doing business, it is putting a premium upon the production of poor goods. It also lowers the dignity of the farmer, for it is the merchant who then occupies the higher position. As the business is now carried on, the merchants of a town agree to allow a certain price for a certain article. It is of no use going to a number of them trying to get more. A very inferior article will be allowed that fixed price; a superior one will not command a greater. Butter is butter, eggs are eggs, wool is wool, irrespective of quality or condition. Is it likely to encourage a man to make good butter when bad will pay him as well, or to improve and care for his sheep when poor and dirty wool will bring as much as his good and clean article? In order to live, to improve his farm and provide necessary machinery the farmer needs all the money he can get. How can he do this when he has to take pay for what he sells in groceries, cloth, shoes, etc.? How can one way be remedied? I can only see one way: by the farmers of a district uniting and either compelling the merchant to pay cash or to market their goods in the large towns where business is carried on on a cash basis, and by buying their supplies in the same way. This subject will soon have to be seriously considered. I wish some of the ADVOCATE readers would give their views and advice upon it. AGRICOLA.

The Eastern

[Specially reported.]
The second annual meeting of the cheese makers' association of the Province, held at the Kings Hotel, March 9th. The very much improved chair was occupied by the speaker. In his opinion, the need of an improved and better butter. Prof. Dean, on behalf of the dairy industry, rickety one required from the Government can be destroyed. It is an ill-bound to prosper rest on past achievements.
Prof. Dean, on True Co-operative System, as approved by the adoption of this exporter from theories advanced urged the making. According to better kept better as the latter a the best export.

Mr. Publow said that 60 per cent. of the season was due off flavor were rennet, bad salt, hot curing, rotten green. Makers' bad flavor due flavors he is 10 per cent. of the bagging—chiefly overlooked the factories is not a tion took place supply. Mr. Innis never justified vats. Makers stand. He favored.

In the after Hyacinthe Da constructive address Province. He the air-duct system thorough trial equal Ontario and Hovey g followed by the Dairy School, which he advised. The small dig carefully and ly, but keeps Samples are p are emptied i Mr. Whitton are more inter of milk.

Prof. Dean Cheese and Bu liness, activity business of n nell gave so among which improperly cl or dried poor cleanliness a into the milk tical butterm the 5th dairy dick and his worded and v very successful.

Points

SIR.—You in your valua many farmer information dairying, gar much intere new piggyery We all find have had a g others' exper like to ask, a it satisfacto summer to a handled from making chee skim milk a son get his from his cre had fixed a 2 of 200 gallon my separate and milk at up the pipe floor. I for through it,

DAIRY.

The Eastern Butter and Cheese Makers' Convention.

[Specially reported for the FARMER'S ADVOCATE.]
The second annual convention of the butter and cheese makers of Eastern Ontario, under the auspices of the Butter and Cheese Association, was held at the Kingston Dairy School buildings on March 9th. The building and equipment have been very much improved during the past year. The chair was occupied by Mr. D. Derbyshire, of Brockville. In his opening address he emphasized the need of an improved quality in Canadian cheese and butter. Principal Grant welcomed the delegates on behalf of Queen's University. He said: The dairy industry is on a sound foundation—not a rickety one requiring protection and special favors from the Government; nor is it an industry that can be destroyed by the breath of a Finance Minister. It is an industry natural to Canada and is bound to prosper. Dairymen, however, must not rest on past achievements, but must go ahead.

Prof. Dean, of the Guelph Dairy School, spoke on True Co-operation, or the Co-operative Share System, as applied to dairying. He claimed that many of the present evils may be remedied by the adoption of this system. Mr. Alexander, a cheese exporter from Montreal, did not believe in the theories advanced by the previous speaker. He urged the making of more butter and less cheese. According to his experiments, fresh, unsalted butter kept better in cold storage than salted butter, as the latter acquires a fishy flavor. The box is the best export package. Put 57 lbs. in each box.

Mr. Publow, Inspector for the Perth division, said that 60 per cent. of the rejected cheese last season was due to bad flavor. The causes for this off flavor were tainted milk, bad water, bad rennet, bad salt, dirty factories and surroundings, hot curing rooms, and cheese being shipped too green. Makers should not be held responsible for bad flavor due to milk. The other causes of bad flavors he is largely responsible for. Forty per cent. of the bad cheese was due to improper making—chiefly overripening the milk. Mr. Ruddick considered that 75 per cent. of the water used in factories is not fit for the purpose. A long discussion took place on the question of a pure water supply. Mr. Bissell considered that a maker is never justified in using bad water for setting the vats. Makers need to spend more time at the weigh stand. He favored wiping out small factories.

In the afternoon session Mr. Borbeau, of the St. Hyacinthe Dairy School, Quebec, gave a very instructive address regarding the work done in his Province. He said that they were going to give the air-duct system of ventilating curing rooms a thorough trial this season. They were aiming to equal Ontario. Instructors Kerr, Loury, Purvis, and Howey gave short addresses, which were followed by the question drawer. Mr. Zufeldt, of the Dairy School, read a paper on milk testing, in which he advocated the weekly composite test. The small dipper is accurate for sampling. Test carefully and accurately. Mr. Potter tests monthly, but keeps the monthly jars in a refrigerator. Samples are put daily into a weekly jar, and these are emptied into the monthly jars once a week. Mr. Whitton tests daily, and finds that the patrons are more interested in the test than in the weight of milk.

Prof. Dean spoke again on "The Points of a Cheese and Butter Maker." He emphasized cleanliness, activity and thought to be applied to the business of making cheese and butter. Dr. Connell gave some of the causes of tainted milk, among which he named dust, hair, manure particles, improperly cleansed cans, and dust from the road or dried pools near the factory. The remedy is cleanliness and prevention of dust from getting into the milk. Mr. Ruddick read a paper on practical buttermaking. At the close of the meeting the 5th dairy class presented Superintendent Ruddick and his staff of instructors with a nicely worded and engraved address. The meeting was very successful, over 200 delegates being present.

Points re Skim Milk Pipes.

SIR.—You will pardon me for using a little space in your valuable paper, the medium through which many farmers and others have received valuable information in tilling, seeding, breeding, feeding, dairying, gardening, and building. I read with much interest, in a late issue, of E. D. Tillson's new pigery; his plan and intentions are good. We all find experience to be the best teacher. I have had a good deal on this line, and we profit by others' experience. There is one question I would like to ask, and Mr. Tillson may be able to answer it satisfactorily. We built here a pigpen last summer to accommodate 100 hogs. Milked 75 cows, handled from 3,000 to 4,000 pounds of milk daily, making cheese and butter, and had a good deal of skim milk and whey to feed. How does Mr. Tillson get his skim milk through his 1½-inch pipe from his creamery to his pigpen 30 rods away? I had fixed a 2-inch iron pipe to run mine into tank of 200 gallons, and found this difficulty: Running my separator at about 6,000 revolutions per minute and milk at about 80°, in a short time the foam or froth of the skim milk would get so thick as to clog up the pipe and back out the milk over my dairy floor. I forced cold, then hot water and steam through it, but still it would clog and run over, so

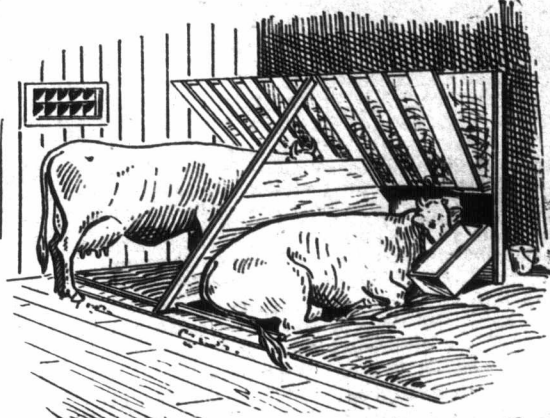
we took it away, and made an open trough, about 4 inches square, for the skim milk to run into, and sank a 200-gallon tank just outside the dairy, between the milk room and cheese room; purchased a rotary force pump for about \$25, placed it in the creamery, ran a belt from the main shaft to pump with 6-inch pulley, attached ½-inch pipe from pump into tank, also pipe from pump to pigpen, discharging into large tank there. I ran pump same time I was separating, forcing everything up into pigpen—milk, froth, whey, small pieces of curds, etc.—and had no more trouble after putting in rotary force pump. We got cast iron troughs made, oval bottoms. They answer well. No biting them to pieces or getting out of place.

I. LINTON,
Manager Silver Spring Creamery.

A Good Cow Stall — Ventilation, Etc.

SIR.—Every observing dairyman of experience knows that in order to be able to milk up to her full capacity a cow must, in this climate, be stabled very nearly if not all the time during winter. Any farmer with common sense and a little experience with stock must know that for health and satisfactory performance to permanently accompany continuous stabling the following things are, besides good feeding, absolutely essential: Plenty of light. That water, not ice cold, be given twice a day—better always before them. That the temperature does not vary unreasonably far from the best point, about 60 degrees. That ventilation be fairly good at least. That the cow be free enough to be able to lick herself to the tip of her tail. That the cow be kept clean.

If I met a farmer whose common sense could not show him how to make his stable sufficiently warm I would not trouble to tell him. But not so about ventilation. Fresh air should be admitted in front of the cattle, well up so as to avoid drafts striking the cattle. Bad air is carried off by means of a sufficiently large pipe set against the ceiling over the gutter. One end of it should penetrate the wall of the barn into the open air and then have an elbow built on it, running up the side of the barn and opening under the eaves. This pipe—the inside part—might be five feet shorter than the gutter. The end of it should be left about one-quarter open; then small openings on it a few feet apart, so that all the openings might equal the



total cross-section of the pipe. Of course there should be a regulator or "damper" put into it. But to have the cows tied so that they can lick themselves all over and yet be clean as in summer at grass—"that's the rub." With a few exceptional cows, tying with a long rope in a common stall will do it; but in the case of the many I believe there is but one way so far found out by which it can be done, and that is a properly constructed HOARD STALL.

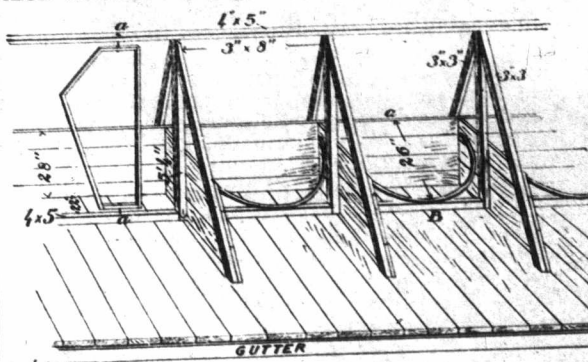
From my experience with it I cannot see how any sensible farmer having once seen a cow "enjoying life" in a good Hoard stall could regard the ordinary way but a miserable, old-fashioned affair that should be immediately superseded. A human criminal may very properly be put "in irons"; but a poor, harmless cow "in sticks," never, never; nor "chained to a post," nor condemned to lie in her own ordure. For most cases, however, a gutter 8 inches deep by 13 or 14 inches wide is better than the original way. J. D. MCKINNON.
Cape Breton, N. S.

[NOTE.—The "Hoard" stall illustrated above represents one row of cows facing another row in single stall 3½ feet wide. A closely-boarded partition four feet high forms the front of stall. The feeding rack is for two purposes: 1st, to contain hay or roughage; 2nd, to force the cow when standing to place her hind feet in the rear of the cross bar seen just forward of the standing cow. By virtue of this bar the animal has always a dry, clean bed to lie in, thus keeping her clean from manure. In placing the bar across the stall bring the cow's head squarely up against the feeding rack, then just forward of her hind feet fasten down a two by three inch scantling. This will hold the bedding dry and clean.

The grain and ensilage box is placed on that side of the stall opposite where she usually lies. If placed sufficiently slanting the feed will easily work down to the end next the cow, so that she will not need to bring her hind feet into her bedding while feeding. The cow should be fastened with a halter to a ring in the center of the stall. The cut shows no gutter, which Mr. McKinnon recommends. It should be just back of where the cow stands while feeding.—ED.]

A Model Cow Tie.

The accompanying illustration represents the arrangement of the cow ties in the stable of the Nova Scotia Provincial Farm. The bows are of 1½ inch wooden carriage rims and are attached, as

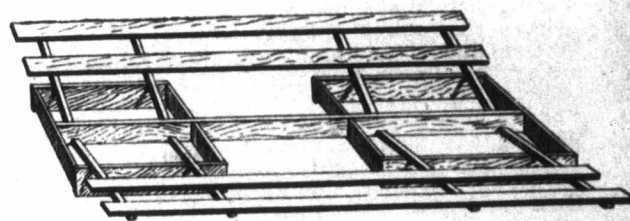


COW STALL, SHOWING MODEL TIE.

shown, to the partitions between the stalls, 2½ feet up from the floor and nearly opposite the front board of the manger, or the side next the feed alley (see cut). Each bow is fitted at the ends with iron eyes through which bolts pass to fasten them to the partitions; ends of two bows in joining stalls are thus held by one bolt. The ends of the bows are prevented from splitting by being bound at the ends with light bands held on by small bolts; these may be attached to the eyes. The bows are fastened just far enough forward so that their centers rest on the 4 x 5 inch back of the manger when left to themselves. This manger-back, as shown in cut, is 4 x 5 inches. Each cow wears a wide neck strap to which is fastened a snap with a swivel. The cow is fastened to the bow by snapping her neck strap into a ring which plays on the bow. The ring has about eighteen inches play on the center of the bow between screws. This, Mr. Fuller, farm manager, has found to give better satisfaction than greater liberty. The bow is very light, and rises and falls with the motions of the cow. Mr. Fuller has found from long experience this tie to be very satisfactory in allowing the cow plenty of freedom, and in keeping her clean. The latter result is obtained by reason of the bow rising and holding the cow back while she is standing, and when she lies down the falling of the bow tends to draw her forward on the clean bedding or floor. This tie requires single stalls, which in the case of those on the Nova Scotia farm are 3 feet 8 inches wide. The bottom of the manger is on a level with the floor where the cow stands. As shown on the left of the illustration, the same sort of stalls are used for the swinging stanchion. These, however, can be easily taken out by removing the pins A.A., and the bow can be fitted in as in the other stalls. Mr. Fuller claims to have found an advantage in spiking a 2 by 4 inch piece on the top of the 4 by 5 stanchion sill, which forms the rear of manger, just where the bow rests when the cow is lying down. This serves the two-fold purpose of preventing the cow from throwing her feed under her feet, and holding the bow a little higher when she is resting. One of our staff saw these ties in use in a very large herd in the U. S., which were as clean as cattle on pasture, besides appearing to be just as comfortable, bedded with planing mill shavings.

THE HELPING HAND.

A Handy Hay Rack.



D. C. B., Middlesex Co., Ont.:—"I enclose you a cut for a hay rack which will be suitable especially for the wide-tire wagon, which is much harder to turn with than the narrow tire. Take a 2½ inch thick by 8 or 10 inch wide soft maple or elm plank, any desired length. Then get two short sides for front, same width as center sill, only two inches thick; same for hind wheels, only they are to be longer. In them mortise two holes in each side 2 x 5 inches for the crosspieces to rest in (do not fasten them until the side pieces are marked out); now get your 2 x 4 inch pieces for the side pieces, lay them on each side of wheels so as not to touch; now mark center plank for holes 2 x 4 for the pieces to go into to hold the lower end; one from each side will go in same hole; make it about two inches from bottom of center sill. By having the wagon near by one can make it correct. All wheels are not the same width, nor the same height; but the main thing is to have the front short enough so the wheels will turn without touching. Any smart man should be able to make a rack with the help of cut and what I have written for the best agricultural paper, I am bold to say, in America.

POULTRY.

Profit of One Hen for the Year 1897.

To the Editor FARMER'S ADVOCATE:

I am of the opinion that hens should be tested singly, the same as cows, to ascertain their individual capabilities. With this end in view I made a test of a pullet of 1896. She commenced laying in the first week of November, and having selected a nest for herself away from the other hens, I thought it would be a good opportunity to test her. I began on the 1st of January, 1897, to keep an account of her eggs. In January she laid 25 eggs, which sold at 19c. per doz.; February, 23, at 17c. per doz.; March, 26, at 13c. per doz.; April, 26, at 13c. per doz.; May, 21, at 13c. per doz.; June, 22, at 13c. per doz.; July, 21, at 13c. per doz.; August, 12, at 14c. per doz.; September, 14, at 20c. per doz.; October, 23, at 20c. per doz.; November, 21, at 22c. per doz.; December, 20, at 25c. per doz., amounting in all to 257 or 21 1/2 eggs per month during the year. She showed signs of clucking on August 17th, so I put her in the inclosure for clucking hens, fed her all she could eat, and gave her all the fresh water she could drink, and in four days she commenced to moult. On the 12th of September she commenced to lay again, and continued laying until the 12th of January, 1898. I set her next day, and, therefore, in a few days I shall know the result. During the year she laid 21 1/2 doz. eggs, at the above prices, amounting to \$3.96 1/2. The food she consumed during this period of time cost 67c. The express charges on the eggs was 14c., leaving \$2.74 1/2 clear profit. I am of the opinion that it would pay people fully as well to test their hens separately as to test their cows separately. For, while I made this profit from this hen, I am satisfied I had other hens out of the same flock which did not do nearly so well. In the year 1897 I had chicks hatched in February, March, April and May. The February chicks I have found paid best. They moulted in August, and commenced to lay during the first week of September, and have laid regularly ever since. March chicks moulted in September, and did not commence to lay until the latter part of October. The weather being so much colder it was a greater shock on their systems, and they did not get over it as easily as the February chicks did. The April chicks did not moult at all, and are not laying so well as either of the previous months' chicks. As for May chicks, I cannot say anything about them, as I sold them all. Last year I fed 2 1/2 lbs. clover, at \$8 per ton, 1c.; 5 lbs. shorts, at \$12 per ton, 2c.; 20 lbs. mangels, at 10c. per bush, 3c.; 5 lbs. ensilage, at \$2 per ton, 1c.; meat scraps, 1c.; 5 lbs. oats, at 20c. per bush, 2 1/2c., amounting to 10 1/2c. per day. This year I am feeding 2 1/2 lbs. clover, at \$8 per ton, 1c.; 2 1/2 lbs. shorts, at \$12 per ton, 1 1/2c.; 2 1/2 lbs. bran, at \$10 per ton, 1 1/2c.; 20 lbs. mangels, at 10c. per bush, 3c.; 5 lbs. ensilage, at \$2 per ton, 1c.; meat scraps, 1c.; 2 1/2 lbs. oats, at 23c. per bush, 1 1/2c., amounting to 9 1/2c. per day. I found that my hens got too fat last year, so by reducing their grain ration they are laying better, and are in a much healthier condition than last year. I have tried several different breeds of hens, but find that the Barred Plymouth Rocks pay best. Lanark Co., Ont. Mrs. Jos. Yuill.

GARDEN AND ORCHARD.

The Spraying of Fruit Trees.

BY E. EDWARDS, F. R. S.

So much has already been written about, and the utility of spraying so many times demonstrated, that it is unnecessary for me to add anything to what has been so often proved. And my purpose in this article is to endeavor to inform the farmer and fruit-grower how to wisely select and intelligently make use of a good sprayer. For I believe that much damage is done to both the farmers and to the manufacturers of reliable sprayers by the almost worthless kinds sold, because of their cheapness, to many amateur fruit-growers. For if a man buys one of these worthless kinds, expecting it to do good work, he will, after trying it and finding that it injures instead of helps his trees, tell all his neighbors that spraying does more harm than good, and, consequently, they will not buy a sprayer of any sort. In endeavoring to answer the following questions I will state the findings of reliable men both in the United States and Canada, and which in my experience has stood the test. The first question is, What constitutes a good sprayer? All of the parts (excepting, of course, the hose) with which the liquid comes in contact should be made of brass, for if the pump be made of tin or iron it will rust or corrode after applying fungicides, and in a few years will be useless for spraying purposes. The valves should be of brass, because if they are rubber, leather or wood they will wear away and will need to be replaced, and the time they are most likely to give out is just when you wish to use the pump, thus causing much inconvenience. Secondly, a sprayer to be good should be double-acting, thereby insuring a strong, steady and continuous stream, which is very useful in obtaining good results. It should have enough power to throw a solid stream at least thirty feet. It should agitate the mixture so as to keep it stirred, and spray at the same time, otherwise you will have to stop spraying to stir the liquid or have the foliage injured by an uneven distribution of poison, since Paris green will settle to the bottom if not con-

stantly agitated. Lastly, it must have a nozzle that will make a spray as fine as a mist, for the object of spraying is not to drench part of the tree and allow the other part to get very little (which would be the result if a coarse nozzle were used), but rather to secure an even amount all over the tree, with the least possible drip, because when dripping occurs nearly all of the mixture runs off the leaf and is wasted, and besides the tip of the leaf is burned. The second question is, When should spraying be done to be the most advantageous, and what mixture should be used?

Apple, Pear, and Cherry Trees.—The first application, the purpose of which is to prevent the growth of fungi, such as the apple scab, etc., should be of Bordeaux mixture applied in the spring just as the buds are opening. The second application for the destruction of the apple worm and numerous other insects feeding on the leaves and blossoms should be made after the greater part of the blossoms have fallen, and should consist of Bordeaux mixture to which has been added 1 ounce of Paris green to every 12 gallons. The third application should be same as second and applied about ten days later.

Plum and Peach Trees.—First application as soon as the leaves are started, before blossoming, to consist of Bordeaux mixture with 1 ounce of Paris green to every 15 gallons of solution, for the destruction of the old curculio which feeds on the young leaves before she has deposited her eggs, for these being placed beneath the skin, the larva when hatched cannot be reached by anything applied on the outside. Second application, same material applied immediately after blossoms have fallen leaving young fruit exposed. Third application, a week or ten days later, consisting of same mixture as before. The fungus disease, black knot, so common on plum and cherry trees, will be prevented by the Bordeaux mixture in above solutions; but if it is already contracted, simply spraying with Bordeaux mixture will not eradicate it. The knot must be cut off and burned and the wound thoroughly soaked with coal oil or turpentine, which kills the germs of disease. The Bordeaux mixture is made as follows: Dissolve bluestone in water in proportion of 1 pound to 5 gallons of water. In another vessel slake fresh lime and add enough water to it to make a solution of 1 pound of lime to every 5 gallons of water; when both are cool pour the lime milk slowly into the bluestone solution and give a good stirring. Do not keep long before using, for it deteriorates if allowed to stand for a length of time.

QUESTIONS AND ANSWERS.

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

Legal.

Contract.

"I rented a farm with the machinery on the place, and five cows, which were also on the place, for one year ending March 1st. No special bargain was made as to which party should bear the loss in case any of the animals should die. I was simply to pay a certain price, and was to keep the animals in a similar way as they had previously been kept. During February, 1896, one cow got ill, and I gave her the usual treatment, and afterwards got a veterinary who treated the animal. In the event of the cow dying should I bear the loss, or the party who rented to me?"

[The cow was at the landlord's risk, and you (the tenant) fulfilled all your legal obligations by giving the cow the usual proper care and attention. It would not appear that you could be held negligent, and you are not liable for the loss you could not with reasonable care avoid.]

Landlord and Tenant.

"A rents a farm from 'B' adjoining his own farm. Can he grow corn for ensilage on the rented place and remove it to his own farm? There is nothing in the lease as to this."

[Yes.]

Veterinary.

Caked Udder.

O. B., Renfrew Co., Ont.:—"Have great trouble with swollen or caked udder in my cows before and after calving. Am feeding dried cornstalks, straw of different kinds, green peas and oats, and millet or marsh hay, cut and mixed, with a liberal quantity of bran and one quart of hash, rye and buckwheat, twice a day. Please give cause, how to prevent it, and remedy if it occurs? Cows are watered inside, but let out on fine days from one to four hours, according to weather."

[Feed lightly for two weeks before calving. If trouble is likely to occur give doses of potash in feed, for which apply to your veterinary surgeon. Bathe the udder with warm water for an hour at a time three times a day, followed by bathing with warm vinegar, then rub with lard or goose-oil to soften the udder. Milk out three times a day, or let calf suck. In bad case give salts (one pound), sweet spirits of nitre (one ounce—four tablespoonfuls), nitrate of potash or saltpetre (one teaspoonful), blanket, and bathe udder as above.]

Bruised Knee—Cow Sweating.

A SUBSCRIBER, County of Wellington, Ont.:—"(1) I have a cow that lately has swollen in one knee and is lame. Have cement floors in stable. (2) Also have another cow that appears to sweat in the night. Her hair will be wet, and she looks as if she had been out in a light rain. Please give cause and cure?"

[The swelling in the knee is evidently due to lying on the cement floor. The remedy is to see that she has more bedding under her; or, better still, for such a case give her a well-bedded box stall. For the swelling apply the following lotion twice daily until reduced: Sulphate of iron, sugar of lead, and nitrate of potash, of each half an ounce; water, one quart. Shake well and apply. (2) The cow that sweats probably has too heavy a coat of hair for the temperature of the stable. Such cases, however, do occur from derangement of the glandular system (liver, kidneys, etc.), and may be relieved by giving a dose of physic (in case she is not far advanced in pregnancy) of one and one-half pounds Epsom salts, half ounce ginger, dissolved in a quart boiling water and drench when cool, after which give a teaspoonful of the following in her feed three times daily: Bicarbonate of soda, ginger, saltpetre, of each two ounces; powdered capsicum and nux vomica, of each one ounce. All well mixed.]

Dropsy of the Uterus.

W. H., Durham Co., Ont.:—"Could you inform me what ails my cow? Last winter she got so heavy I thought she was going to have two or three calves, but when she did calve she had only a little, small one. She is as heavy that one would think that she could not get around, or was heavy in calf now. I have been trying to get her fat, but she feeds fairly well and makes no progress."

[This disease is not uncommon in the cow, and is due to accumulation of water in the uterus. The symptoms are just as W. H. has described, and by manual examination one can feel the womb distended with fluid which may be felt to fluctuate upon pressure. The treatment will consist in evacuating the fluid from the uterus by means of a trocar, but there is always a tendency for the fluid to re-form. Unless the cow is a valuable animal we advise you not to spend money on medical treatment.]

Sprain of Tendons.

C. W. NEFF, Hamilton, Ont.:—"I have a horse which is very lame; it seems to be in the cords of front leg between knee and fetlock joint."

[If the damage is so severe as to incapacitate him from work we would advise taking him to a veterinary surgeon, who would most probably advise firing and blistering, with a run at pasture for the next summer. This would be the only means of cure. Dr. W. MOLE, M.R.C.V.S.]

Bowel Derangement in Colt.

SUBSCRIBER, Lanark Co., Ont.:—"I have a colt rising two years old. Took complaint like scour last November; tried all kinds of remedies to check it, but failed. I employed a veterinary about New Year's. He claimed there was gravel lodged in the bowel; gave her quart linseed oil and some powders to check it. All to no use, she is no better. She is quite lively, never appeared sick at any time; eye looks well; greatly failed, hide-bound, and nostrils dry. I feed hay and oats. She always had good appetite. She had great thirst for a few days some time ago, but got over that. Sometimes she will dry up a little for a few days and get worse again. Would you think it diabetes? One veterinary claims she ate some poisonous herb."

[In all probability the veterinarian employed was right in his diagnosis when he said that some foreign substance had lodged in the bowel, such as sand, etc., which can only be removed by repeated pint doses of raw linseed oil, say one every ten days. A tablespoonful of finely powdered charcoal in easily digested feed (ground oats and bran), twice daily, may assist in allaying the irritation.]

Probably Tuberculosis.

C. H. F., Middlesex Co., Ont.:—"Please answer the following question in the next number of your valuable paper. What do you think is the matter with a steer which we have and whose symptoms are as follows: He has a slight cough at times and continual trouble with his breathing; sometimes worse than at other times. He seems very much like a horse with heaves. What treatment would you recommend?"

[The symptoms given indicate tuberculosis, yet it is simply impossible for any one to judge from such a slight description of the case. State particulars more fully. Is he thin, and failing? Is his throat swollen? Have you had him examined by a veterinary surgeon? If so, with what result?]

Piles in Pigs.

T. W. EVANS, Middlesex Co., Ont.:—"Can you give me the cause and cure for piles in pigs? I have lost several small pigs and have just lost a fine sow. She was suckling second litter of pigs. Pigs were three weeks old when the piles appeared. We put them back three or four times after washing clean with warm water and soap, oiling well before putting back; but they would come out as soon as we would let her on her feet, so at the end of one week we killed her, as she seemed to be getting worse. We feed chopped oats, corn meal, bran and shorts, about equal parts, scalded in large kettle. We feed young pigs one part bran,

one part corn meal. Now, if you can you will greatly

[References to piles in pigs in Christmas number, page 13. The inner and outer tions and fibrous connective tissue are generally covered and an aggravation of presence of irritation by giving by soda and cornu moderately of maintain tone twenty grains of tepid solution of of lead and alum water. It is so the ligature of

R. O. DONO have a fox terrier worms. Will ment for such a

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one part corn meal, and two parts shorts, scalded. Now, if you can tell me the cause and how to cure, you will greatly oblige."

[References were made to the treatment for piles in pigs in the FARMER'S ADVOCATE 1897 Christmas number, page 556, and in Jan. 1st (1898) issue, page 13. Piles are dilations of the veins on the inner and outer sides of the anus, with exudations and fibrous thickening of the surrounding connective tissue to form rounded swellings. They are generally connected with torpid, inactive liver, and an aggravated costiveness, straining, and the presence of irritants in the large intestines. Treat by giving by mouth mild laxatives (sulphate of soda and common salt, two ounces daily). Give moderately of laxative, easily digested food, and maintain tone by tonics (nux vomica, ten to twenty grains daily in food). Locally bathe with tepid solution of opium and astringents, as sugar of lead and alum, a teaspoonful of each in a pint of water. It is sometimes necessary to remove with the ligature or clamp and hot iron.]

Tapeworms in Dog.

R. O. DONOGHUE, Wellington Co., Ont.:—"I have a fox terrier that is badly troubled with tapeworms. Will you kindly let me know the treatment for such a case?"

[The bowels of the dog are the frequent abode of parasites commonly known as round and tape worms. Depraved appetite and unthriftiness of the animal are the general symptoms. There is also a certain amount of irritation of the anus, which renders the animal fond of licking the part or dragging it along the ground. Treatment: Fast the animal for one day and night, and the following morning give two grains per pound of dog of the drug known as kamala, a preparation used in India (is an orange-red, granular powder); should be given mixed with a little honey or placed in five-grain gelatine capsules; to be repeated in one week if not effectual.]

Too Little Exercise of Brood Mare.

A. J. J. M., Victoria Co., Ont.:—"We have a mare that we expect is now in foal. She has only raised one foal out of four, and we would like to preserve this one if possible. The first one never got up on its legs; the second became a good strong, healthy horse. The two last seemed weak, although in real good condition; unable to get up or stand when lifted to suck. We would like to know what might be the cause?"

[We judge the limp and flabby condition of the last two foals was due to too close confinement of the mare during the last few months of pregnancy. She should be given a liberal amount of daily exercise, preferably light work, and be moderately well fed on hay and oats, and half a pint of wheat three times a week.]

Prolapsus of the Uterus.

SHEPHERD, Brome Co., Que.:—"We have lost three ewes lately and wish to know what was the cause and how to prevent losing more. They were all three heavy in lamb and quite fat. The vulva protruded and could not be put back to stay. It came out larger than one's two fists. The sheep gradually failed, and died in three or four days. The lambs were full-grown, and would probably have been dropped in two weeks."

[The ewes have probably been too liberally fed with roots or other bulky roots. It is not often that this trouble proves fatal. We have known many cases where ewes affected in this way produced living lambs and had no after-trouble. We would advise feeding lightly and substituting bran and a little oats for roots till after lambing. A good plan is to tie several locks of wool across the passage if it is long-wool sheep. If a short-wool sheep twine may be tied to the locks of wool on each side and these tied together in the center. A more effective contrivance is a miniature gate, six inches long and four inches wide, made of hardwood slats about one inch in width and one inch apart. Strings of strong twine attached to each corner of this, two to go over the back and two under the belly, and to be tied to a strap around the ewe's neck; this to be removed when signs of parturition are observed.]

Miscellaneous.

Who First Shall Have the "Advocate?"

J. WILLS, Ontario Co., Ont.:—"After reading the ADVOCATE for twelve years, I should be lost without it. I consider it worth many times its cost. I have taken off two lumps from two cattle's jaws—one a cow and the other a steer—with spirits of ammonia, a receipt I saw in one of the issues of the FARMER'S ADVOCATE, of, I think, 1896. It would have cost \$4.00 to have it cut out, not considering the inconvenience afterwards. The ADVOCATE is so prized in my home by one and all, that whenever it arrives, whether morning, noon or evening late, it's who first shall have the ADVOCATE?"

A Log Silo.

B. G., British Columbia:—"Will a silo built of logs and the cracks well plastered answer the purpose; and how can clover be put in when no cutting machine is available?"

[If the logs were flattened on the inside, and the plastering made even with the inside surface of the logs so that the silage would settle evenly, it might answer the purpose, though we should fear the pressure of the mass inside would displace the logs

unless they were well bound at the corners. We would much rather advise sawing the logs into planks six to eight inches wide and two inches thick, and building a round stave silo with iron hoops. There is no need of bevelling or dressing the planks, nor even of roofing the silo. It may be built outside of the barn, and two lengths of planks may be used one on top of the other, the joints being broken. There are many of these in use in Ontario, giving entire satisfaction. Clover for ensilage should be put in the silo when quite green, immediately after being cut. A derrick should be erected with poles over the silo, from which a horse fork could be operated to facilitate the filling. We know no place where the practice of storing green clover as ensilage has had a better trial than in British Columbia, and we believe with good success. If you write Mr. A. C. Wells, Okilliwack, he can probably give you helpful information on this point.]

Free-martins.

J. H. F., Peel Co., Ont.:—"Will twin calves of opposite sexes prove to be breeders? I have raised twin heifers which proved to be valuable cows, but have had no experience with opposite sexes."

[The male will usually prove a breeder, but the female, called a "free-martin," is generally barren, but not always so, as we have known of exceptions.]

Cow Hard to Milk.

J. B. E., Parth Co., Ont.:—"I have a cow which is very hard to milk. She has calved about one month (her first calf). At first she milked quite freely for about ten days, then began to get hard. First, can you give any reason for her doing so? Second, please advise me what is best to do with her?"

[If she milked easily at first we should judge she has had inflammation in her udder, which has affected the glands, and the trouble may pass away when they return to their normal condition. We would keep the udder well greased with lard and wait patiently for an improvement. If she continues to be very hard to milk, she might be used to raise calves for a season, and might be improved in that way.]

Unthrifty Pigs.

H. M. D., Huron Co., Ont.:—"I have a sow that had a litter of pigs, and weaned them when six weeks old, and in about two weeks after that there seemed to be something come across them, and four died in two days; the only symptoms being their ears got droopy and they got dizzy, and died in a short time. The remainder took to coughing and sneezing, and seemed stopped up in their nose, and could drink but very little for about a week. I have only one that has got over it yet, the rest are very weak and eat very little. I fed the sow on a slop of equal parts barley, peas and oats. And the young pigs after weaning were fed milk with shorts and a little oil cake, in a warm, dry place. Can you tell me through your valuable paper the trouble, and how to remedy it?"

[This is a common complaint with late fall pigs, and is generally due to close confinement, lack of exercise, and want of earth or grit to regulate the stomach, also to feeding sloppy food cold, causing indigestion and general derangement. In the first place it is not well to have pigs come later than Oct. 1, when they can have two or three months to run out and get exercise, and gather strength before winter sets in. Then they should have their milk or swill warmed, or at least the chill taken off it by adding hot water. Some successful feeders practice feeding their pigs their meal dry in one trough and their drink in a separate trough. By this means the pigs get their food slowly, masticate it properly, mix it with saliva, and thus prepare it best for digestion. Some have adopted self-feeders for the dry meal—a two-sided box sloping to the bottom, and open at the bottom about one inch in width, through which the pigs get their meal slowly. The only remedy we can suggest for those afflicted is to give them warm milk and greasy swill to drink, with a little sulphur in it. Throw some earth from the root cellar into their pen. Let them out in the barnyard on fine days on the sunny side of a building or stack, place wood ashes, charcoal and salt in a flat box in their pen. Warm weather and early grass will bring them around to a healthy state if anything will.]

Bluestone for Smut.

J. A., Peel Co., Ont.:—"Kindly give instructions as to the best method of treating seed oats with bluestone pickle to destroy or prevent smut?"

[The practice of men who have had satisfactory experience in the use of bluestone for prevention of smut in oats is to immerse the seed in a solution of bluestone in the proportion of one-third of a pound to each pailful of water. First dissolve the bluestone in hot water and then add cold water. The following process has been recommended by a successful farmer who has used it: "Provide two coal oil barrels, bore a half-inch or three-quarter-inch hole near the edge of the bottom of each; make a plug to suit. Set these barrels on a platform sufficiently high to admit of a pail below the edge of the barrels. Have the hole project over the edge of the platform. Pour in a bag of oats, then enough of liquid to just cover the oats. Stir, and then with one pail below the hole and another in reserve, pull out the plug and drain off the liquid, pouring it into the other barrel. When the liquid is drained off empty the contents of the

barrel into a wagon box or on the barn floor to dry, and repeat the same with the other barrel." Use the liquid of the strength described, having a supply on hand to replenish as required.]

Testing Cows—Butting Rams.

W. H. W., Huron Co., Ont.:—"Can you or some of your readers tell me of some simpler way than by the Babcock tester for testing milk to determine the percentage of butter-fat? I have a small herd of cows, but would like to know just what they are doing. (2) Is there any way to keep rams from butting each other when running together?"

[(1) When one has had any experience in using the Babcock tester it becomes a very simple matter, and a small machine can be bought very cheaply. Besides the centrifugal machine and test bottles one requires a pipette, an acid cylinder, and a quantity of commercial sulphuric acid. A sample of milk is taken after thorough mixing of the milk, and 17.6 cubic centimeters, as indicated by the pipette, is placed in each test bottle. To this is added 17.5 cubic centimeters of sulphuric acid, as indicated by the acid cylinder. The test bottles are then given sufficient shaking to thoroughly mix the milk and acid, and then placed in the tester and whirled for four to five minutes at a speed of 600 to 1,200 revolutions per minute. Hot water is now added by means of a pipette until the bottles are filled up to the beginning of the neck. The bottles are whirled again at full speed for one minute, and hot water added a second time until the lower part of the column of fat comes within the scale on the neck of the test bottle, preferably to the one or two per cent. mark, so as to allow for the sinking of the column of fat, owing to the gradual cooling of the contents of the bottle. A final whirling for one minute completes the separation of the fat. The per cent. of fat in the milk tested is indicated in $\frac{1}{10}$ ths by the gradations on the neck and are easily counted. After a little practice the testing becomes a simple matter. Each cow's milk should be tested once a week, and her milk weighed at every milking throughout the year. Another means of testing each cow is to set her milk separate and churn each cow's cream by itself. This would have to be done several times and would involve much extra labor. The question is open for discussion. (2) We will have to leave this question with our readers, except to recommend blindfolding the pugilistic sheep. Rams separated and again brought together will almost invariably fight.]

Rye for Horse Feed.

A. J. J. W., Victoria Co., Ont.:—"Is rye grain good to feed horses instead of oats, and whether is it better whole or chopped? A man told me yesterday rye grain will cause a mare to "pick colt." Will it do so? I never fed it before, but I have some now to feed, and would like to know."

[Rye resembles barley more closely than any of the other grains, and should be fed sparingly to horses. We would advise having it crushed coarsely and fed with oats or bran. Rye frequently bears ergot, which has a peculiar action on the womb, causing it to contract and thus expel the young of a pregnant animal. It is therefore unsafe to feed rye to a mare in foal, which should be given plenty of exercise, preferably light regular work, and be fed oats and bran.]

Points in Seeding Down.

J. W. DOHERTY, Frontenac Co., Ont.:—"Re Prof. Wm. Saunders' excellent contribution to the ADVOCATE of the 15th inst., I would like a little more light on one or two subjects, viz.: (1) In sowing a field to oats, barley and peas, if seeded to Mammoth clover would the clover not be likely to get smothered? (2) In seeding grass and clover seed to spring grain, can the 'Breed weeder' be used to keep down weeds without injuring the young grass seeds?"

[(1) Of course the clover would be liable to be smothered if the crop should prove a heavy one, but if the mixture of grain was sown somewhat thinly a fair catch of clover might be secured. (2) The use of the weeder would no doubt destroy some of the clover plants, and we think it likely it is not intended to be used where clover has been sown, but it would be worth trying on a limited scale to see how it works.]

Wire Fencing.

RUSTICUS, Durham Co., Ont.:—"Can any of your numerous readers or correspondents who have a practical knowledge of barbed wire fencing inform me what is the proper distance for setting the posts apart so that the wires may not sag or become loose; so far as I can find out the distances seem to vary from 6 ft. to 12 ft.; also, is any bracing required in order to steady the panels, and, if so, at what distances apart? What should be the cost of a good barbed wire fence of seven wires, per rod; and is there any other kind of wire fence cheaper and as efficient?"

[See article on "Farm Fencing" in this issue, and replies to same in later numbers.]

Select Clydesdale Register in Scotland.

SUBSCRIBER, Prince Edward Island:—"Is the Select Clydesdale Register in Scotland still kept up; if so, who is the secretary or editor? What are its qualification requirements for registration? Is it true it admits cross-breeding with the Shire horse?"

[Subscriber should write Mr. Archibald McNeillage, 61 Hope St., Glasgow, Scotland.]

Movable Fence—Color of Barred Plymouth Rocks.

CHARLES MITCHELL, JR., Bruce County, Ont.:— "1. Would you please give me a plan for a movable fence which would give the good satisfaction to turn cattle and pigs? 2. What color should the Barred Plymouth Rock cockerel be—dark, like the hens, or light color? Would say I am wonderfully pleased with the ADVOCATE; would not be without it on any consideration."

[Where old fence boards can be used, hurdles like the accompanying illustration (Fig. 1) can be used for sheep and hogs, but a higher bar would be necessary in hurdling cattle or horses. The fence

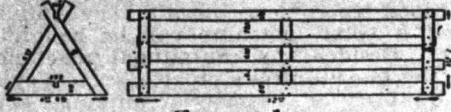


FIGURE 1.

from which this cut was made has panels 12 feet long and 3 feet 2 inches high. The standing pieces, which are placed across the fence, into which the panels fit, are 4 feet high and 3 feet 4 inches wide at the base. The ends of the panels fit into notches in the end pieces. Under ordinary conditions the fence will stand sufficiently strong just placed on the ground, but if exposed in windy location or to unruly stock, such as hogs, there should be stakes driven into the ground beside the standing pieces, which should be nailed to them. To hold hogs, stakes should be driven at every panel, but in no other case will they require to be driven nearer than every three or four rods. Fig. 2 represents the hurdle fence now in use upon the Agricultural College Farm at Guelph. The figure at A repre-

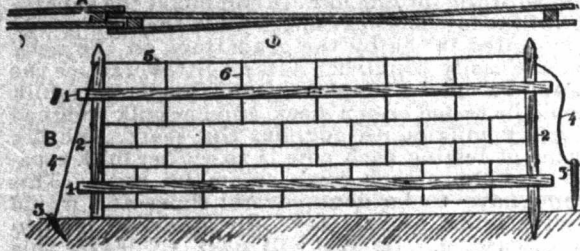


FIGURE 2.

sents the connection or junction of the hurdles viewed from above downwards. They are the side bars (marked 1) of inch lumber, 3 inches wide and 12 feet long, nailed to headpieces, one each side at top and bottom. They are also nailed together at the center of the hurdle to give strength. 2 indicates the headpieces, 4 feet 3 inches long, 3 inches wide, and 1 1/2 inches thick. It will be noticed that the right hand end piece has an extension to enter the ground a few inches. 3 and 4 show wire braces and anchors or pegs. The pegs are 16 inches long by 2 x 1 1/2 inches, one at either end of each hurdle. The wire braces are about 4 feet 8 inches long. 5 and 6 show No. 12 wire twisted the same as for fences. The stays can be easily put on by unwinding the wires at the ends and twisting them firmly around by means of a pair of pincers.

2. The American standard of perfection gives the color of the Plymouth Rock male as follows: Body color grayish-white, each feather regularly crossed with parallel bars of blue-black, the barring also showing in the down or under-color of feathers. The barring of neck and saddle hackle narrower and closer, and running the entire length of the feather. The color of the plumage of the female is given as the same as described for the male. We frequently see the highest scoring cocks and cockerels a shade lighter than the females, which, however, does not disqualify them.]

For Killing Lice on Cattle.

SUBSCRIBER, Bruce Co., Ont.:—"What is the best preparation for killing lice on cattle?"

[Any of the sheep dips and cattle washes advertised in our columns are effective in killing lice and in cleansing the skin and promoting a healthy condition. Any kind of grease or oil will exterminate them. A simple and effective remedy is the common insect or fly powder "Pyrethrum," applied by sifting from a flour or pepper dredger.]

Young Pigs Dying.

HAMILTONIAN, Wentworth Co., Ont.:—"Can any of your readers give me a remedy to prevent young pigs dying from cold in bronchial tubes and lungs. The symptoms are thick throats, disinclination to any exercise, and in its advanced stages hides turn black?"

[Prevention in such a case would have been much more profitable and possible than any remedy that can be prescribed. It is probably the old story of mismanagement while the pigs were with the dam and after weaning, in not giving them sufficient exercise and access to the earth, and perhaps overfeeding with cold, sloppy food, or too rich food, inducing indigestion and derangement of the system. We can only suggest a change to more natural conditions. Give greasy swill warm, ground oats or barley and bran dry; get earth for them from root cellar, also ashes and charcoal kept in a flat box in the pen. Get them out in the sunshine if possible for a few hours on fine days, on the lee side of a stack or building, with a dry bed of straw to lie on. A little sulphur in the food would no doubt be helpful.]

MARKETS.

FARM GOSSIP.

Central Eastern Ontario, Leeds Co.

This section is the center of what is one of the best cheese producing areas in Canada. As a natural consequence pork is produced in large quantities. Prices for hogs of the required bacon type have been very encouraging this season, hence farmers are carrying over more brood sows than they have for many years. Berkshire-Yorkshire cross-breeds seem most in favor just now. The snowfall has been almost unprecedentedly heavy; wheat, rye, and meadows have had ample and constant protection since about December 1, they should come through in good condition. With the expectation of paying prices this spring, farmers are feeding a comparatively large number of steers. As a rule they are not of the right type, being in many cases bred from dairy stock. As the tide of N.-W. emigration has again set in there is some enquiry for good, serviceable farm horses weighing thirteen to fourteen hundred pounds. Prices range from seventy-five to one hundred dollars. There are more mares in foal this spring than for many years past; supply and demand seem likely to be fairly well balanced for some time to come. A number of cheese factories in Brockville district are equipped with supplementary creamery plants for operation in winter. Our creameries are nearly all fitted with separators. Farmers are not willing to accept \$12.00 or \$13.00 per ton for winter milk, this has been the set price in some cases. Public opinion is strongly against the production of "fodder cheese," indications point to a small output this season. At present there is a very active demand for potatoes for export, those who held their crop are realizing a small margin of profit, ruling price 30c.

J. J. F.

Niagara Peninsula.

There has been a general stiffening up of prices in most farm products in this section since Christmas. An exception or two, however, might be made. Hay still offers freely at from \$5 to \$6 a ton. Pork is selling at about 6c. for 150 to 180 lb. hogs, and 4 1/2c. live weight. Young pigs are pretty scarce yet, and are changing hands at \$5 a pair. Not much is done in this district in the fat cattle line; a good many are shipped in at \$3.40 to \$3.50, what local trade there is being from about 4c. for good stock. There are very few silos in the country. Farmers are hardly alive yet to their real value. A stronger interest is, however, being manifested in the silo question, and I look for the erection of more during the summer and a consequent development of the dairy and stock business. Fresh milk cows are anything but plentiful, good animals selling from \$35 to \$40. Oats have steadily advanced to 35c. Bran too has been constantly advancing since Christmas, and is selling now for \$14 per ton. Fall wheat looks well. There has been a fair covering of snow most of the time, and little or no frost in most of the wheat ground. Potatoes are keeping very firm at 80c. to 90c. per bag. Butter has advanced lately, and is now at 18c., eggs bringing 16c. to 18c. a dozen. Apples are scarce and dear, first-class fruit bringing 83c. a barrel. Last year's immense crop has left many of the peach orchards in bad shape. Some growers have been discouraged with the low prices. Better methods, better fruit, better packing will have to be the watchwords. The winter has been pretty favorable, and fruit buds generally are in good condition, but we are not at all likely to see a repetition of last year's crop.

M. B.

P. E. Island.

The season so far has been favorable for the work of the farmers—plenty of snow to make good roads and keep the grass lands well covered. Farmers are now busy lifting and drawing mussel mud onto the land. It is also being drawn to the center of the country on the railroad cars. Not so many cattle are being fattened as usual, farmers supplying milk to creameries instead. Creameries doing a good business, about twenty of them all told, besides several separating stations.

Winter dairying and winter hog-feeding are on the increase. A good many pedigreed cattle of both beef and dairy breeds are being imported from Ontario. Coarse cattle feed is plentiful and cheap. Grain is advancing. Potatoes are scarce.

Prices: Best fat cattle, live weight, 4c. to 4 1/2c.; best quality bacon hogs, 5c.; other qualities, 4c. and 4 1/2c.; carcass pork, 6 1/2c.; butter (factory), 18 1/2c.; wheat, 80c.; oats, 32c.; potatoes, 30c.; eggs, 15c.; hay, \$3.00; bran, \$18.00 per ton. Some of last season's make of cheese is still held here. A series of agricultural meetings arranged by the Minister of Agriculture, and addressed by R. Robertson, Supt. Exp. Farm, Nappan; W. Saxby Blair, Horticulturist, and W. Pethick, V. S., are being held at central places on the island.

Weather very mild during the last month. Stock wintering well. W. S.

Toronto Markets.

The offerings at the Western cattle market were lighter in character for the past two weeks, causing prices to be a little firmer for the best class of cattle. The City Council, after long discussion, with several aldermen on the fence, have at last decided to keep the market franchise in their own hands, for the majority of cattle-men are strongly averse to its removal. The receipts for the past week at the Western cattle yards were 1,777 cattle, 277 lambs, 6,567 hogs.

Export Cattle.—The trade in this line was slow, the quality not first-class. For best export cattle 4 1/2c.; bulls from 3 1/2c. to 3 3/4c. per lb. One of the notable features of this week's market was the buying by Mr. Joseph Wilson of forty head of thoroughbred Shorthorn bulls for Messrs. Conrad Bros., of Lethbridge, Man. The prices ruled up to \$80 each.

Butchers' Cattle.—Everything sold before the close of the day. Prices were a little firmer for choice steers and heifers, 3c. to 3 1/2c. per lb.; 4c. was paid for a few extra choice. Three carloads were taken for the abattoir at \$3.65 per cwt. Very few buyers from Montreal were on the market to-day; in fact, the market was very dull.

Stockers.—Light stockers for the Buffalo market are in request. Prices are quoted at \$2.90 to \$3.30 per cwt.

Fedders.—Good feeding steers are in request, and sold at \$3.20 to \$3.60. A few bulls for tying up wanted at \$3 per cwt.

Sheep.—The market for sheep was barely steady, at from 3 1/2c. to 3 3/4c. per lb. for butchers' and export.

Lambs were firmer and in good demand, at 5c. to 5 1/2c. per lb.; in some cases a little more, 5 1/2c.

Cattle.—A better supply; choice in good demand; poor difficult to sell; at \$2 to \$3 for choice.

Milk Cows were in good demand; choice, at from \$40 to \$46. Springers and mediums sold at \$35.

Hogs.—Indications are for shorter supply. Reports are that a new packing house is to be erected at Markham, Ont. Prices are firm, but the milder weather has a depressing effect. Choice sold at 5c. to 5 1/2c., weighed off cars; light hogs, 4 1/2c. per lb.; thick fat, \$4.50 to \$4.80 per cwt.; stores, \$4.55; sows, \$3 to \$3.25; stags and rough hogs, at 2c.

Grain Market.—The receipts of grain on the market were small. Bad roads prevent a good many farmers from reaching town.

Wheat.—Easier, 800 bushels selling at 78c. to 82c. for white. Oats.—Steady; 500 bushels selling at 39c. per bushel. One load at 41c.

Peas.—In good demand; 1,000 bushels selling at 39c. to 41c. per bushel.

Barley.—Quiet. There is a good demand for export. Car lots are quoted at 43c. for fancy bright, and feed 32c. per bush.

Hay.—Receipts fair; moderate enquiry; 25 loads selling at \$3 to \$3.50. Baled hay quiet, at \$3 to \$3.50 per ton.

Straw.—Only eight loads on the market to-day, at from \$6 to \$7 per ton.

Dressed Hogs.—The receipts were barely sufficient for the demand; the market steady, with sales quoted at \$6 to \$6.35 per cwt.

Butter.—The receipts of all sorts of butter are small; the demand for choice dairy good; prices are firm at 17c. to 18c. for large rolls. Creamery is in good demand; very firm at 22c.

Cheese.—Steady; prices range from 8 1/2c. to 9c.

Eggs.—The receipts of new laid are more liberal; there is a good demand; the market a little lower, at 14 1/2c. per dozen.

Poultry.—There is a good demand for fresh dressed stock; the market is firm at 12c. to 12 1/2c. for turkeys; 50c. to 65c. per pair for chickens; supply not equal to the demand.

March 11th, 1898.

Chatty Stock Letter from Chicago.

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

Table with columns: CATTLE, Extreme Prices, Top prices (Two weeks, 1897, 1898). Rows include 1500 lbs. up, 1200 @ 1500, 1000 @ 1200, 800 @ 1000, Fed Westerns, Stockers and feeders, Fat cows and heifers, Calves, Bulls, Texas C. & B., Corn-fed Texas.

SHEEP. Native, Western, Lambs.

In a general way the live stock interests have not been in as good shape for many years.

The U. S. Government report on the amount of live stock in the country is out, and contains some surprising facts.

The following table showing the number of cattle, hogs and sheep in the United States, January 1 of each year for the past ten years is of interest:

Table with columns: Year, Cattle, Hogs, Sheep. Rows from 1889 to 1898.

The report makes the hogs 39,750,000, a decrease of 850,000; the oxen and other cattle, 29,364,000, a decrease of 1,244,000; and the sheep, 37,656,000, an increase of 838,000. The number of cattle is 9,000,000 less than six years ago.

The hog supply is the smallest since 1881, when there were 36,227,603 reported, and 7,000,000 less than the yearly average for the sixteen years since then. Not only that, but the number of hogs reported is 1,715,000 head less than the average for twenty-three years previous to this year. As some one says: The hog receipts at the principal cities have never shown any relationship to these January 1 supplies as reported by the Government.

An authority on the cattle situation says: From present indications there will be a wider range of prices in the cattle market. The supplies of strictly good kind are so small that buyers are having great difficulty in filling orders, while the offerings of low-grade sorts are proportionately large and the demand for them is very weak. As there are very few choice cattle coming or in the country to come, the range of prices between poor and prime beefs is bound to be very wide. While the prices at which choice young feeding cattle sell seem very high, it looks as if this might be one of the most profitable summer feeders have had in a long time. There is no question about the demand being very good and there is not much question about the supply being very small. While the market will doubtless be filled with medium and "pretty good" cattle, we do not think there will be many days when there are too many really good ones to meet the demand.

The marketing of calves is decreasing. Calves received at Chicago the first two months of this year, 10,277, against 11,766 a year ago, and 15,284 two years ago. The supply in the country is not large, and owners are not so willing to have them converted into veal as they usually are. While the best cattle lately offered sold at \$5.85, buyers said they would be glad to give \$6, or even \$6.25, for strictly fancy cattle.

The hog situation is not so strong as it was. Receipts at the big markets are not large, but there is a bearish feeling just now among packers that is hard to understand. They seem to think there is danger of hog prices getting too high. Present prices for hogs are about 25c. to 30c. below the extreme high prices of the season.

The decrease in sheep supplies throughout the country is stronger than it has been in many years.

The horse trade is in very healthy condition, and prices are stronger all along the line, with not enough good ones to meet the demand. The long depression of the past six years has been a valuable school to horsemen, the oversupply has become exhausted, and an active movement has started in all sections of the country to return to horse breeding. The prices for plugs and scrubs are stationary, but prices for good horses show liberal improvement. The future profits in the industry will be largely controlled by the quality and not the quantity of the offerings. The good horse is high, and unquestionably will be still higher in the near future, but inferior grades should be eliminated from the problem. To him who sows the good seed a bountiful harvest is assured, and at no time in the history of the industry have greater inducements been held out to the breeder to raise fine horses for home consumption and exportation.

TIVERTO

"I've come, Judge, one on earth don't know like this. 'Tain't often comfort and luxury. 'What do I know Judge, time they open found the bank vault not a dollar gone. I've got you in a talking but never been no one but me.

"I brought some p all written down, and want them never used comes up as would me if I had a good a right have 'em too. I wasn't fair means seemin' to."

"Yes, Judge, I prospered fairly in a with me for some time Lord, but it was a give it up as a fact and out then, the old little ones.

"Then, Lord know for the sake of my wh thing and came here over again. I don't see opposite the bank 'long as I didn't see them and I'd hu be crazy for a while 'bout my old pals get."

"Time came, tho' early, and to feel my old life begun ter me all fixed up. I thought."

"Then they come 'plotted they were breath away. The nothin' wouldn't do it they wanted."

"The biggest I Durked come on to ex Durke, the new mill and the money for I warn't anything else havin', and me bein' I do think the great iron door sleep, and just out taters by mornin' to lay 'in' to keep me out."

"Lord, it makes me think of it. 'Tis a see, them hunch best part of it people, and the mill worked in the mill, he's sick. Christmas warn't a bank officer even to the watchmen somehw. I'm bound to rob her but comin' just when I and all. 'Twas awf'ly was rented to start solemn as my name out and give 'em pol to be cautious."

"They found out 'gred on the night mapped out for 'em boards of the floor through and lower come. Then yer see the great iron door."

"Everything w money was paid. 'Do you hear t ten years ago to-n wind a perfect hoo might for any sort of 'Twas a fortune sur to comfort and safe excited. Nothin' ha but there warn't no."

"We had plann to blow open when I his fire. I knowe often from my hous the bank; but to r could give the signa man downstairs and ry below us, 'twas human to hear us."

"'Twas planned, me and one of the lanterns and tools a and be on hand to t."

"Lord, but it w and after I had exa dangers better than and lowed the h vault. 'Twas well worth much if any."

"Tom Doolan he half way down he whispe: 'Who called m

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,

Now for another free and easy little chat. Draw in your chairs close to the fire and let us all be cosy together. And what shall be the subject of our conversation this time? I have been thinking very much lately about what our parents have done for us and how much we owe them. What a great deal they sacrificed for us when we were babies! How many pleasures and enjoyments did they relinquish for their children! And we never thought of it, or if we did think of it as we grew older, we took all their love and care as a matter of course. How many nice things could mother have had if little Mary had not required a new coat, or a dress, or a schoolbook! And father could have subscribed for a new paper perhaps if wee Jennie had not been in want of new boots. What pinching and scraping there was to have "the bairns" all right!

And now look at the other side. Can we repay all this? Is any sacrifice too great to make for those who cared for us during all these years of childhood and helplessness? I think not. Though we were to give up ever so much for our dear parents we could not overdo it. It is our duty and our privilege to cheer our dear ones in every way that we can. No one can do for father and mother what their own children can do, so let us see that we do all the loving things we can think of, especially when they become old and not able to do for themselves. I read somewhere recently a nice little article urging girls to be kind to their fathers. It is said that very often the father was looked upon merely as the bread-winner—the one to supply the needful—and his likes and dislikes were never thought of for a moment. It went on to say that when father comes home at night, tired after a hard day's work, and asks for his paper, sometimes it is refused, as one of the family has it, or it is tossed to him with a frown and a grudge. Or if he asks for some soft, soothing music, he may be entertained to a noisy, rattling performance which will only irritate the tired-out nerves. Surely none of my nieces do these ungrateful things. Think of what you can do to make home a pleasant resting-place for father in the evenings—to let him have every comfort possible. Give him the cosiest chair, his paper, and his pipe, and all the little attentions you can think of. Girls, be good to your father.

And be equally good to your mother, for she is just as deserving. Take as many of the daily cares and worries off her shoulders as you can. As you grow up she will fail in strength, and there is your chance of showing yourself a loving daughter. Some mothers are not patient in sickness, but it is a daughter's duty nevertheless to be just as kind and loving as possible. Overlook or make excuses for any little unpleasantnesses which may arise—she may be in pain, or be weary, or thinking of other days. Try on your part not to give way to impatience, by remembering her self-sacrificing love and care for you.

Besides, you do not know for how short a time you may have the chance of showing your love. Sooner or later both father and mother will be called away, and if you have been dutiful what a comfort for you to know that their declining years were rendered happier and easier by your attention, that you have nothing to regret. Can you fancy what it would be to cry from an aching heart, "Oh! if only they were back again what would I not do for them. I might have acted far differently towards mother and studied to please her more, and I might many and many a time have cheered father's heart by a little consideration, and now my opportunity is gone forever!" Girls, it would be a life-long regret, and I earnestly trust that each and all may be delivered from such a sorrow. Now is the time; if you have not already begun, begin to-day, and you will never regret it.

Long, long ago, when I was a little girl at school, there was a poem in one of my schoolbooks entitled "Be Kind." I have never seen the verses since, and have forgotten nearly them all. However, I have ransacked my memory, and at last found a little bit of the poem. It was very hard work indeed trying to recollect. (When you come to be as old as I am and have to think so far back you will know just how hard it is.) Perhaps some of you know the piece, and it so perhaps

somebody will be good enough to send me a copy of the verses, and I shall be very glad. Here is all I can remember, and isn't it beautiful?

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

Be kind to thy father, for now he is old,
His locks intermingled with gray.
His footsteps are feeble, once fearless and bold—
Thy father is passing away.

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

Well, I suppose we shall have to break up our cosy little circle for the present, and hope soon to meet again for another little talk. Good-bye, my dear nieces all, and don't forget the words of—
Your loving old auntie,
MINNIE MAY.

"A Sure Catch."

A picture with which the majority of our readers are familiar, and which is certain to be a favorite with most sportsmen, is "A Sure Catch." A long way has that relentless hound pursued the timid deer, and now the steps of the latter are beginning to falter, his eyes have become suffused with blood as he strains every nerve to outrun his cruel enemy. But his supremest efforts are all in vain, for from the moment when the dog first got scent of the young deer, it was a foregone conclusion that he would not give up the chase until he had succeeded in making "A Sure Catch."



A SURE CATCH.

THE CHILDREN'S CORNER.

DEAR CHILDREN,—

It is a long time since we had a competition. Shall we have a nice, easy one now? We want a new heading for the Home Department, and will give two cloth-bound books to the person sending in the most suitable design. The pictures need not be original, you understand, any suitable clipping will do. Send as many as you like, being careful to write your name, age and address on each. They must be in this office by the end of May. Address: Home Department, FARMER'S ADVOCATE, London, Ont.

This competition is open to any reader of the ADVOCATE who is under sixteen years of age. I hope you are all working at the Great Canadian Puzzle. You can surely make out eight questions at least and win the pin, even if you fail to get the larger prizes; and it cannot be difficult to get one new subscriber. Many farmers are needing the help of the ADVOCATE and do not know it. Let them read a few numbers and see if they are not delighted with it. Now, keep your eyes open, and you may soon discover, smiling down upon her little paper friends, a picture of

COUSIN DOROTHY.

Tommy, the Beach Cat.

Tommy, the beach cat, sat watching a rat, and Barbara sat watching Tommy.
Barbara had named Tommy "the beach cat," because he had been found wandering on the beach. Suddenly the rat vanished through a hole. Tommy bolted after, but Barbara made a rush and caught him by the tail just as he reached the hole. To her surprise this hole opened wide enough to let

her through, and she found herself in a neat but curious little room.

"My dear friend," said Tommy, politely, "I wish you to stay with me for a time and lead a cat and dog life."

"But," said Barbara, "I have always heard that a cat and dog life was very unpleasant."

"No, indeed," Tommy replied, smiling, "but you shall see for yourself. Say no more."

Barbara said no more, but sank on a soft rug that lay near, to try and decide how it was that so sudden a change had come over Tommy, and why it was that he was able to talk—a thing which he had never done before.

"I have long wanted to tell you that I am a cat of high descent," went on Tommy, stroking his whiskers in an elegant manner. "On one side I am descended from Puss in Boots, who was a friend of the Marquis of Carrabas; on the other side was the cat of old Dame Trot—one of the most famous cats of history. That cat which helped Whittington, lord-mayor of London, was also an ancestor of mine."

"Dear, dear," cried Barbara, "I hope you'll excuse me for taking hold of your tail in that rude way."

"Don't mention it," said Tommy with a wave of his paws. "I wouldn't think of laying anything like that up against a friend."

"Did you ever know the cat o' nine tails?" asked Barbara.

Tommy rubbed his paws in great amusement. "That, my dear Barbara, is quite a different breed of cats," he said loftily.

Just then the door was flung open and a host of cats and dogs rushed in.

"What is the matter?" said Tommy. "Don't you see there is a lady present? You should be polite."

"Haven't you heard?" shouted all his friends together. "Why, a new law has been passed forbidding cats to look at kings."

A yowl of rage went up from all the cats. Tommy tore a pawful of fur from above his ear.

"What a catastrophe!" he cried.

Barbara ran up to him and threw her arms around his neck.

"It is a right we have never before been denied," sighed he.

"Yes," remarked a dirty little spitz, "even a cat could look at a king."

"But now," added a stylish black-and-tan, "they are to be blindfolded whenever a king passes."

"And the king passes to-morrow," chorused the cats.

There was perfect silence for some minutes; then Tommy said: "Barbara, do you happen to have a black ribbon in your pocket?"

Barbara found one, which, at a sad motion from Tommy, she tied around his neck in the place of the pink one he was wearing.

"But come," said the beach cat, drying his eyes on the corner of her apron, "let us be as merry as we can. Shall we take a walk in the graveyard?"

Soon all the cats and dogs were ready and Barbara and Tommy led the company. Barbara was very small for a girl and Tommy was very large for a cat, so they were nearly the same height.

"I always take a walk in the cemetery when I can," remarked Tommy, "it soothes me so."

"Rubs your fur the right way, so to speak," said a black cat.

The cemetery was very well filled. The headstones stretched in long rows down the yard.

"All killed by care," said Tommy, pensively.

"Care is fatal to cats."

"And have none died from anything else?" the little girl asked sadly.

"Well," said Tommy, "I hope you won't feel hurt if I tell you that boys and girls are responsible for a good many of their deaths."

"You don't mean that the tin cans we tie on their tails kill them, do you?" Barbara asked, blushing very red.

"No; not that. Worse than that. They never take a swing on a summer afternoon that they don't let the old cat die. I have seen six or eight little children do it one after another, and I have sat by weeping to think how many of my dear friends were perishing."

"But," said Barbara, getting closer to the beach cat, "I don't see how that could hurt your friends. We don't mean anything, you know."

"The only thing about it is that it is necessary to kill each of us nine times before we really stay dead. Otherwise this graveyard would be overflowing."

"What do you killed?" inquired
"We fall into
on a catafalque for
time we feel as w
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first or second sta
Barbara yawned
her.

"I think I ha
home," she said.

"I should like
catamaran," said

"I should like
there is hardly ti
So she said go
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In Thee is my help

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"What do you do the first eight times you are killed?" inquired the little girl.

"We fall into a state of catalepsy and are laid on a catafalque for nine days. At the end of that time we feel as well as ever. The cats that caterwaul and commit other cat crimes are only in the first or second stage of life."

Barbara yawned as wide as her mouth would let her.

"I think I had better go back to my mamma's home," she said, "she might be getting lonesome."

"I should like you to stay and have a ride in our catamaran," said Tommy, politely.

"I should like to," Barbara replied, "but I think there is hardly time."

So she said good-bye to all the cats and dogs, and invited them to spend a day with her in boy and girl land. Just then she felt a dreadful pain in the head. She screamed at the top of her voice, and then she heard mamma saying:

"Why, this poor child has fallen right out of her chair on the floor! Poor little thing! Let mamma rock you to sleep again."

THE QUIET HOUR.

Only in Thee.

Fain would I be gentle, whatever betide,
And meek, unresisting, returning no word
In haste or in anger to those at my side
Who may grieve or annoy me. Thy gentleness, Lord,
Bestow on Thy child, that her looks may be fair,
And mildness distill from her speech, and her care
Be laid at Thy feet; for whatever it be,
In Thee is my help, Lord, and only in Thee.

Fain would I be faithful, so daily to prove
To those whom I meet that my life has a spring
Abundant in beauty and precious in love,
And that close to the Vine in my earth-life I cling.
Fain would I be faithful, nor follow afar,
Fain would I abide where Thy chosen ones are;
My Master, my Saviour, be gracious to me,
In Thee is my help, Lord, and only in Thee.

Fain would I be cheerful, and sing as I go,
Uplifting Thy praises through darkness and dawn;
Fain wear a white robe, not the garment of woe,
And joyously, blithely, and gayly go on.
O bid me to triumph and smile through my tears,
O crown me a victor o'er trials and fears.
My Master, my Master, my joy is in Thee,
In Thee is my help, Lord, and only in Thee.

-Margaret E. Sangster.

Reflected Light.

The morning sunlight shone through a stained-glass window, and fell upon the oak panels of the pulpit platform opposite. The wood was opaque and hard, and did not compare in value with the beautiful colored window, but it gave back the light of the morning from its polished surface, in prismatic hues that were fair to see.

There were many in church that day who sat with their backs to the lovely window, but they could not help seeing the bright reflection of the light that came through the glass. They could not help knowing whence it came, as they looked at the oaken panels, glorified with color.

Is it not sadly true that, in a deeper sense, many stand with their backs to the light? They do not see, for they will not look at the radiant shining, nor turn toward its source. How then shall they know of its existence, and see and feel its beauty? It is possible for those who face the light to give back its bright reflection in such wise as to convince beholders, who can but see them in life's intimate association, that there is brightness somewhere. Is not this infinitely worth while?

It is not essential that the reflector be of delicate and rare material. By nature it may be dull and hard; but it may be polished, and it may face the light and give it back. No one can add one ray to the glorious Sun of Righteousness, and there is no need for an added ray, but the lowliest follower, in his own appointed place, may receive and reflect His beams. Those who see the prismatic beauty of love, gentleness, patience, pity and forbearance, kindness and courtesy, will know that the true Light is shining, as the human lives that could never originate the rays radiate their brightness.

"If no kindly thought or word
We can give, some soul to bless;
If our hands, from hour to hour,
Do no deeds of gentleness;
If to lone and weary ones
We no comfort will impart—
Tho' 'tis summer in the sky,
Yet 'tis winter in the heart!

If we strive to lift the gloom
From a dark and burdened life;
If we seek to lull the storm
Of our fallen brother's strife;
If we bid all hate and scorn
From the spirit to depart—
Tho' 'tis winter in the sky,
Yet 'tis summer in the heart!"

Social Failings.

Beware of doing harm in society. Yes, the word may be a strong one, in reference to the social gatherings of a little neighborhood of professed Christians; strong, yet not too strong. Pride may come there. Our Saviour noted as one of the crying sins of the Pharisee his love of the "chief rooms" (places) at feasts. Beware of those false disciples who love the foremost seats in church and the chief places at feasts! And vanity may come there. Vanity of dress, vanity of face, vanity of manners, and vanity of conversation. We come, not to give pleasure, but to please. Souls have been lost in society. To be a good talker, to be a

clever jester, to be a pungent story-teller, to be a desired element in general conversation, these things have become an ambition, an aim and goal of life, just as others have found it in riches or in honors. Pride may come, and vanity—and alas! charity may not come here. It comes not, or it stays not, where scandal is; where discussion of other men's matters, other men's conduct, other men's characters is; where idle tales, purposeless at best, probably but one-third true, more than possibly false to the core, are retailed, commented upon, laughed over, though the appearance of the person discussed would instantly silence and abash the loudest!

"What do we know of the souls that pass us?
What do we know of the heart within?
Only the Master above can class us,
Whether our lives are pure or of sin!

"For it is ever the same old fashion
To hide away in some corner dim
The pain and sorrow, and love's vain passion—
What do we know of the heart within?"

"Ah, only this of its gloom or glory,
For there at the last the veil grows thin:
The tomb nor the sod are the ended story
He holds the key to the heart within."

Christ came to minister, not to be ministered unto. The follower of Christ who is willing to enjoy his religion all by himself has failed to catch the significance of Christ's example.

A Christian man's plain duty is not so much to answer the question, "How can I get the most out of my religion?" as "How can I conduct myself so that others may get the most out of my religion?"

Many Christians, in a very important sense, will go to heaven alone. Others will there be surrounded by scores whom they have pointed to the Saviour. The first class will have been saved, but without having saved others. The second class will bring sheaves with them.—Dean Vaughan.

Puzzles.

[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 envelopes 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-ANAGRAMS.

Last night I got the ADVOCATE,
And sought at once our corner.
It surely was quite up to date,
And fit for small NAJH ROCKER.

For cousins hitherto unknown
Have joined our merry band;
And should there be in it a drone,
He'll scarce have room to stand.

Yet to all those whom YEN WARE brought
To fill our merry column,
O cousins MERE RIMER THERE HOT
Is greeting far too solemn. "KIT."

2-PICTURE REBUS.



W. S. BANKS.

3-RIDDLE.

Of sixty diamonds am I formed,
A fabulous collection.
I am a jewel good and true
As any in the nation.
Some of us are bright and fair,
It depend on how you see us;
But often in your blank despair
You wish that you could feel us.

W. S. BANKS.

4-NUMERICAL.

1, 2, 3, 4, 5 is to cause to move quickly.
2, 3, 10, 11 is a small animal.
1, 7, 5, 3, 4 is to utter a sound.
6, 7, 8, 9, 10 is a weapon.
10, 3, 4, 11 is an agricultural implement.
7, 8, 9, 10 is a fruit.

B. N.

5-CHARADE.

A poor whole being asked why she went in such rags,
answered: "Two, three, one." "KIT."

6-NUMERICAL.

"Madam," said I to the landlady, "have you any desirable 1, 2, 3, 4, 5 left? I see that you have a comfortable house and one of the best 1, 3, 4, 5, 6 in town, and as I am a man of no family and but few 4, 3, 3, 6, I should like to find a home-like place where I might stay, at least while awaiting the 3, 6, 1, 2, 5 of a course of litigation which will keep me in this part of the country until the 6, 2, 3, 4 is settled or the man who 1, 2, 5, 6 me is dead. May I ask in regard to your table?"

"My table," replied she, "is of the very best. My cook 2, 1, 5, 6 eggs, butter, 1, 2, 5, 4, sugar and cream freely. There is not a boarder who 1, 3, 4, 6 at my table but will tell you that the food 1, 2, 3, 4, 6 and 1, 5, 4, 6 well. One, indeed, whom I sent away for not paying up, undertook to speak ill of my table, but all who know the case understood that what he had to say was only a 4, 3, 1, 6, 2, 5 of misrepresentations." "OGMA."

7-

I'm a savage, fearful to behold. My head is twice as large as my body, and my body is five times as large as my foot. My head is divided by nothing from my body and nothing separates my body from my foot.

8-LOGOGRIPH.

Whole I am what you do in business,
Transpose me and I am a heavy metal,
Curtail me and I am a meadow,
Transpose me again and I am a beverage.

MURIEL E. DAY.

9-ILLUSTRATED REBUS.



"MADGE."

10-CHARADE.

When ONES are still the TOTAL's trill
Does cheer the watcher weary,
But oft TWO ONE when skies are dun
THREES make the watch seem dreary.

"KIT."

11-NUMERICAL ENIGMA.

My 7, 9, 5 is very warm.
My 8, 7 is an exclamation.
My 1, 2, 3, 5 is to chat.
My 10, 8, 5 is an animal.
My 7, 11 is a pronoun.
My 11, 13, 6, 4 comes from the sun.
My whole is a river in United States.

HAZEL.

12-CHARADE.

1. An abbreviation for an assembly of persons.
2. A secluded female.
3. A musical instrument.
My whole is something found in this department every week.

13-DECAPITATION.

Behold a trick and leave to engrave;
Behold to sell and leave to perfect;
Behold a hunting dog and leave a bird of prey;
Behold a ringing sound and leave slender;
Behold a rebellion and leave to argue,
Behold more than one and leave a tune.

"DICK."

14-CHARADE.

This is Mr. B.'s TOTAL where he works to make a profit ONE TWO.

Answers to Feb. 15th Puzzles.

1-Do you think, O blue-eyed banditti,
Because you have scaled the wall,
Such an old moustache as I am
Is not a match for you all. -Longfellow.

2-S T A M P

T O P E R 3-King's-ton.
A P P L E 4-Ottawa; 2. Hamilton; 3. Quebec; 4. Halifax; 5. St. John; 6. Fredericton; 7. Winnipeg; 8. Regina; 9. Battleford; 10. London; 11. Victoria; 12. Selkirk; 13. Vancouver; 14. Kingston; 15. Belleville.

5-Afghanistan.
6-Macleanfield, Spencer, Trent, Adriatic, Scandinavian, Maracaybo, Northumberland, Wentworth.
7-Sat-is-fact-ion.

8-Adelaide Armand. A mistake having been made in printing this puzzle it will not be Lily Day.

9-Sucker, pike, carp, bass, rock, cod, cat, white sole, sardine, perch, sun.

10-A wet sheet and a driving gale,
The wind that follows fast,
Shall fill our white and rustling sail,
And bend our gallant mast, my boys,
And bend our gallant mast, my boys,
While like an eagle free,
Away our good ship flies, and leaves
Old England on the sea,
Old England on the sea. -Cunningham, Poet.

11-Wilfred Laurier, Wakasa, Union City, High Bluff, Barcoo, Lorne, Whitby, Rossland, Caspian, Mr. Moody, Arthabasca, Kirriemuir.

12-P-air
R-at
N-one
C-one
I-deal
L-ore

13-1. The Crimean War.

2. The Indian Mutiny.

3. The Repeal of the Corn Laws.

SOLVERS TO FEB. 15TH PUZZLES.

"Kit," "Lulu," Chris. McKenzie, "McGinty," "B. N.," Ethel McCrae, "Hazel," Muriel E. Day, "Madge," L. Moorhouse, Alice C. L. Gordon, Pearl Mothersill, "Brownie," "Bell," Minnie Dunseith, "Amy," Mark A. Allen, Mary J. Danna, Olive B. Trull, Eliza Percival, H. Fennell, Maggie E. McKenzie, Maggie M. Wilson, Ethel Ross, John L. Goodall, Nellie Cochran, Florence Rutledge, J. A. Macdonald, Alice James, Christopher W. Bartlett, H. S. Sweet, Nellie Bell, "Dick," Esther F. Bartlett, Lillie McNaughton, Effie Stewart, T. McKim, Maggie W. Scott, "Puss," Also Ethel McCrae and "Muggins" for Feb. 1st.

COUSINLY CHAT.

DEAR COUSINS.—There has been such an influx of new friends that it is impossible to welcome them individually, so I will ask all to accept the general welcome always awaiting those who wish to join our happy Corner.

"Amy."—Please send your proper name too; I shall only publish nom de plume when so requested.

"Muggins."—Notice that a square word must spell the same down and across, from beginning to end.

L. M.—I think you forgot to sign your name, so I guessed from writing and post mark whose paper I received; but 'tis easy to make a mistake.

"Muriel."—Do not think your surmise is correct regarding that person. Yes, I referred to photo. Do try and "give me one. Will use your other puzzle next time.

"McGinty."—Cannot use your rebus, little lad. Try again, and by all means send me the letter.

We are very pleased to hear that such a large number of our subscribers are interested in the Canadian Puzzle. Several very good answers have already been received, which we have placed in our safe until the close of the contest. Pins are being forwarded daily to the lucky winners, and many of the recipients have written to say they were delighted to receive such pretty and useful gifts. As soon as you solve eight answers send them in, with the name and address of a new subscriber, and secure a pin at once.

JAMES WINRAM, Pilot Mound, Man.:—"I wish to say that you deserve the support of every farmer in the country for your efforts to give them a first-class paper. Wishing you every success."

**Churn
Churn
Churn**

Does your butter work to "a paste" before the salt you use dissolves?

Poor salt spoils what might be good butter. A sharp-grained salt is practically insoluble.

Windsor Salt dissolves easily—it is "taken up" in the butter with very little working. Progressive grocers sell

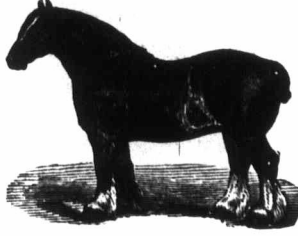
Windsor Salt.

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

Credit Auction Sale!

ON THURSDAY, MARCH 31st, Of thoroughbred Holstein-Friesian bulls, cows and heifers; also Holstein, Jersey and Durham grades, comprising all my herd of nearly 40 head. Also all other farm stock and implements, at
"SPRINGWOOD FARM,"
Lot 31, Concession 4,
NASSAGAWEYA, HALTON COUNTY.
Three miles south of Rockwood, G. T. R.
Sale to commence at 12 o'clock. Terms—8 months credit on approved joint notes, 5 per cent. per annum off for cash. Positively no reserve, as farm will be sold or rented. Riggs to meet train at Rockwood.
Ernest L. Norrish,
Proprietor, Rockwood.
Ingram & Heffernan, Auctioneers.

Clydesdales for Sale.



- 1 Three-year-old stallion by Imp. Queen's Own, out of Imp. Candour, by Macgregor.
 - 1 Three-year-old (imp.) stallion by Prince of Millfield, out of Connie Naira, by Prince of Wales.
 - 1 Four-year-old stallion by King's Own, out of Imp. Candour, by Macgregor.
 - 2 Imp. two-year-old stallions by Prince of Quality, out of imported dams.
 - Also several two-year-old fillies.
- These animals are all large size, good quality and sound. Terms reasonable.

ROBERT DAVIES,
Thorncliffe Stock Farm, TORONTO, ONT.

Clydesdales!



We have several imported Clydesdales 8 and 10 years old for sale at moderate prices. Some of them in foal to Grandeur. An imported Hackney mare in foal to Square Shot. Also Ayrshire bull and Heifer Calves. Write for prices or come and see
D. & O. SORBY,
—om GUELPH, ONT.

ADVERTISE IN ADVOCATE

GOSSIP.

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

P. R. HOOVER & SON'S TAMWORTHS.

Our Central Ontario trip brought us to the enterprising firm of P. R. Hoover & Son, Green River, whose Tamworths are introducing themselves far and near among patrons of the FARMER'S ADVOCATE. The herd numbers some 30 head, seven of which are sows in pig or suckling litters. The herd was established from Bell & Revell stock in 1894, and to-day amongst the brood sows are to be found such animals as Juliette 2nd 635, Juliette 3rd 636, by Romeo 363, and out of Juliette 513, a pair of sows two years old and carrying their fourth litters, which are true in conformation, having long, deep bodies, with sufficient substance of bone. Three beautiful, well-proportioned sows under a year and ten of both sexes go to make up the herd, which are the progeny of the Juliettes. The present stock boar, O. A. C. 419, No. 692, by Royal Prince 508 (a Hamman-bred pig), and out of Peggy 458 (bred by J. L. Revell), was purchased at the annual Agricultural College sale. He was farrowed March 14th, 1897. He is smooth and well-proportioned, well muscled, with grand depth of sides, hams and shoulders splendidly set on, and has sufficient bone and usually quiet disposition. His owners regard him as a valuable addition to the herd, as he will combine good breeding with a set of strong good sows. Bob Ingersoll 173, by Buffalo Bill 143, dam Daisy 147, was farrowed March 16th, 1894, and has been used in the herd two seasons and proven himself satisfactory, and from him the firm offers some choice three months boars and sows as well as younger stock. Enquiries since the 1st insertion of their advertisement in the FARMER'S ADVOCATE have been on the increase monthly until at present the firm is known hundreds of miles from home, and from what we see and believe the patrons once gained by them will remain with them as long as they remain in the business, if honesty and conscientiousness count for aught. And in the near future, from what we heard, we will not be disappointed if we see a magnificent up-to-date piggery, which is now under consideration.

D. BENNING'S AYRSHIRES, LEICESTERS, AND BERKSHIRES.

Glengarry County is noted for many points of excellence over its adjoining territories, but in no way does it excel to a greater degree than in its dairy pursuits, especially in its herds of Ayrshire cattle. Many noted and worthy breeders here make their home, but none are credited with more foresight and judgment than the one we now have under consideration. Messrs. David Benning & Son, Williamstown, have always taken an active part and made a careful study of their chosen breed, with the result that their name has gone abroad as far as the best bred and recognized, and to them is due the credit of having from time to time produced some of the best showing winners. Recent sales have reduced the herd to some thirty animals, seventeen of which are cows in calf, and at the head of the herd stands the royally-bred sire Saladin 6959, by Sire King 5809, and out of imported Doocy 3224. The estate in which he has been held by his owners has held him in the herd for four years. Among the matrons might be mentioned such cows as Floss 3897, by Scottie 3886, and out of Mayflower 1469, a cow possessing highly prized qualities in the dairy, and her prize-winning calves regularly, her only remaining daughter in the herd being Pessara 5984, by Duke of Parkhill 4667, now four years old, a cow in possession of true dairy qualifications, with an abundance of substance, and gives one the impression of being a worker. She has produced two calves, Jennie of Williamstown, by Scottie 3886, and out of Jessie 3176, is eight years old, and has been a worthy feature in the herd, her udder stamping her as a dairy cow of high order; her three-year-old daughter, Williamstown Belle 7026, by Duke of Parkhill 4666, being one of the herd, and promises exceptionally well, being neat in appearance with a decided amount of substance where it indicates strong constitution. The two-year-old, Lass 7988, by Saladin 6959, and out of Buttercup 4904, and White Flo 7987, by Saladin, and out of Flo 3887, are looked upon with pride by their breeders. They are fashionably bred, fashionably constructed, and businesslike in the extreme, with the grandest of constitution. In the showing Mr. Benning has always taken a prominent part, winning his share of the honors, especially so in the younger classes in 1896, at Montreal, winning first, second and third on heifer calves; first, second and fourth on bull calves; second on yearling bull, and second on two-year-old heifer, being all the animals that he exhibited in 1897.

A flock of Leicesters are owned here. The original females were personally imported. The sires have mostly been from the flock of John Kelly, Shakespeare, and none but the best bred and best individuals have been purchased. All are kept recorded.

In Berkshires we saw a very worthy sire, of good size, perfectly marked, and kept in strong, serviceable, vigorous shape; also a choice sow, a year old, lately purchased from Mr. Geo. Green, which adds much to this department.

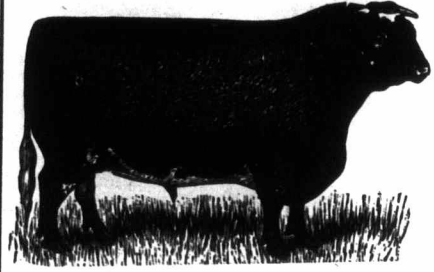
DEATH OF A NOTED SHROPSHIRE RAM.

Mr. A. E. Mansell, of Harrington Hall, Shifnal, has sustained a great loss in the death of the noted Shropshire ram Montford Dreamer 7622, bred by Mr. T. S. Minton, and purchased by Mr. Mansell in 1893 for 175 gs. The pedigree of this ram is as follows, and shows the value of close breeding in certain cases: Sire, Marquis of Meole 4072; dam by Marquis of Meole 4072; g. dam by Blue Blood 1360, the sire of Blue Blood Yet, the champion ram of America. The record of this ram as a sire is most remarkable. In three years Mr. Mansell has taken four prizes at the Royal and the near-by Royal shows of his, and besides this, at the Royal in 1895 the three first prize ram lambs were by him; in 1896 three of the first prize shearling rams and two of the second prize ram lambs were by him; and in 1897, besides the first prize and champion Royal winner being by him, two out of the second prize pen of shearling rams and one of the second prize ram lambs were by Montford Dreamer.

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, 280 Powers' Block, Rochester, N. Y.

Arthur Johnston,
Greenwood P. O. and Telegraph Office,



—OFFERS FOR SALE—

FIFTEEN SPLENDID YOUNG BULLS.

—ALSO—

Cows and Heifers,

As good as the old bull ever left.

Berkshires OF CHOICEST BREEDING AND QUALITY FOR SALE

Send for Catalogue and prices. "No business, no harm," is our motto. Claremont C. P. R., or Pickering G. T. R.

Shorthorns & Leicesters

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.

YOUNG STOCK FOR SALE.

E. Gaunt & Sons, ST. HELEN'S,
Lucknow Station, G. T. R., 3 miles. om

FOR SALE! Good Young Cows

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

H. C. GILL & SON,
Station on the farm, Cargill Sta. & P.O., Ont.

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

Telegraph office, Burlington Station, G. T. R.

BREEDERS Shorthorns, Shropshires, and Berkshires

Ten choice young bulls from 9 to 12 months, extra good quality, got by "Indian Statesman." A choice lot of yearling ewes (served by an imp. ram), due to lamb in March and April. Also eight young sows, due to farrow in March, and a few boars from four to six months old.

Farms one-half mile and one and one-half from Burlington Station, G. T. R.

Spring Grove Stock Farm

Shorthorn Cattle and Lincoln Sheep. The noted sires, Golden Robe = 20396 = 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.**

ASHTON FRONTVIEW FARM

A. J. WATSON, CASTLEBERG, ONT.
Shorthorn heifers, by Statesman; and Berkshires 8 weeks old, by Baron Lee; also one Baron Lee boar 10 months old.

Clydesdales.

4 CLYDESDALE STALLIONS for Sale. Prize-winners in Scotland and Canada. For price and particulars, write or call.—om **JAS HENDERSON,**
Kelly Siding, G. T. R. Belton, Ont.

For Sale the Imp. Clydesdale Stallion

Hurworth (G.S.), Vol. 9, B. C. S. B. Will sell cheap. For price write to—om **FRANCIS RUSSELL, Cedarville, Ont.**

SALE OF HORSES AND CATTLE!!

Mr. M. Howson, of Ashgrove, Halton Co., will sell on March 15th, at 12 o'clock, his noted Clevedon Bay carriage horses, including brood mares, geldings, and colts. Also cattle and sheep.

SHORTHORNS

Bulls and heifers, having gilt-edge pedigrees, and of superior quality.

C. A. BRODIE,
Bethesda P. O., Ont.

—1855 TO 1897—

Willow Bank Stock Farm

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.

JAMES DOUGLAS, Caledonia, Ont.

SHORE BROS.,

WHITE OAK, ONT.,

Have 4 very useful SHORTHORN BULLS still FOR SALE.

Prices very moderate. Write for particulars.

2 Shorthorn Bulls 2

Of Canadian Duchess of Gloucester and Lavenor breeding, from imported sires.

Thos. Allan & Bro.,
OSHAWA, ONT.

Maple Lodge Stock Farm

Established 1854.

2 Choice Young Bulls

for sale; dams are excellent milkers.

A. W. Smith,
Maple Lodge P. O., Ont.

F. BONNYCASTLE & SONS,

CAMPBELLFORD, ONT.

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.

Shorthorn Bulls!!

2 of the best sons of the excellent Cruickshank bull Abbotsford 19146, and a very promising red bull by Calithness 22065, that looks like being fully as good as his sire. Also half a dozen good heifers for sale.

H. SMITH,
Exeter, G. T. R., 1/2 mile. Hay P. O.

OAK PARK STOCK FARM'S SHORTHORN HERD

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.

CAPT. D. MILLOY,
Paris, Brant Co., Ont.

Shorthorns, Berkshires

A few choice heifers and heifer calves for sale. Prices reasonable.

JOHN RACEY, Jr., - Lennoxville, Que.
17-1-y-o

WE HAVE Shorthorn Bulls FOR SALE.

Two young bulls and 6 heifers. Six sows and 4 hoggs, 6 mos. old. Also, Prussian fibre peas, Mensury barley and red clover seed. **E. JEFFES & SONS, Bondhead, Ont.**

FOR SALE—Shorthorn Bull, BOLD BRITAIN

—20397— bred by John Isaac Markham, sired by Golden Crown (Imp.), first-class in every respect, having headed my herd for the past three years. **F. A. GARDNER,**
BRITANNIA, PEEL COUNTY, ONT.

FOR SALE, ONE SHORTHORN BULL,

Two years old; bred by Capt. Robson, Ilderton; got by Golden Robe. Apply—om **A. MONTAGUE, THAMESFORD, ONT.**

SHORTHORN BULL

16 months, by Toftill, in poultry, we offer Golden Wyandottes, at \$1 per doz. Brouse turkey eggs, 25c. each, or \$3 per 13.

JAS. LEXON, "Park Farm," OSHAWA, ONT.

ADVERTISE IN ADVOCATE

Hawthorn Herd of

For Sale! FOUR heifers and good quality.

WM. GRAINGER & SON

FOR SALE

Three choice Shorthorn and young Cows.

—om **R. CORRIE**

MILLER &

Jersey

BIG COWS RICH PRODUCE

BOUND COWS GREEN

FULL FOUL

LARGE, WELL-

Championship yearly milk two-year-olds, as well as first prizes

187

Exposition, Toronto; West Central Canada Exposition first prize herd at New York, Virginia, Indiana, Illinois, Cotton States Exposition, America, etc.

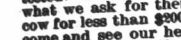
Every animal over one loaded. Our animals are what we ask for them. If cow for less than \$300. If come and see our herd. what you want. No trade.

MILLER

Special literature sent if mentioned.

—om

BRAMPTON



SUNBEAM (10673)

2 JERSEY BULLS

Fit for service, producing family.

D. H. KEENE,
Hoard's Station, G. T. R.

ONE FIRST

A. J. Sire of 1st dam, made in 7 days field, 5 4 ozs. of butter in 2 1/2 days. All Canada 4 times May (26 lbs. 4 ozs. 64 lbs. of milk a day).

J. H. SMITH &

DON JERSEY

Now offers for sale by Costa Rica cent. of fine quality. All SWINE. Young stock sale at prices that them.

Address: D

91-y-o

JOHN PULL

Breeder of choice reg. and high-grade of fine quality. All SWINE. Young stock sale at prices that them.

GLEN ROSE

WILLIAM ROLBERTS, out of tested. Prices right.

A. J. merit for particulars.

—om 2nd Con. L.

Guernsey

CHESTER DURO

At present we are

4 Richly

two of which are

pigs of all ages.

—om

Hawthorn Herd of Deep-Milking Shorthorns For Sale! FOUR young bulls and several heifers of the choicest breeding and good quality. Prices right.

FOR SALE Three choice Shorthorn Bulls; also Heifers and young Cows. R. CORLEY, Belgrave, Ont.

MILLER & SIBLEY'S Jerseys

BIG COWS HEAVY MILKERS RICH PEDIGREES SOUND COWS GREAT BUTTERMAKERS FULL FOREUDDERS LARGE, WELL-PLACED TEATS.

187 187 First Prizes and Sweepstakes won by this herd at 18 State or greater fairs. First prize herd in 1897 wherever shown.

MILLER & SIBLEY, FRANKLIN, Venango Co., Pa.

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

2 JERSEY 2 BULLS 2 Fit for service, from dams having large-producing family records. Prices right.

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.

DON JERSEY HERD Now offers FOUR young bulls, sired by Costa Rica's son. He has 75 per cent. of the blood of Merry Maiden, champion sweepstakes cow of all three tests combined at the World's Fair, Chicago.

JOHN PULFER, BRAMPTON, Ont. Breeder of choice Jerseys reg. and high-grade purebred TAMWORTH SWINE. Young stock always for sale at prices that should sell them.

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

4 YOUNG BULLS of special merit for sale. Write for prices and particulars. JOHN O'BRIEN, 2nd Cob. London Tp. London West, Ont.

Guernsey Cattle CHESTER WHITE AND DUROC-JERSEY PIGS. At present we are offering 4 Richly-bred Bull Calves two of which are from imported cows, and pigs of all ages.

Vegetables

can be raised at a profit, and the yield enlarged, if properly fertilized. Most fertilizers do not contain enough

Potash.

Vegetables need plenty of potash—at least 10%—besides the phosphoric acid and nitrogen.

Write for our books which tell all about fertilizers. They are free.

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

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.

Address: SYDNEY FISHER, Alva Farm, Knowlton, P.Q. 17-y-o

Galloway Bulls

Ranging from nine months to three years, of Anderson & McElin strain. Correspondence invited.

A. M. & ROBERT SHAW, Box 294, BRANTFORD, ONT.

Maple Hill Holstein-Friesians SPECIAL OFFERING. A grand pair of calves, viz: Sir Pieterje Tensen, son of Sir Pieterje Josephine Mechtildie and the great Cornelia Tensen; Inka 5th's Countess, daughter of my champion show bull, Count Mink Mercedes, and the advanced registry cow, Inka 5th. Calves are about seven months old and not related, are strictly first-class.

"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.

HOLSTEINS FOR SALE 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, UNSURPASSED 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.

JOHN TREMAIN, FOREST, ONT., BREEDER OF HIGH-CLASS Holstein Cattle. The stock of which being purchased from the noted herds of B. B. Lord (Sinclairville, N. Y.) and H. Bollert (Cassel). Young stock of gilt-edge breeding for sale.

Brookbank Holsteins. Champion milk and butter herd. Can sell a limited number of bulls and heifers one month old and up; some nice ones from our show herd. First come first served. Quality unsurpassed. Prices right. Write or come and see. A. & C. RICE, Oxford Co., Ont. CURRIE'S CROSSING. 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.

GOSSIP.

The Ayrshire calves advertised by J. A. James, Nilestown, Ont., in this issue should soon be taken up, as they are sired by Norman McLeod 1694, bred by Hon. Thos. Ballantyne & Son, and out of dams descended from imported stock. They are kept because of their heavy producing qualities, to supply milk to Mr. James' cheese and butter factory.

Mr. Jas. Lenton, Oshawa, offers for sale, in another column, a useful, thickly-fleshed Short-horn bull, by Toffhill Boy 22838, and out of Victoria Bell, by Victor Hugo 10132, of medium roan color and in strong, serviceable condition, and one of the kind for which there is a good and growing demand.

The Holstein and Tamworth herds of Mr. A. C. Hallman, New Dundee, Ont., were found to be in excellent and vigorous form when we called lately and looked them over. The Holsteins number some 25 animals, at the head of which is the grand bull, Flora's Sir Jacob 286, by Mavourney's Iris King 75 (dam's milk record, 75 lbs. per day; butter, 30 lbs. in 7 days) and out of Flora Jane 173 imp. (milk, 75 lbs.; 4266 in 60 days, with 21 lbs. butter in 7 days). He has proven himself a sure sire of days).

Maple Hill Holstein-Friesians SPECIAL OFFERING. A grand pair of calves, viz: Sir Pieterje Tensen, son of Sir Pieterje Josephine Mechtildie and the great Cornelia Tensen; Inka 5th's Countess, daughter of my champion show bull, Count Mink Mercedes, and the advanced registry cow, Inka 5th. Calves are about seven months old and not related, are strictly first-class.

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BELLEVILLE BUSINESS COLLEGE

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. II. SHORTHAND and TYPEWRITING—Office and Court Work. III. CIVIL SERVICE QUALIFICATIONS—Indexing, Precis-Writing, Statistics, English and French Options.

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, Rockton, Ontario.

Ayrshire Bulls!

WE offer for sale four (4) Ayrshire bulls, each one being by an imported bull and out of an imported cow, namely, one yearling, one August calf, one November calf, and one February calf.

THOS. BALLANTYNE & SON, "Neidpath Stock Farm," STRATFORD, ONT. Farm adjoins city, main line G. T. Ry.

Choice AYRSHIRES.

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

South Brant Stock Farm

T. BROOKS & SONS, Breeders of High-Class Ayrshires, Improved Chester Whites, and Pure Tamworth Pigs. In Ayrshires we are offering heifers from 6 to 18 months; bull calves from 4 weeks to 4 months. Chester boars and sows from 10 weeks to 5 months. Two litters of beautiful rams will be 10 weeks old in May, and are for sale. All we are offering are of the choicest breeding and quality. Prices reasonable. Come and see them or address—T. BROOKS & SONS, BOX 329, Brantford, Ont. Please observe change of box.

AYRSHIRES FOR SALE

4 Imported Bulls, FIT FOR SERVICE, From the best milking strains. Terms reasonable. Robt. Davies, Thorncliffe Stock Farm, TORONTO, ONT.

AYRSHIRES AND YORKSHIRES!

We have, just dropped, and more to follow, a few extra fine light colored bull calves from choicely bred cows of superior milking strains, and got by our stock bull, "White Chief of St. Anne's," a noted son of "White Floss." Also, young calves from high-grade, heavy-milking dams, and by same bull. We have in our herd imported cows and their descendants, and animals from imported bulls. We have no reserve animal—will price any intending purchaser. Young pigs three and four months old, and others just farrowed. Orders booked for any above stock or young pigs. We do not compete in low prices, but give choice stock for good prices.

ALEX. HUME & CO., Burnbrae P.O., Ont. Importers and Breeders. Hoard's Station, G.T.R. Brook Hill AYRSHIRES are still to the front. Orders taken for young stock. Speciality in bull calves. Correspondence solicited. W. F. STEPHEN, Trout River, Que.

YOU MIGHT AS WELL GO HUNTING WITHOUT A GUN As to try to grow much fruit without a

Spramotor.

Awarded Ten Diplomas, Three Medals, and the Government Contest within a year.

It's all very well to be a good second or third in a contest, but the Winner's the thing, especially when it costs less than the rest. Secure a SPRAMOTOR and spray your trees & plants, and reduce the cost of production ON HALF.



W. H. Heard, Esq., Spramotor Co., London, Ont. Dear Sir, - Another year's experience with your Spramotor pump confirms our high opinion of them.

Spramotor Co. 357 Richmond Street, LONDON, ONT. Agents wanted. Send three cent stamp for 68-page treatise.

Maple Cliff Dairy and Stock Farm. Ayrshire cattle, Berkshire & Tamworth pigs. Two bulls fit for service and 5 bull calves dropped in Feb.



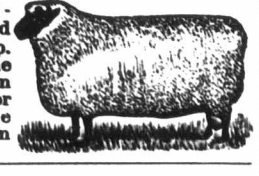
Trout Run Stock Farm. Offers one splendid young bull of the choicest breeding; B. P. Rocks, Black Minorcas, Buff Cochins and White Brahma fowls.

Wm. Thorn, Norfolk County, LYNEDOCHE, ONT. Thoroughbred Ayrshire Calves for Sale. Either sex, from good strain of milkers.

Ayrshire Bull for Sale. A good one, 10 months old; sire Max O'Rell -1783-, 1st prize Western Fair, 1896; dam Conney 2683, by imp. Castle Douglas; grand dam Countess of Earncliffe, 1st prize Western Fair.

Ingleside Herefords. UP-TO-DATE HERD OF CANADA! -ALSO- TAMWORTH SWINE. Orders booked for spring pigs. Pairs not akin.

H. D. SMITH, Compton, Que. SMITH EVANS, Gourock, Ont. Breeder and importer of registered Oxford-Down Sheep.



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

LIVE STOCK AUCTION SALES. Conducted in all parts of the country. Pedigree stock a specialty. Write for terms. References: J. C. Snell, Edmonton; John I. Hobson, Guelph; Hon. M. H. Cochrane, Compton, P. Q.; or this office.

JOHN SMITH, Brampton. The date of the Toronto Industrial Exhibition for this year has been fixed for August 29th to September 10th, being the same two weeks as last year.

GOSSIP.

The date of the Toronto Industrial Exhibition for this year has been fixed for August 29th to September 10th, being the same two weeks as last year.

The eggs from various desirable breeds; also pigeons and collies, advertised in this issue by W. Wright, Cobourg, Ont., should interest many readers. Look up his advertisement.

The Bath and West of England Show for 1898 will be held at Cardiff, May 25th to 30th. The Royal Agricultural Society's Show will be held at Birmingham, June 18th to 24th, and the Highland Society's Show at Kelso, July 5th to 8th.

Mongrel fowls are like mongrel stock of any other kind - generally scrubby and unprofitable. Why not have pure-breds from good strains when they can be so easily and cheaply secured from the pens of Miss P. J. Coldwell, Constance, Ont. See advertisement.

The Clydesdale stallion, Hurworth (5086), advertised for sale by Francis Russell, Cedarville, Ont., in this issue, was bred by Robert Callinger, Darlington, East. He was sired by David (1634), Vol. IV., and out of Aggie (2063), Vol. VI. Hurworth is brown, has white on face and three white legs.

Harry Smith, Hay, Ontario, writes: - "The young bulls I am offering just now are an unusually good lot; two of them are roans from first class Scotch-bred cows, and got by the Crookshank bull, Abbottsford - 19446 - I am also offering a very promising son of the crack show bull, Catthness 23065, that I selected from the Maple Lodge herd for my own use, but that I do not need now. I thought this a better calf than the one from the same herd that won first prize at Toronto last fall.

BETTER SHIPPING RATES FOR REGISTERED STOCK. At a meeting of the Joint Railroad Tariff Committee held in Toronto last week, composed of representatives from each road doing business in Ontario, it is understood that an agreement was arrived at by which pure bred cattle, sheep and swine may hereafter be shipped over Canadian railroads at one-half the rate charged for grade animals of the same sort, and that the Chairman of the Board was authorized to issue a circular embodying the agreement.

SHIPMENTS OF STOCK. A carload of pure-bred stock was shipped from Guelph on March 8th, under the auspices of the breeders' associations, consigned to Calgary and Edmonton. The car contained twenty-one head, composed of Shorthorns, Herefords and Ayrshires, two Berkshires and a Cotswold ram. This is the fourth car sent out this year under the terms secured by the associations, and two or three more are to follow in the near future.

TROTTERS AND PACING STAKES. The Industrial Exhibition Association of Toronto offer \$3,000 in stakes for trotting and pacing at their next exhibition to be held at Toronto, commencing on the 30th August next. The purses will be \$500 for each class for two and three year old trotters and pacers - three-minute class trotters and 2 1/2 class pacers. All entries must be made to H. J. Hill, the secretary of the exhibition, at Toronto, on or before the 30th day of March, from whom forms of entry, conditions, etc., can be obtained.

A GOOD SALE OF SHORTHORNS. The dispersion sale of Shorthorns, Clydesdales and Shropshires at Sunnyside, the home of Mr. James Hunter, Alma, Ont., on March 9th, was very largely attended by stockmen from Ontario, Manitoba, and U.S., there being, it is estimated, about 2,000 people present. The cattle were in good flesh, though looking a little dry in their hair, and the prices on the whole may be regarded as very satisfactory, considering that there were no young calves in sight and few of the cows coming due to calve within the next three months, which gave the impression that they were shy breeders, but which was accounted for by the fact that the last season had in that section been one in which the cows had returned frequently, with the result that they were thrown late for calving this year. The young bulls sold remarkably well, ranging from \$75 to \$150. The four-year-old stock bull, Bridgegroom, went to Capt. Milloy, Paris, Ont., at \$120, and was considered a good bargain. The ten-year-old imported Clydesdale stallion, Master Lyndoch, was purchased by his groom for \$650, and is understood will make the season in the district where he is owned, and where he has proved a very satisfactory sire. His one-year-old son, King of Sunnyside, brought \$150, and mares from \$150 to \$250 each. The Shropshire sheep also brought good prices, and the sale totalled close to \$6,000.

AN IMPORTANT INDUSTRY. Twenty-five or thirty years ago paint was made in a very crude way and consisted mainly of grinding white lead and colors in oil - the mixing, or preparing for use, being done by the consumer. To-day it is different. The best paint is now made ready for the brush. Much of this improvement and advancement is due to the Sherwin-Williams Co., who are claimed to be the largest manufacturers of paint in the world. This company has a plant - the largest of the kind in existence - at Cleveland, Ohio, exceeding nine acres of floor space. Many thousands of gallons of paint ready to use is delivered out every day. Besides the Cleveland plant the Company have their own factories at Chicago, and Montreal, Canada, also branch houses at New York and Boston. The Sherwin-Williams paints are used by the principal railways and steamship companies in the United States and Canada. There is scarcely a town or village in either country where it may not be obtained. Fifty travellers are constantly on the road, covering every point of the continent in the interests of the extensive business, which was built up from small beginnings, and its great success is due largely to the fact that from the start the proprietors have never allowed more than one quality - the best they could make - to go out under their label. See their advertisement in this issue.

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

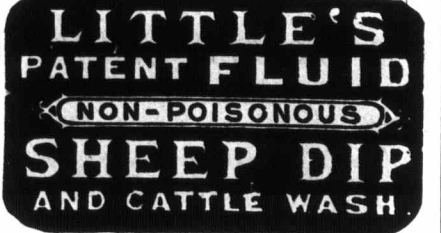
MUTTON AND LARGE PROPORTION OF LEAN MEAT, IT IS UNSURPASSED.

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 197 lbs. per lamb at 10 1/2 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.

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 - Sheeppoot, London.



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 wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities. Sold by all druggists. Send for pamphlet.

Robt. Wightman, DRUGGIST, OWEN SOUND, ONT. Sole agent for the Dominion.



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.

ADVERTISE IN THE ADVOCATE



Effectually Destroys Ticks, Scab and ALL Vermin.

Makes the skin clean and healthy, and imparts a silky softness and luster to the wool.

Hugh Miller & Co., TORONTO, CANADA.

HERMANVILLE IMP. YORKSHIRES

Tamworths (red), Duroc-Jersey Pigs, AND NONE BETTER.

SPRING PIGS. One to two months old, crated and expressed anywhere after May 1st, \$4 to \$5. Necessary papers furnished for registration. Write now and have your order booked. Address: HERMANVILLE FARM, P.O. on the farm, on HERMANVILLE, P. E. I.

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, Warkworth, Ont., Northumberland Co., BREEDER OF

Reg. Holsteins, 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

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 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.

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.

English Berkshires.

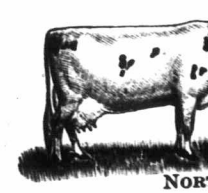
Herd headed by three first-prize boars. Large size, strong bone, fine quality, and a choice lot of breeding sows. Orders booked for spring pigs. GEORGE GREEN, Fairview P.O., Ontario. Stratford Station and Telegraph Office.

ROSE HILL FARM.

JAMES DORRANCE, SEAFORTH, ONT., -BREEDER OF-

REGISTERED: BERKSHIRES

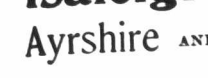
Of the most approved type. Choice young stock always for sale. Write at once and secure a bargain. 18-2-y-om



Ayrshires, J Shropshires,

Our excellent age headed by our noted Tam Glen heads the Pogs of St. Anne's young stock are all

Isaleigh Ayrshire AND



J. N. GREEN

RE

The above is practically industriously produced. Last year Toronto. Prices from reliable firm at the make the famous I AGENTS WANTED

BERKSH

My herd contains Varna Duke, and of the celebrated sire 2-2-yo WM. J.

LARGE ENG

We now offer for stock Boar, Bright also Boar and Sows to 1 mos. old. B. P. Eggs. Write for or call. H. BENNETT

W. R. BOW

Yorkshire and Ber 2 to 5 months old f ble for registration best prize-winning HEADC

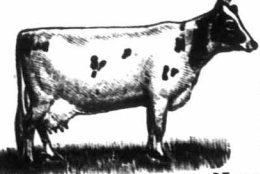

DUROC-J

Our herd secure nine of the first pr out of the eleven ferred at Toronto hibition, and a sim portion at Lond and Ottawa. We justified in saying Canada. First-cl at all times. Ad

Poland-China

Six young male p also two fema (from Lady Dark No 100, sire Bl amon's imp.). No farrowed April price \$15 each, W. M. J.

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 Lisgar Potts of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.

ED. McLEAN, 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.

JOS. W. BARNETT, Manager.

Isaleigh Grange Stock Farm, DANVILLE, QUEBEC.

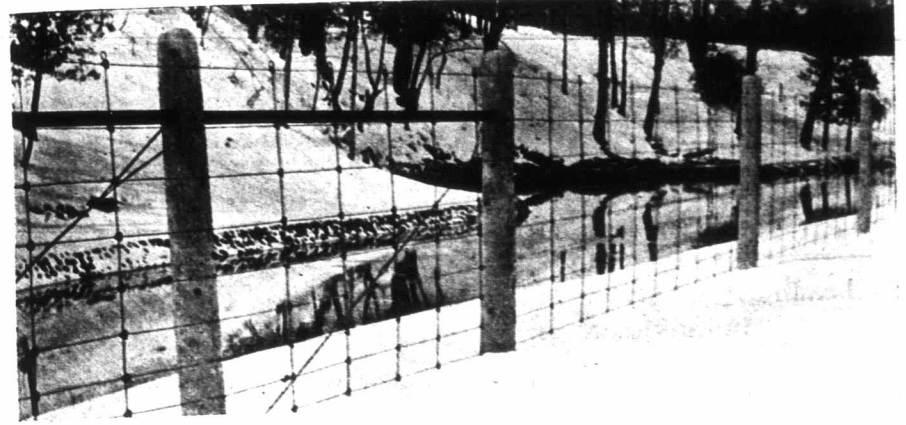
Ayrshire and Guernsey Cattle, Imp. Yorkshire Swine and Shropshire Sheep.

Ayrshire herd headed by the noted bull, Matchless 569; sire Imp. Glencairn, dam Nellie Osborne. We are offering a choice lot of young stock, of both sexes, in both Ayrshire and Guernseys, at very low figures. Also bargains in sheep and pigs for the next month.

Particulars furnished on application to—

J. N. GREENSHIELDS, Prop. 9-y-om T. D. McCALLUM, Mgr.



LONDON WATERWORKS CO.'S RESERVOIR, SPRINGBANK.

The above is the most popular fence among the Waterworks Co.'s staff, as it is practically indestructible, as well as a protection to the Reservoir. Prices greatly reduced. Last year over five miles erected on Mr. W. E. H. Massey's model farm, near Toronto. Prices from 22c. per rod. First medal and diploma was awarded this old and reliable firm at the World's Fair. Farm, lawn and cemetery fences a specialty. We also make the famous P. P. steel and gal. shingles and siding. Quality and price guaranteed.

AGENTS WANTED. THE LOCKED WIRE FENCE CO., LIMITED, LONDON.

REID'S TREES

ARE RELIABLE.

Everything grown in Reid's Nurseries is healthy, well-rooted and true to name. Every effort is made to save expense to customers. We sell direct and ship direct, saving fifty per cent. on Trees, Shrubs, Vines. Write for catalogue, estimates or suggestions. Try Star Strawberry, Eldorado Blackberry.

REID'S NURSERIES, Bridgeport, Ohio.

BERKSHIRES

One yearling boar, 1 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.

2-2-yo **WM. McALLISTER, VARNA, 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.

W. R. BOWMAN

Mount Forest, offers for sale during February, Yorkshire and Berkshire boars and sows from 2 to 5 months old for \$5 to \$15. All stock eligible for registration, and selected from the very best prize-winning herds in Canada.

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. First-class stock of all kinds for sale at all times. Address—TAPE BROOK, RIDGETOWN, ONT.



Poland-Chinas.

Six young male pigs, also two females (from Lady Darkness No. 100, sire Black, among imp., No. 940), farrowed April 22; ready for Dec. service; price \$15 each, with registered certificate.

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.

CHESTER WHITES and BERKSHIRES

Two boars and 3 sows—Chester Whites—5 mos. old. One boar and 2 sows—Berkshire—5 mos. old. We register and prepay express. EGGS FOR SETTING: B. Minorcas, S. G. Dorkings, B. B. K. Game, Red Caps, Brown Leghorns, Barred Rocks, W. Wyandottes and Pekin Ducks, one dollar per setting.

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

MERTON LODGE

Herd of Chesters and Tamworths are in full bloom, and are offering choice stock of




both breeds and sexes. Also booking orders for coming spring stock.

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

THE AVON HERD OF CHESTERS and POLANDS

are in fine form, and offering some grandly bred and useful sires, as well as young females of both breeds.

HENRY HERRON, Avon P. O., Ont.



NOTICES.

A snap in nursery stock, both in quality of goods and prices, is offered in this issue by Reid's Nurseries, Bridgeport, Ohio. A catalogue containing many valuable suggestions should be sent for at once.

A bound volume of the Canadian Horticulturist for 1898 has been received. It is indeed a handsome production, and full of up-to-date, practical horticultural literature. It is considerably enlarged, improved, liberally illustrated, and is withal an encyclopedia of fruit-growing information. It is published by the Ontario Fruit Growers' Association, of which Mr. L. Woolverton, Grimsby, is secretary and editor.

Every cheese factory or creamery must have a boiler and engine, and the better it is constructed and set up the greater will be the service secured from it. An old-fashioned or leaky boiler will waste enough fuel and attention to amount to considerable during a season's operations. E. Leonard & Sons, London, Ont., make a specialty of this line, and can be depended on to furnish an excellent outfit on short notice. The cut in their advertisement in this issue shows one style of their boilers.

The illustration contained in the Locked Wire Fence Company's advertisement in this issue was produced from a photograph taken by our selves. It shows clearly the construction of the lock by means of the upright stays held in place by trough iron washers, which are so arranged as to prevent the horizontal wires being spread further apart or forced together. In this particular it may well be called the farmer's friend, because it is cheap and effective, and the animal's friend, because it is harmless to them. It turns all kinds of stock, and does well with posts well apart. Look up their advertisement in this issue.

The Maxwell Weeder advertised in this issue is one of the modern implements that has come to stay, as it accomplishes such an excellent work with such little labor. Mr. Kennie, Ontario Experiment Farm Superintendent, speaks in a letter in this issue on cultivation, of using a similar implement on grain fields just after the grain is up. Not only does it root out and destroy all young weeds, leaving the deeper-rooted grain undisturbed, but it successfully breaks up the soil crust, and thus gives the grain greater freedom, lets in the rain and conserves moisture for the corn, potatoes, etc., especially in loamy and light soil, it does both the scuffing and hoeing, taking three or four rows at a time until the plants are at least a foot high. See the advertisement for cut of machine.

When another, seeing the advantage of a patented process, machine or appliance, himself manufactures or sells or causes to be manufactured or sold, an imitation or facsimile of the original, is infringing the rights of the inventor and is amenable to action by law. Our attention has just been called to a case of this kind. A certain concern in Michigan is manufacturing and selling a dehorning clipper which infringes the rights of Mr. A. C. Brosius of Cochraville, Pa., in the manufacture and sale of his Keystone Dehorner, which has been advertised in these columns each season. The infringers have been refused letters patent by the patent office at Washington, and Mr. Brosius will shortly come up in the U. S. District Court. We regret that the rights of our client are thus being interfered with, as the Keystone is a splendid and popular implement for the object of its design.

DR. HAYES' ASTHMATIC INSTITUTE.

In another column is to be found the advertisement of Dr. P. Harold Hayes, Buffalo, N. Y., the eminent authority on asthma and its treatment. This Institute was established in State of New York 37 years ago, by Dr. Hayes, the originator of the treatment, to whose staff has been added from time to time eminent physicians who have taken up the work with such earnestness, until to-day some dozen or more active physicians find themselves at times buried in correspondence from all parts of the world. Some years ago a near relative of one of the staff of the FARMER'S ADVOCATE was a terrible sufferer from asthma, and by the merest accident she came in contact with one of Dr. Hayes' patients, who recommended this treatment so highly that she was persuaded to try it, with the result that in three days the asthma entirely left (though by no means cured at that point), and by persistently following their directions she has had no more asthma. Since that time we could mention at least a dozen such cases, among them being one of the leading short-horn breeders of Scotland. In making application for treatment a form is forwarded the patient bearing questions to be answered, which is returned to the office, from which they are able to judge as to the curability of the case, and honestly advise accordingly. We have seen many testimonials, and are in a position to produce some of them later from patients who are known to many of the readers of the FARMER'S ADVOCATE.

JOHN SPENCER, V. S., Bowmanville, Ont.

THE RESULTS WERE EXTRAORDINARY.

Wapella, N. W. T., Feb. 13, 1897.

I keep your Gombault's Caustic Balsam in stock. I have sold it for the last three years. I have been in the drug business in Ontario and this country, but it is not known to the majority. I sold a bottle, which I saw used under my own supervision, which gave most universal satisfaction. The results were extraordinary. I sell here at \$1.50 per bottle. I am quite a horseman, and would be pleased to use any pictures of the noted cases of the day.

J. A. MACDONALD.

FOR SALE: A First-Class Shorthorn Bull,


ten months. Dam and both grandams were heavy milkers and prize-winners. Come and see him.

H. C. GRAHAM, ALISA CRAIG.

POULTRY—Andalusians, Black Javas, Bk Hamburgs, Houdans, Silver and Gray Dorkings, Brown Leghorns, Pekin and Rouen Ducks, Toulouse Geese and Bronze Turkeys.

Young cockerels for sale and eggs for hatching from prize-winners. Address: **W. R. KNIGHT, Bowmanville, Ont.**

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




The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price. Write for prices. 14-3-y-om

Chester White Hogs
AND
White Holland Turkeys

W. E. WRIGHT, - GLANWORTH, ONTARIO.

Holsteins, Tamworths, Barred Rocks



An offering two young bulls and a few females. My remaining Tamworth boars and young sows are ideal of the breed, by the noted Nimrod (imp.), and in grand, healthy form. B. P. Rock settings.


A. C. HALLMAN, New Dundee.

FOR SALE - CHEAP!

Poland-China, Duroc-Jersey, Yorkshire, and Berkshire pigs of all ages. B. Leghorns, Hamburg, Wyandotte, Brahmas, Langshans, and Game fowl, and Collie pups at farmers' prices.

JAS. MCKENZIE, Scotch Block, Ont.
1-1-yo

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. C. SHOEMAKER, FREEPORT, ILL., U. S. A.**

Dark Brahmas Prize-winners at Ont. Poultry Show and other exhibitions. Egg \$1.50 per 13. Stock for sale. Will sell pen Buff Leghorns (6) for \$7; pen R. C. White Leghorns (9) 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, -om LONDON, ONT.

FIRST PRIZE WINNERS!



Our 1898 Mammoth Poultry Guide of 100 pages makes all about something entirely new, tells all about poultry, how to be a winner, how to MAKE BIG MONEY. Contains beautiful lithograph plate of fowls in their natural colors. Sent 15 cts. for **JOHN BAUSCHER, JR.,** postage. Box 253, FREEPORT, ILL.

Eggs for Hatching

Buff Cochins, Silver Pheasants, White Rocks, Golden Pheasants, Barred Rocks, Brown Leghorns, B. B. Game, Bantams, Buff Cochins, Pekin Ducks, Wild Mallard Ducks. Also Collies, Homer and Tumbler Pigeons. Write for prices. **W. WRIGHT,** COBURG, ONT.

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. Duck eggs, \$1 per 11.

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

ANNUAL SPRING SALE OF POULTRY.

Fifty Barred Rock Hens, bred to produce brown egg and fine market appearance. Price 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 11. Correspondence solicited. **W. R. GRAHAM, Bayside, Ont.**

MAMMOTH B. TURKEYS, S.-O. DORKINGS, B. MINORCAS.

S. C. Brown Leghorns, B. Plymouth Rocks, White Wyandottes. Grand birds from prize-winning stock. Mated for breeding. Eggs for hatching.

T. & H. SHORE, White Oak, Ont.

White Holland & Bronze Turkeys and Pekin Ducks of the best strains.

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. Brahmas, 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. SWIDER, Corman Mills.**

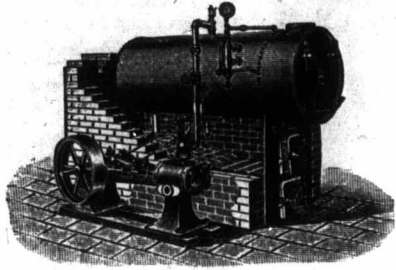
EGGS FOR HATCHING from three splendid pens of Black Langshans. Send post card for circular. -om **JOHN F. HILL, WELLAND ONT.**

Toronto Incubators

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

ASTHMA CURED TO
ASTHMA STAY CURED

By a large staff of experienced physicians who have made a life-long 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.
BUFFALO, N. Y.

Seed Grain

FOR SALE:

- PEAS: Canadian Beauty, Prince Albert, California Creepers, Prussian Blue, Lakefield White, Multiplier, and Golden Vine.
WHEAT: Glasgow, Rio Grande, and Goose Wheat.
OATS: Siberian, Improved Besthorne, Holstein, Banner, Improved Bonanza, Black Joannette, and Tartarian.
BARLEY: Oederbrucker, Common 6-rowed, Mandsoheuri, and Black Barley.

James Howar, SEEDSMAN, 45 Macdonald St., East, GUELPH, ONT.

CATALOGUE
PRINTING
OUR
SPECIALTY.

Many of the best Catalogues in Canada are produced by us. Latest type faces, designs, ornaments, and modern machinery. — Best in America. Up-to-date covers designed by special artists without extra charge.

THE LONDON LITHOGRAPHERS AND PRINTERS, London, Ont.

A. M. GRIMES, OTTAWA, Capital City

A THOROUGHLY UP-TO-DATE INSTITUTION. Business College

A. M. GRIMES, President, Ottawa.

FAMILY KNITTER!

Will do all Knitting required in a family, homespun or factory yarn. SIMPLEST Knitter on the MARKET. We guarantee every machine to do good work. Agents wanted. Write for particulars. Dundas Knitting Machine Co'y, DUNDAS, ONT. Price, \$8.00.

BOYS FOR FARM HELP.

The managers of Dr. Barnardo's Homes will be glad to receive applications from farmers or others for the boys who are arriving periodically from England to be placed in this country. All the young immigrants will have passed through a period of training in English Homes, and will be carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained on application to Mr. ALFRED B. OWEN, Agent, Dr. Barnardo's Homes, 214 Farley Ave., Toronto.

FARMERS! Write for my LIST of FIELD SEEDS. Address, J. E. RICHARDSON, Importer of Field Seeds, PRINCETON, ONT.

GOSSIP.

J. A. McDonald, Williamstown, Ont., writes: "My stock are doing well and are in good condition. I find the ADVOCATE the best advertising paper in Canada. I have sold several good bulls since your representative called in January, and have a few good ones left for sale. Wishing the ADVOCATE every success."

James McCormick & Sons, Rockton, Ont., write: "In sending you a change of ad. we might say that our Ayrshires are wintering well, and we have had a good demand for stock of both sexes. Have made quite a number of sales, among them a fine young bull to Mr. Wm. Miller, Marshfield, P. E. I., and a fine young cow to Mr. C. R. Dickie, Canning, N. S., besides several others to different parts in Ontario. We have two fine young bulls left, fit for service. Our poultry are also doing well. Have choice matings for this season in Barred Rocks, L. Brahmas, Black Spanish, Black-Red Games, and are prepared to sell eggs for hatching at a fair price and within the reach of all. Have exhibited fowl at Brantford and Hamilton poultry shows and were very successful. At Brantford we won on B. Rocks, 2nd on cockerel, and 1st and 2nd on pullets; on Black Spanish, 2nd on cockerel, 2nd on hen, and 1st on cockerel, besides prizes in other classes. At Hamilton, we won 1st on B. Rock cockerel. This bird also won the special for best bird in the American class, and Mr. Butterfield pronounced him the best B. Rock cockerel he had judged this season. On Spanish, we won 1st on cockerel, 2nd on hen, and 1st on cockerel, besides prizes in other classes. The competition in Rocks at Hamilton was very keen. The 2nd and 3rd prize pullets were bred by us."

Messrs. Henry Stevens & Sons, Lacona, N. Y., whose fine herd of Holsteins was represented at the last Toronto Industrial Exhibition, attracting much attention and winning the lion's share of the prizes, and whose advertisement is now running in our columns, send us the following report of an important sale of cattle to a Canadian buyer: "Mr. James A. Caskey, of Madoc, Ont., recently spent a couple of days at our farm, and selected eleven females and one male for a foundation herd, and for individual merit and rich breeding we think it would be hard to find the superior of these animals. To head the herd he selected the richly-bred young bull Manor DeKol's Prince, a low-down, broad, level bull, with an exceptionally fine head and neck and a rich, mellow skin. He was sired by Manor DeKol, whose dam, Netherland Hengerveld, made in the official butter contest 26.66 pounds butter in seven days, which is the most butter ever made by any cow in any official test. Manor DeKol's sire's dam is DeKol 2nd. She made a four-year-old 33 lbs. 6 ozs. butter in seven days, which is the largest four-year-old butter record ever made. The dam of Manor DeKol's Prince is Manor Kekke. She has given over 74 lbs. per day on ordinary care and keep, and Zara, the dam of her sire, gave as a three-year-old 66 lbs. in one day, 3,263 lbs. in sixty days, and made as a four-year-old 20 lbs. 3 ozs. butter in seven days. Among the females selected was the beautiful two-year-old heifer Pietertje Hartog DeKol. Her sire is DeKol 2nd's Butter Boy, a son of DeKol 2nd mentioned above. Herdam, Netherland Pietertje Hartog, gave as a two-year-old 5 1/2 lbs. in one day, 3,170 lbs. in six months and twenty-five days; as a three-year-old, 10,000 lbs. in nine months. Another of the number was Belle Burke Mochthilde, a fine heifer of same age and very rich in butter quality. Her dam, Clothilde Artis Belle, was officially tested this season as a four-year-old, and gave during the week of her test 46 1/2 lbs. milk, which made 17 1/2 lbs. butter. Another of the selection was Korndyke Queen DeKol. This heifer has for her sire Manor DeKol (mentioned above), and her dam is Belle Korndyke, the dam of Korndyke Queen, whose official butter record is 23 lbs. 7 1/2 ozs. in seven days. He also had DeDikkert 3rd's DeKol, a heifer we purchased at Mr. Hayes' sale at Cleveland, Ohio, paying \$300 for her. Another was Pavarista, Pauline, a daughter of Pauline Paul's DeKol. The balance of the purchase was strong in the blood of Inka, a family that are not only very large producers, but are rich in butter-fat, and well and favorably known both in the U. S. and Canada. Mr. Caskey is a man of much energy, and showed good judgment in making his selections, securing animals that are not only fine individuals but that are bred for both quantity and quality of milk."

JACOB B. SNIDER'S POULTRY.

We were pleasantly entertained in the well-kept poultry pen of Mr. Jacob B. Snider, German Mills, some five miles south-west of Berlin, and were shown a well-kept pen of ten Light Brahma hens of Shoemaker strain, to which has been added a cock of Felch strain that is a strong, beautiful bird. The females are all at the best age of two years. The same number of Dark Brahmas are kept. The hens are the result of a setting obtained from Mr. Shoemaker, who has been bred by George & Speltigue, London, and from imported stock. The Plymouth Rock pen contains eight hens and a cock, and have been collected from the most noted fanciers in the breed. They are evenly colored, beautifully barred, and healthy, strong fowls. Of the White Rocks two breeding pens are kept of the noted Hawkins strain. The Silver Wyandottes number some half a dozen, while the White Wyandottes of Gibson breeding number eight hens and a cock. Indian Games were first obtained from Shoemakers, and imported cocks only employed. Black Minorcas were obtained from different breeders in Canada, and some specially fine birds have been raised in this breed: many choice ones have been disposed of in different sections. Red Caps of Shoemaker and Daniels strain, of which eight hens and one cock are kept on hand as the working number of that pen. Taking them and their management into consideration, we state unhesitatingly that we have never seen better or healthier kept stock in our lives. And as Mr. Snider's business is on the increase, it is highly evident that they are giving good satisfaction to their patrons. Mr. Snider informed us that he still has a few choice young birds for sale of each breed, and eggs will be booked for shipment in the order received.



Does it Pay to Paint?

There is nothing that adds to the selling value or the renting value of a house like good paint—there is nothing that makes home more home-like than good paint.

It pays to paint. The better the paint, the better it pays.

THE SHERWIN-WILLIAMS PAINT

pays in the beginning because it goes so far—pays in the end because it lasts so long, and looks so well, as long as it lasts. There is no paint like it for beauty and durability, for economy and satisfaction.

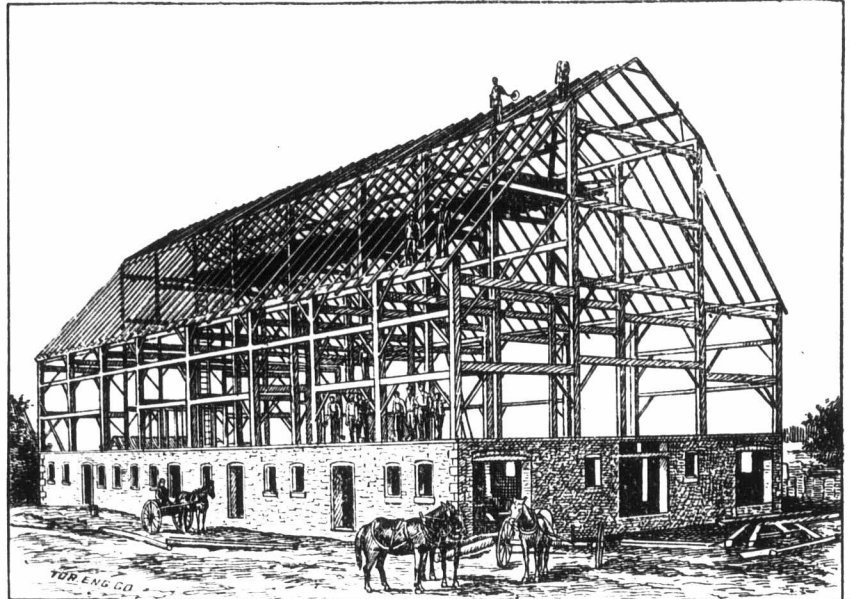
Ask the dealer for it. If you would like to learn many points about painting, we'll send you an illustrated book free.

THE SHERWIN-WILLIAMS CO., PAINT & COLOR MAKERS, 100 Canal St., Cleveland, 27 Washington St., New York, 2525 Stewart Ave., Chicago, 21 St. Antoine St., Montreal.

THE Thorold Cement

High in Quality 56 Years in Use. Low in Price

The Leading Cement for Building Bank Barns, Cement Floors in Stables, Silos, Culverts, Piggens, etc.



Mammoth Barn of Beswetherick Bros., near Hagersville, Ont. Floors for horses and cattle were put in this barn with BATTLE'S THOROLD CEMENT.

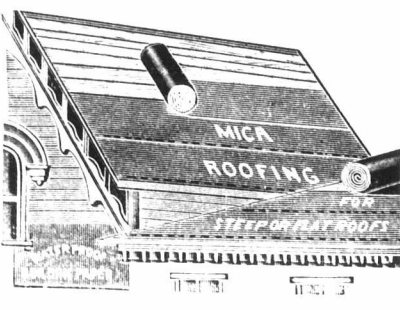
Has been tested in every capacity. Most perfect cement made.

FOR CIRCULARS AND FULL PARTICULARS ADDRESS

ESTATE OF JOHN BATTLE, Thorold, Ontario.

MICA: ROOFING

USE... Mica Roofing ON ALL YOUR BUILDINGS. IT IS CHEAPER THAN SHINGLES. WATERPROOF AND FIREPROOF. RAPIDLY TAKING THE PLACE OF SHINGLES. I put up in rolls of one square each, 40 feet long by 32 inches wide, and costs only \$2.25, including nails—thus affording a light, durable, and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence. HAMILTON MICA ROOFING COMPANY, 101 Rebecca St., HAMILTON.



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with gold lettering, reader, can be appearance of a preserved for re FARMER'S ADVOCATE cultural matter, other way. We year. In order propositions: We will send any one sending We will sell

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Containing the version, tog Concordance ILLUSTRATIO

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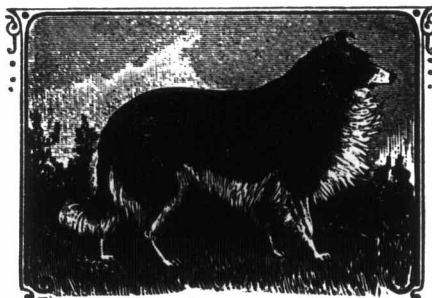


OUR NEW
Self-binder.

WE have for a long time been in search of a suitable binder for the FARMER'S ADVOCATE, and have at last secured what is wanted. It is handy, neat, handsome, strong and durable; black duck back, and cloth sides, with gold lettering. Each copy of the paper, as it is received by the reader, can be securely fastened within the binder, presenting the appearance of a fine cloth-bound book. In this way the paper can be preserved for reference, thus doubling its value. The files of the FARMER'S ADVOCATE constitute a volume of practical high-class agricultural matter, thoroughly up-to-date, such as can be got in no other way. We answer hundreds of important questions during the year. In order that all our friends may secure it we make two propositions:
We will send this splendid and useful premium, post prepaid, to any one sending us two new yearly subscriptions.
We will sell the binders at 75 cents each.

HOW TO GET A

First-class Collie



TO any subscriber sending us the names of 10 new yearly paid-up subscribers we offer a young Collie, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States.

Bagster's NEW COMPREHENSIVE Teacher's Bible

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, WITH SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

Binding—

Strong, durable, flexible American Seal (best material) improved circuit cover, round corners, red-under-gold edge.

Paper, Type, Etc.—

Of superior quality, clear and distinct, easy to read.

Maps (with index)—

Revised and brought down to January, 1896.

Helps—

Covering nearly 2,000 subjects—contain all features so popular in the past, and an endless amount of fresh matter, including concordance on new and improved plan, dictionary of proper names and places, with pronunciation and meaning. Size 8½ x 5½ inches (closed).

How to obtain this Handsome and Valuable Bible

(Which ordinarily would retail at from \$4 to \$5): We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of THREE NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1 each.





XMAS NUMBER FOR 1897 **\$1.**
AND ALL OF 1898 FOR

Handsome Rings





WARRANTED TEN KARAT GOLD.

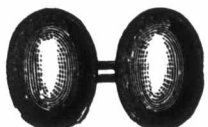
To find the size of ring required, take a narrow strip of paper that will draw tightly around the finger, forward same to us, and we will assure you a perfect fit.

CHILDREN'S OR MISSES' REAL STONE SETTING.

- | | | | |
|---|--|---|---|
|  |  |  |  |
| No. 1—Price, \$1.25.
1 Pearl, 2 Garnets.
2 New Subscribers. | No. 2—Price, \$1.25.
1 Garnet.
2 New Subscribers. | No. 3—Price, \$1.50.
3 Pearls.
3 New Subscribers. | No. 4—Price, \$2.00.
1 Pearl, 2 Garnets or Coral.
3 New Subscribers. |

LADIES' REAL STONE SETTING.

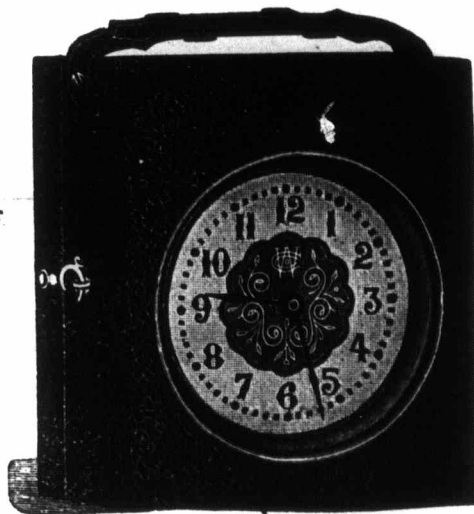
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|  |  |  |  |
| No. 5—Price, \$3.50.
2 Pearls, 3 Garnets.
5 New Subscribers. | No. 6—Price, \$3.50.
2 Garnets, 5 Pearls.
5 New Subscribers. | No. 7—Price, \$3.50.
1 Garnet, 2 Pearls.
15 New Subscribers. | No. 8—Price, \$2.00.
3 New Subscribers. |



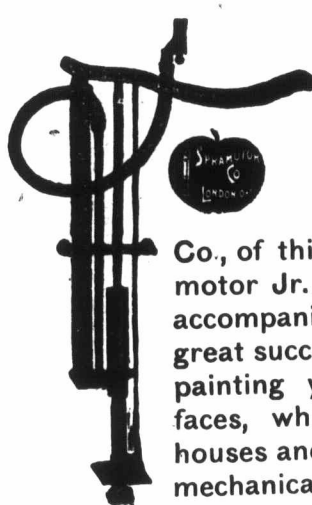
Gent's Gold Filled Cuff Links, warranted for 20 years, for 3 new names. In Sterling Silver for 1 New Subscriber



Sterling Silver Canoe Scarf Pin, can also be used as lady's stick pin, 1 New Subscriber.



Fine Gold-finished Clock, handsomely decorated dial; fitted in Maroon Seal Leather Case. 4 New Subscribers.



Spray Pump!

OUR readers know the importance of having a good Spray Pump, and we are pleased to state we have made arrangements with the Spramotor Co., of this City, whereby we can supply the Spramotor Jr. to anyone sending Ten New Subscribers accompanied by \$10 in cash. It will be found a great success for spraying all kinds of fruit trees, painting your barns and fences and rough surfaces, whitewashing, disinfecting stables, poultry houses and cellars. It is built very carefully. The mechanical agitator, strainer, base casting, plunger tube, air chamber and hose couplings are in brass.

OUR HANDSOME LIVE STOCK ENGRAVINGS:

- “Canada's Glory,”
- “Canada's Pride,”
- “Canada's Columbian Victors.”

All three may be obtained by any subscriber sending us the name of one new yearly subscriber, or for 50 cents cash.

12 MONTHS FREE!

Any subscriber may have his own subscription credited 12 months for sending two new subscribers at \$1.00 each.

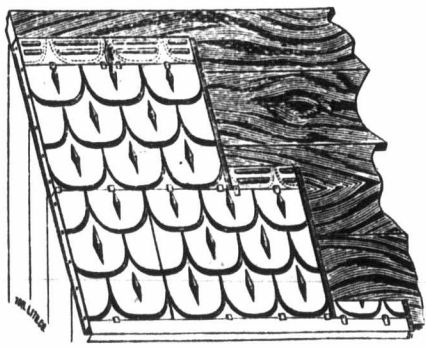
FOR CANVASSING OUTFIT ADDRESS:

The Wm. Weld Co., Limited,
LONDON, ONT.

SURVEYING AND MAPPING
 Coal & Metal Mining; Prospecting; Electricity;
 Machine Design; Stationary, Locomotive and
 Marine Engineering; Architecture; Plumbing;
 Railroad, Municipal & Bridge
31 COURSES
 Engineering; Sheet Metal Pattern Cutting;
 Mechanical and Architectural Drawing; Book-
 Keeping; Shorthand; English Branches.
GUARANTEED SUCCESS.
 All who study
 Fees Moderate, Advance or Installments.
 Circular Free; State subject you wish to study.
 International Correspondence Schools, Box 900,
 Scranton, Pa.

Pedlar Patent Steel Shingle

IS THE PROPER COVERING
 FOR BARN AND HOUSES.
"IT STANDS THE TEST."

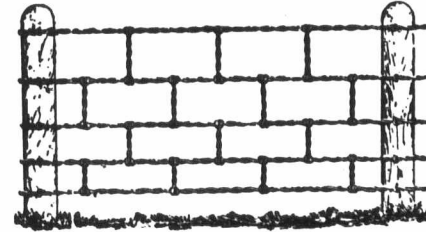


OUR shingle is right up to date, and embraces all the desirable points found in all metal shingles. Catalogue sent on request.

The Pedlar Metal Roofing Co.,
OSHAWA, ONT.
 Larger and more progressive than all others combined.

MILK and BUTTER

Doubled by feeding roots prepared by
CAMPBELL'S BANNER ROOT CUTTER
 Makes fine stock food of all roots and vegetables. Self Feeding Shaking Grate feeds the roots and removes all dirt. Cuts fine; stock can't choke. Fully warranted. There is nothing else as good. Send for Catalogue Free.
THE M. CAMPBELL FANNING MILL CO., OF CHATHAM (Limited).



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.

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, OHIO, U.S.

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.

LIGHTNING WELL MACH'Y
PUMPS, AIR LIFTS, GASOLINE ENGINES, AIR COMPRESSORS, THE AMERICAN WELL WORKS,
 AURORA, ILL. - CHICAGO - DALLAS, TEX.

GOSSIP.

The Ontario Provincial Fat Stock and Dairy Show will be held at Brantford, Dec. 6th to 8th. The Shorthorn bull advertised by H. C. Graham, Ailsa Craig, is sired by Caliph, whose full brother was exhibited by A. W. Smith, Maple Lodge, at Toronto fair in 1897, and was afterwards sold to be used at O. A. C. Guelph. Ellis Bros., Bedford Park, near Toronto, breeders of high-class Holsteins, offer in our advertising columns some choice young bulls and heifers from their "Gem" herd, which stands high in regard to quality and capacity for good work in milk production. Write them for prices, stating what you want. A. & G. Rice, Currie's, Ont., breeders of high-class Holsteins, owners of the champion cow, Calamity Jane, winner of the milk test sweepstake premium at the Provincial Dairy show for two years, and of many other first prizes at leading shows in Canada, offer a few young bulls and heifers from their up-to-date herd. Write them for prices. The Smithfield Fat Stock Club of Great Britain will celebrate its centenary year at the next Christmas show, at which handsome special prizes will be offered. The Prince of Wales, who has been appointed President of the year, has promised a 100-guinea challenge cup for the best pen of sheep in the hall, and the Duke of York offers a 50-guinea challenge cup for the best pen of pigs. Cattle are provided for in the challenge cup which is at every show of the Club offered by Her Majesty the Queen. One thousand pounds is to be withdrawn from the Club's invested funds to increase the prize list for this year. Mr. John Strigley's sale of Shorthorns, held as per advertisement, at Allendale, Ont., on March 9th, was fairly successful. The following are the prices and purchasers of animals bringing over \$50: - Dracilla, \$110, John Rutledge, Ont.; Delia Poiworth, \$284, 15, \$90, Frank Arnold, Ivy, Ont.; Ellen, \$272, \$76, H. Raikes, Calgary, N.-W. T.; Dorcas, \$284, \$61, Geo. Raikes, Barrie, Ont.; Heroine, \$290, \$85; Holly Rose, \$291, \$70, Robt. Miller, Brougham, Ont.; Highland Maid, \$298, \$105, R. Gilpin, Thornton, Ont.; Mandrake, \$287, \$124, Clarence Strigley, Allendale; Heires, \$290, \$88, James Millace, Dalston, Ont.; Ina, \$55, N. Dymont, Barrie, Ont.; Isis, \$70, Robert Carr, Painswick, Ont.; Josie, \$65, H. Raikes, Calgary; Isaude, \$70, Graecus (bull) \$215, \$82, H. Raikes, Calgary.

W. G. SHEARER'S JERSEYS, TAMWORTHS, AND B. F. ROCKS.
 At present, Mr. W. G. Shearer's dairy at Bright, Ont., is supplied by twenty cows, most of which are strongly graded in Jersey blood, and none but the highest producers are kept. The pure-bred herd now numbers eight head, and are such producers as Bessie, a cow capable of giving 18 lbs. butter per week; Flossie, 15 lbs.; and the light fawn three-year-old daughter of Bessie, promises grandly; while her sister Blossom, one year younger, promises to equal if not surpass any animal in the herd in her capacity of production; Flossie's youngest daughter is a promising lemon-fawn, by Light fawn, and is a beauty in every respect and in possession of good constitution. Among the grades, which are fully seven-eighths bred, Mr. Shearer offers three very choice heifer calves of good color, that are from cows not only heavy producers but fertile. The grand old one gave 10,000 lbs. of 4 per cent. milk last year in ten months, and calved again within the year; while another made a record of 9,000 lbs. of 4 per cent. milk in the same time. A bull calf, by Canada's Hero (record of dam 19 lbs. in seven days), and out of Rosalie, is five months old, and is offered for sale; and here we fail to see why this fellow should fall short of the desired dairy qualities, being rich in breeding, rich in skin, and true in dairy conformation. The herd's average production last year was 326 lbs. butter, including four two-year-olds. Among the Tamworths shown Goldstream Garnet, an excellent type of a sow, which we were informed was in pig to Mr. A. C. Hallman's imported Nimrod; also, a four months old sow, by Nimrod, which will be bred to farrow in the fall. During last year, Mr. Shearer informed us that he handled one hundred feeding hogs on the by-products of his dairy, half of which during the summer had access to clover pasture, which did so well that further experiments will be conducted along that line. They were of Berkshire, Yorkshire and Tamworth grades. The Plymouth Rocks have done exceptionally well during the last season, and former shipments have evidently proven so satisfactory as to have increased the demand for settings and young stock beyond the supply, due no doubt to the fact that Mr. Shearer will not send out a poor article when his judgment is appealed to in making a selection through correspondence. This season an imported cockerel has been added to breeding pen purchased from Mr. Bennett, Toronto, and orders for eggs will be booked in order received.

160 ACRES FOR \$800
 \$100.00 CASH AND BALANCE ON TIME AT LOWEST INTEREST.

I WILL sell a splendid farm of above acreage, partly cultivated and fenced. Situated in a splendid mixed farming district, near wood and water within one mile of church and school, and only 20 miles east of Winnipeg, Man. Write
D. W. McIVOR,
 BOX 1372, WINNIPEG, MAN.
ELM PARK SEED!
 Blue Peas, sample fair, 75c. per bushel; Mandchen Barley, 60c. per bushel. PURE SEED POTATOES, best Divide, 50c. per peck; Empire State, 75c. per bag; Rose of Erin, 75c. per bag. Look in Steele's or Pearce's catalogue for particulars of these varieties. Bags, 6c. each. F. O. B. Guelph. C. P. R. or G. T. R. LIVE STOCK - A few Angus females, all ages. A heavy draft stallion, good getter, bred by James Hunt, Alina.
JAMES BOWMAN, Guelph, Ont.



You can buy the material in a 75c. jackknife for five cents or less, and make your own knife, but you don't. Think about it when someone asks you to buy a machine and wire to make your own fence "cheap." **THE PAGE WIRE FENCE COMPANY (LIMITED),** Walkerville, Ontario, or their Northwest Agents, The Rathbun Company, Winnipeg, can sell you farm fencing at from 45c. to 65c. per rod. It is the very best too.

Blood Will Tell...

When an animal is all run down, has a rough coat and a tight hide any one knows his blood is out of order. To keep an animal economically he must be in good heart.

Dick's Blood Purifier

Is a necessity where the best results from feeding would be obtained. It tones up the system, rids the stomach of bots, worms and other parasites that suck the life blood away. Nothing like Dick's for Milch Cows.

50 CENTS A PACKAGE.

LEEMING, MILES & CO., AGENTS, MONTREAL. **DICK & CO.,** PROPRIETORS.

MAXWELL WEEDER!

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

David Maxwell & Sons, St. Mary's, Ontario.

The Lay of the Land

makes no difference to the farmer with a "Planet Jr." Pivot Wheel, Riding Cultivator and Plow, Marker and Ridger. It works equally well in hills and hollows; on flat land and hill sides. Can be regulated with a touch for any kind of crop, any kind of work. It will save its cost in labor in a single season, to say nothing about the improvement in the crop and the resulting increase in the profit. The "Planet Jr." tools, of which there are forty, have bettered the condition of the farmer all over the civilized world. If you would like to know how they can be of help to you send for the "Planet Jr." Book for 1898. S. L. ALLEN & CO., 1107 Market St., Philadelphia.

There is No Doubt About the MERIT of THE KEYSTONE DEHORNING KNIFE.

It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. **The Keystone Dehorner Mfg. Co.,** Picton, Ont., Can.



VOL. XXXIII.

To all appearing commencing right and fall wheat (with favorable features season of 1897, should be in every depot seed in properly fencing, tree plan profits and more g

Our "Answers" and other remarks show how farmers may be better prices of leading began in last issue which is being we information on sections will be week before the to be in good time

Another graduate of the son of Professor Montana, located all who know career as a student that will almost every respect. and made his m Agricultural Co highly esteemed both by the prof will be pleased position which h his graduation stead farm, nea lieve, has been lecturing staff of sota and other good impression lengthy list of g received appoint in American inst success in his ne

The We publish an excellent lot March 15th nu Fencing." We several excell wire fencing, fo topic at this pa many of the fi and men have terials. At this ters with much plating the repa stock go out to from rails, stak most in favor b are most easily the present is th wet for seeding showing can b hands, when sightly and un secure one, b gained from th are easily wor fence. We inv cially up th who have four already referre