

**PAGES
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FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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VOL. XXXIII

LONDON, ONT., AND WINNIPEG, MAN., APRIL 1, 1898.

No. 451.

EDITORIAL.

To all appearances the farmers' season of 1898 is commencing right. Not only is work on the land commencing early, but the prospects for clover and fall wheat (where grown) promise well. These favorable features following the hope-inspiring season of 1897, should prompt every man to do his best in every department, sowing only good, pure seed in properly prepared soil, and by draining, fencing, tree planting, etc., prepare for greater profits and more genial surroundings.

Our New Department.

The remarkable growth of our "Questions and Answers" and other practical experience departments show how fully the FARMER'S ADVOCATE is being used as the channel of inter-communication between farmers everywhere. In order that all may be better posted as to supply, demand and prices of leading lines of stock and products, we began in last issue and continue in this, as our readers will notice, a "Farm Gossip" department, which is being well received, and to which concise information on important features from other sections will be appreciated. Write us say a week before the 1st or 15th of the month so as to be in good time for publication.

Another Canadian Honored.

The recent appointment of Mr. R. S. Shaw, a graduate of the Ontario Agricultural College, and son of Professor Thomas Shaw, to the professorship of Agriculture in the College of the State of Montana, located at Bozeman, will be regarded by all who know Mr. Shaw, and have watched his career as a student, as an excellent one and one that will almost certainly prove satisfactory in every respect. Mr. Shaw was a brilliant student and made his mark high on the honor roll at the Agricultural College at Guelph, where he was highly esteemed for his many excellent qualities, both by the professors and his fellow students, who will be pleased to learn of his appointment to a position which he is so well qualified to fill. Since his graduation he has been managing the home-stead farm, near Hamilton, Ontario, and, we believe, has been more than once engaged on the lecturing staff of the Farmers' Institutes in Minnesota and other Western States, where he made a good impression. He adds another to the already lengthy list of graduates of the O.A.C. who have received appointments of trust and responsibility in American institutions, and we heartily wish him success in his new sphere of labor.

The Fencing Question.

We publish in this issue the commencement of an excellent lot of letters in reply to our article in March 15th number, on the subject of "Farm Fencing." We regret that we have to withhold several excellent communications, especially upon wire fencing, for subsequent issues. This is a live topic at this particular age of our country when many of the first fences are done beyond repair and men have to resort to new systems and materials. At this season many will read these letters with much interest, especially those contemplating the repair of old rail structures before the stock go out to pasture. The straight fence made from rails, stakes or posts and wire seems to be most in favor by our correspondents, and as these are most easily erected while the ground is soft, the present is the time to go at it on farms still too wet for seeding. In a very few days an excellent showing can be made by two or three willing hands, when not only will a troublesome, unsightly and unsafe fence be displaced by a neat and secure one, but an entire summer's fuel can be gained from the broken and half rotten rails, which are easily worth the labor of building the new fence. We invite a still further discussion, especially upon the re-erection of rail fences, from those who have found satisfaction from a method not already referred to by our correspondents.

The Demand for Pure-bred Stock.

The great success attending the recent public sales of Messrs. Isaac, of Markham, Ont.; Simmons, of Ivan; Hunter, of Alma, and other Canadian breeders, is noteworthy. Not within the last ten years or more has the demand for pure-bred stock of all classes been so active as at the present time, or the prices paid so uniformly good. The most sanguine optimist could hardly have believed a year ago, when the mist of agricultural depression began to show indications of rising, that in so short a time the business outlook in all lines could have become so bright and cheering. It speaks volumes for the solidity and the recuperative power of the great industry of farming that in one year, with a good average crop and only moderate prices, so great a transformation has been brought about, not only in itself, but also in the many industries which are dependent, directly or indirectly, on agriculture, for nearly every industry has felt the influence and effect of the farmer's improved condition, and has rejoiced with him in the encouraging prospect. But while every branch of farming has felt more or less the effect of the revival of better times, none has been so distinctly stimulated as has that of live stock, and especially the pure-bred stock industry, and pre-eminently that of the beef breeds, while the dairy breeds still hold their fort, enjoying a healthy demand at good paying prices. The latter had a palmy innings even in the days of the depression, when the beef breeds were begging for buyers and bulls were bred at a loss, but now all are in demand and are bringing satisfactory prices. Dairying is still on the advance, and dairymen have this distinct advantage, which stands them in good stead in times of depression, and indeed at all times, that their calves are profitably raised on the skim milk while the cows are making money out of the fat product and "keep the pot boiling" the year round.

When twelve to fifteen months old bulls of the beef type are selling at less than one hundred dollars there is little if any money in it for the breeder, since the cow's whole milk goes to the calf and he is fed liberally on a grain ration, the value of which, together with the fat in his mother's milk, if computed and charged up to him, would leave him in debt to his breeder. Viewing the matter in this light, from the standpoint of the breeder, it was time for a change to better prices, and it must be gratifying to them that a new era in values seems to have dawned, though there is no boom, and that they are now receiving paying prices for their stock. With the low prices prevailing in the past few years there was little encouragement to breeders to invest in high-class sires, and, indeed, the quarantine regulations were so severe that few were willing to take the risk of importing new blood, though it was acknowledged that new blood was needed to keep up the standard of our stock.

That Canadian breeders are not lacking in the spirit of enterprise has been proven by their promptness in venturing to import the moment the restrictions of the quarantine were relaxed sufficiently to make it reasonably safe to do so, and the prices obtained at the recent public sales for both imported and home-bred cattle, as well as those made by private contract, have been such as to encourage breeders to spare no reasonable expense in improving their herds by importing good bulls or buying from each other the best obtainable. Canadian breeders have taken the lead in importing the best, and there is no good reason why they may not keep it. We believe we have among them the best judges on this continent. They have the advantage of close acquaintance with the breeders of Great Britain, and an intimate knowledge of their business customs and methods, and are therefore in a position to find and purchase the best stock to advantage. The rates of transportation and the regulations govern-

ing quarantine are as favorable as in the case of other countries, if not more so, and there are many reasons for believing that Canada will continue to be the chief breeding ground and source of supply of high-class stock for the American continent. A note of warning we would utter to those who contemplate importing stock and those who may be open to buy such. Let cheap and ordinary animals alone, and handle only those of first-class quality and breeding. Now is the time to set and keep the standard high.

To the average farmer and stock-raiser the cause of the rise in prices may not at first sight be apparent, since the market prices being paid for beef cattle, and especially for export cattle, are not far above normal, but a little reflection should convince him that owing to the heavy drafts made upon our supply of stockers by United States buyers, and the fact that in the past five years fewer calves of the beef grades were raised, there is a distinct shortage of good young cattle in the country, and a larger proportion of the more far-seeing of our farmers have realized the point, which we have been repeatedly urging in these columns, that in order to hold our own in the British markets, and to obtain the best prices, we must produce better cattle than we have been sending there, and that the first essential step towards that end must be the general use of pure-bred bulls of the best stamp and quality.

The Ontario Portfolio of Agriculture.

With political affairs that have no direct bearing on the work or business of the farmer, or with the future of political parties, the FARMER'S ADVOCATE does not concern itself; but we cannot close our eyes to the fact that in the Province of Ontario the Government in charge must ere long set at rest the uncertainty now existing as to its Minister of Agriculture. Ontario is essentially an agricultural province, one of the foremost in that respect on the continent; hence, the Legislature and Government are largely concerned with agricultural affairs. We have in existence a large number of State-aided organizations dealing with live stock matters, dairying, fruit-growing, poultry, beekeeping, and other branches of farming, the registration of pure-bred stock; also, exhibitions, dairy schools, the Agricultural College, agricultural societies, farmers' institutes, experimental stations, and other educational lines of work involving large expenditures and requiring close oversight. Obviously, the position of Minister of Agriculture is one of the most important in the Cabinet.

It is also one of the most difficult to fill. We have no lack of good farmers, good business men or good speakers in our various legislative bodies, but how few combine the characteristics of all these classes! What is required in the occupant of a portfolio of agriculture is practical—we might almost say expert—knowledge of the leading departments of this great industry, tried business capacity, ability to discuss public and practical questions, holding his own among able men of other professions in public or in the Legislature or Parliament, with broad, progressive ideas, but sagacious, common-sense methods, and in touch with and commanding the confidence of farmers.

The Province of Ontario has been fortunate in its Ministers of Agriculture—first Hon. Mr. Drury, and then Hon. John Dryden continuously since 1890. During the latter term we have seen live-stock interests and organizations greatly developed, travelling dairies sent out and dairy schools opened, experimental fruit stations to serve special needs established, practical demonstrations given in spraying, a Provincial Instructor in Roadmaking appointed, the Agricultural College and farm at Guelph greatly strengthened, the farmers' institute system extended, the settlement of an agricultural section of North-western Ontario promoted, and other steps taken designed to promote

THE FARMER'S ADVOCATE
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1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month.
2. 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.
3. 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.
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the success and dignity of the business of farming. That errors have not occurred would not be pretended, for legislators are human, but of what administrator might not that be said, or head of any great business enterprise necessarily involving reliance to a greater or less extent upon the judgment and work of many subordinates and others. Were we disposed to offer any reflections it would be that in two or three directions the proper functions of Government were unfortunately exceeded and efforts were also made to do what proved premature or unnecessary, however well intended, such, for example, as the dairy school at Strathroy. But, taken all in all, Mr. Dryden proved himself the man for the place, his administration in the interests of agriculture being unsurpassed if indeed equalled elsewhere. All must concede that he possessed the necessary qualifications and has devoted to his work the very best energies of his life. A reference to the last session of the Provincial Legislature will emphasize the strength of his position. The estimates for carrying on the work of the Agricultural Department along the various lines indicated above involved the very large sum of over \$214,000, all of which was voted practically unchallenged on either side of the House, certainly a decided tribute to the head of that department, expressing the utmost confidence on the part of his fellow-legislators and their general approval of the purpose of the appropriations; though in view of increasing expenditures we contend, as was pointed out in our last issue, that agricultural estimates and accounts should be just as closely scrutinized as any others. We have nothing to say as to the internal economy of political parties, and statesmen can presumably best manage their own affairs, but we trust that those responsible for the conduct of Provincial affairs, in this and all other matters, will be guided in their decisions by principles that will promote the public weal, do justice to all, and advance the cause of agriculture.

To Stir Up an Interest in Tree-Planting.

It is a matter for serious regret that at the end of each year we find our country more and more destitute of shelter and natural shade trees, and at the same time very little is being done to improve the situation. There are doubtless among our readers many who are extremely pained to realize that such is the case, and to those we are willing to contribute space for the setting forth of their views upon the subject of tree-planting at this season when practical advice can be followed.

STOCK.

Further Reduction in the Transportation of Registered Live Stock.

From time to time we have set forth in our columns convincing reasons why, in the general interests of agriculture and live stock rearing—Canada's greatest industry—our railway companies should reduce freight rates on the carriage of pure-bred animals. The present is a most opportune time for such a move. Our live stock associations, too, have strenuously labored to show these companies that it would be of advantage to them to thus facilitate the greater diffusion of better animals for breeding purposes throughout the various provinces. About one year ago a classification was made considerably reducing the weights at which pure-bred registered cattle, sheep and swine in less than car lots would be carried. At that time we pointed out that while the reduction was a step in the right direction, the cost of transportation was still a barrier to many sales that might be made. This fact has been so clearly shown the various trunk lines that at a recent joint meeting of railway freight authorities a still more favorable rate was agreed upon, and comes into effect at this date, April 1st. A letter has been received from the General Freight Agent for the Canadian Pacific Railway to the following effect: "The arrangement adopted and which will come into force on the 1st of April is that less than carload lots of pedigreed cattle, sheep and swine may be shipped between any point in Canada east of Fort William at one half current tariff rates (for ordinary stock) and at weights given in the Canadian Joint Freight Classification. It is understood that the reduced rates apply only on cattle, sheep and swine, and not on horses, and further certificates of registration must in all cases be produced by shippers. Shipments may be taken without men in charge, provided owners sign the usual contract releasing the company from liability in consequence thereof. These special rates will only apply when owners sign the usual valuation agreement for ordinary stock."

It may be stated that the new classification is not in all cases the same as that granted last year and published in March 15th (1897) issue of the FARMER'S ADVOCATE. The following table shows the 1897 classification, and that now coming into effect. It is upon the latter that the half rate will be calculated.

Animals.	1897	1898
	Lbs. each	Lbs. each
Bull calves, six months old and under	500	500
Bulls, and bull calves over six months and under one year old	1,000	1,000
Bulls one year and up to two years	2,000	3,000
Bulls over two years old	2,000	4,000
Cows, one animal	2,000	2,000
Cows, two animals in same car	3,500	3,500
Cows, three animals in same car	5,000	5,000
Each additional animal in same car	1,000	1,000
Heifer calves, six months old and under	500	500
Heifers over six months and up to one year	1,000	1,000
Heifers over one year and up to two years old	1,500	2,500
Cow and calf together		2,500

*Heifers one and two years old are not included in the new classification, but in all probability will be taken same as cows, at 2,000 pounds each.

This new arrangement applies to all railways in Canada east of Fort William, except the Intercolonial, which extends through Quebec to the Maritime Provinces. With regard to the latter the Minister of Railways writes us as follows:

Office of the Minister of Railways and Canals.
Ottawa, March 22nd, 1898.

To the Editor FARMER'S ADVOCATE:
SIR,—Your valued favor of the 19th instant is before me, and I am glad to have your views in relation to freight rates upon thoroughbred stock. Our tariff in that regard is now very much lower than that of other railways, and it is a question as to whether or not we should make a further reduction. The matter is, however, an important one, and it is my disposition to give it very careful consideration, having at the same time due regard to public interests.
Yours faithfully,
AND. G. BLAIR.

Helped in a Practical Way.

I like the FARMER'S ADVOCATE, and have taken many pointers from it. Last spring I had seventy young turkeys and lost ten of them. Upon examination I found the trouble to be lice, and applied a remedy given in the FARMER'S ADVOCATE and had no more trouble. My cattle were also troubled with lice, and I found a cure for them also in the ADVOCATE, one application doing the business effectually. I have found the FARMER'S ADVOCATE a great help to me in onion culture and various other ways that are valuable to the farmer. I think the FARMER'S ADVOCATE is the best agricultural paper that I have ever known of.
(Signed) J. H. HAMILTON,
Marquette Municipality.

Experiments in Sheep Feeding at the O.A.C.

In a comparison of red clover hay with first crop alfalfa and third crop alfalfa, the third crop alfalfa gave better results than either of the other two kinds of hay, while the first crop alfalfa and red clover gave practically the same results.

In a comparison of corn with peas, the corn gave the most rapid and economical gains. The corn and peas were mixed with an equal weight of oats. The peas and oats gave an average weekly gain of 2.10 lbs., and required 5.14 lbs. of meal for a pound of gain. The corn and oats gave an average weekly gain of 2.29 lbs., and required 4.72 lbs. meal for a pound of gain.

This is only a single experiment, however, and requires further investigation.

Facilitating Live Stock Importation.

To the Editor FARMER'S ADVOCATE:
SIR.—It would be very useful to the importers of thoroughbred stock if you will kindly make an announcement in regard to a change in the Customs regulations. As the regulations have hitherto stood, the Customs officers have required the importer to leave on file in the office with them the original certificate both of the pedigree of the animal and of the tuberculin test having been made, showing freedom from disease. Instructions have just been issued to the officers of the various ports to accept (in lieu of the originals) copies of these certificates, made either by the importer or the consignor, and, upon presentation, certified correct by the Customs officer. These copies will serve the purpose of a record in the office of the official in case any dispute arises, and will obviate the inconvenience which has hitherto existed on account of importers having to part with the original certificates, which they frequently require for practical purposes, and having consequently to incur trouble, expense and delay in procuring copies from the original makers. Thanking you in advance, I am,
Yours very truly,
SYDNEY FISHER,
Department of Agriculture.

Care for the Lambs.

The average farmer will have his lambs come in the latter part of March or during the month of April, and will, if a careful flockmaster, make preparation for their advent by having his ewes comfortably housed. He will not grudge a little loss of sleep if he has reason to expect new arrivals of lambs during the night, but will look over the situation before retiring, and if necessary return to the sheepfold at intervals during the night, especially if the weather is cold, to give attention to the newcomers and see that they get a fair start in life. If the ewes have had proper treatment during the months of pregnancy, the lambs will, as a rule, come strong and able to help themselves to nourishment; but there is always a possibility of difficult parturition arising from false presentations or an overgrown fetus, and in such cases assistance may be required. It is well in all cases where labor has been continued beyond a reasonable time to make an examination to find whether the presentation is a normal one or not. If it is a little more time may be given the ewe, when, if she works out her own deliverance, it is best; if not, she should have gentle assistance. If the presentation is not right, prompt action should be made to bring the lamb into proper position to facilitate its birth, when a little more time may be given; then if from exhaustion or other cause the ewe fails to bring forth her young further assistance should be given. If after an hour or so the lamb has not strength enough to stand and suck, the ewe should be gently laid on one side, and the lamb in a lying posture brought to the teat, a little being milked into its mouth at first to give it a taste, when it will soon take enough for the first meal. It is not wise to overload the stomach of the young lamb, as in the natural way it generally takes but little at a time on account of the mother frequently moving away. It is a good plan to have a few low hurdles provided about six feet long, with which small pens may be improvised for the accommodation of the ewe and her lamb for two or three days, till they get fully acquainted and the lamb learns to help itself, but it is not well to keep them longer confined that is really necessary for this. The ewes having lambed should be separated from those which have not, as the former will have to be better fed, while the latter may get too fat if fed as liberally as the nursing ewes need to be. When the lambs are about two weeks old they will begin to eat a little clover hay and oats, and when it is placed within their reach, and for this purpose it is well to give them the run of a small pen, which may be made with hurdles, with a "creep," through which they can run, while the ewes cannot get through. With a low rack and trough they can thus be fed regularly, and will grow and improve rapidly, and will not draw so heavily on their mothers as if not so provided for. Docking and castration should be attended to before the lambs are two weeks old, as at this age they bleed less and the shock is not as much felt as when they are older and the tails have grown large and fat. After "de-tailing" the lambs should be watched for an hour or two, and if any continue to bleed a piece of twine should be tied tightly around the stump and left till bleeding stops, when it should be cut away. If a ewe loses her lamb she may be induced to adopt one of twins belonging to another ewe by taking the skin off the dead lamb, drawing the neck and legs out of the skin so that it

can be forced tied in a small tick it as her and in that of ewes, unwashed days after, which sought new lambs. It is fore the spring all hands will may be left to in condition management

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can be fitted on the living lamb. The ewe being tied in a small pen with the lamb, will in a few days take it as her own. If the ewes are infested with ticks the lambs will soon suffer from this cause, and in that case we advise early shearing of the ewes, unwashed, and dipping the lambs in a few days after, when the ticks will practically all have sought new and fresh pasture afforded by the lambs. It is well to attend to all these things before the spring seeding commences, as after that all hands will be busily employed, and the sheep may be left to suffer on for a month or more, losing in condition when they ought and may by good management be gaining.

Cost of Producing Pork per Pound, Live Weight.

To the Editor FARMER'S ADVOCATE:

Being anxious to know how much a pound of live pork cost me to produce, I have tried a few experiments at different times with different bunches of hogs and with different kinds and prices of feed. The first trial was in May, 1895, with nine three-quarter-bred Yorkshires, average weight 105 lbs.; in 50 days they weighed 195 lbs., a gain of 90 lbs., but it cost me 4 1/2 c. per lb. to produce that 90 lbs. All the skim milk they received was valued at 20 c. per 100. Their grain ration was a good quality of middlings, costing \$18 per ton; the middlings were soaked in feed box for 24 hours with cold water, and a little salt added. They were fed morning, noon, and night, all they could eat up clean, with the skim milk added in their troughs at time of feeding. I paid 5 c. per lb. for them as store hogs, and sold them at 4 1/2 c. when fat, so that there was only a very small profit on the whole transaction.

The second trial was begun on Dec. 13, 1896, with ten cross-bred Berkshires from a Tamworth sire. Their average weight was 135 lbs., and in seven days had gained 14 lbs. each, which had cost to produce 2 1/2 c. per lb. At the same time we tested 24 pigs, same breed, at 60 lbs. each, and their gain was 10 lbs. in seven days, costing 2 1/2 c. per lb. All were fed the same mixture of feed, all they would eat up clean, morning and night, with a small feed of raw mangels at noon. Their feed was a mixture, as follows: Turnips pulped, then boiled in a 45-gallon furnace, one boiling daily to the whole number of pigs; the grain used was one bag of ground barley meal to one bag of wheat bran, evenly mixed together while dry, then mixed in the boiled turnips as hot as it was possible to handle it, and enough grain stirred in till it was quite thick, then covered and let stand a few hours before feeding; the skim milk being added in the troughs at feeding time. On the 14th of January, 1897, the ten large hogs were sold fat at five and a half months old, and averaged 205 lbs. each. The 24 smaller ones were now about 85 lbs. each. They were again tested for seven days, and gained 14 lbs. each, at a cost for feed of 3 c. per day, or 1 1/2 c. per lb. The only difference in their food was that they were receiving the share of skim milk from the ten fat ones sold, and in substituting middlings in the place of barley meal. The middlings were very cheap, only \$10 per ton. It seems that these trials would convince us that to produce pork profitably we must feed very cheap and bulky food and prepared in a warm form. W. C. SHEARER.

The Time Sows Should Farrow.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of March 1st, I see a number of answers to some questions from S. Hurley, Dundas County, Ont. No. 7 reads thus: "When is the best time to have the pigs come, in the fall, winter or spring?" The answers to which were in every case, spring or fall, except in that of John Bell, in which he says, "I never find pigs come wrong." Now, sir, I quite disagree with the idea of having all pigs come in the spring or fall, not because it is a bad time for the pigs to come, and especially in the spring, as the youngsters will get on the grass as soon as weaned and thrive much better on a small grain ration than they would do if confined in cold weather in a small pen. But then, there are other things to be considered, which, to my mind, are of far more importance than the one just named. Now, sir, let us suppose that every farmer arranges to have his sows farrow spring and fall. The result would be two sales a year—spring and fall—thus crowding the market at those times, so that it would be impossible for the packers to handle the hogs in so short a time, which would have the effect of reducing the price, for it is a well-known fact that where rush and hurry is resorted to in any business it cannot be done as cheaply as it could be where a regulation staff of experienced hands are constantly employed. But a short time ago I remember seeing a letter from Mr. Davies, of Toronto, on this very subject, in which he expressed himself thus, or in words to the same effect: "We could handle more hogs than we do if we could get the right kind of hogs and get them more regularly; but," he says, "the trouble is at certain seasons of the year we get more than we can handle, and at others we are idle for want of hogs." Now, sir, my plan would be, if the farmer is raising any considerable number of hogs, say he is keeping from three to ten or a dozen brood sows, is to have them farrow all along during the year, so that he could have a litter or two ready for market every month or two during the whole season, which

would do away with the trouble complained of by Mr. Davies. But some will say: "I cannot do that. I have no up-to-date pig house, etc., warm enough for sows to farrow in in the winter season." Well, you don't need it unless you are able to afford it. Build a rail pen high enough to walk in, cover it with long, coarse straw which has been tramped over by cattle or left in the stalls, and you will have a pig house that will answer every purpose until you are able to afford a better. I am not trying to depreciate the value of a good pig house, by any means, for I think they are among the most profitable buildings on the farm, and while I am writing, I wish to refer to another matter—the kind of hog to raise.

The packers are continually crying out, "Give us long, deep-sided bacon hogs." But, sir, do they encourage the raising of such hogs? To a certain extent I think the packer does. But then what about the local buyer? With him I think the blame rests to a considerable extent. The local buyer goes about the country buying hogs promiscuously—thick fat, sows, stags, long-sided bacon hogs—all one price, while it is a well-known fact among farmers that the long bacon hog cannot be raised as cheaply as the little, short, fat breeds; yet the buyer, for fear of losing the man's trade, pays him the same for his fat hogs as he does the man with the bacon hog, expecting if he gets out clear on the short hog to make a double profit on the hog which fills the market. Now, sir, I think the way to buy hogs is according to value—the same as wheat. Wheat is worth a certain price, standard 60 pounds; less than that, less price; more than that, higher price. Hogs, sows, certain price; thick fat, so much less; sows, stags, etc., so much less. JAS. BLACKBURN.

Bothwell Co., Ont. Against Stone Walls for Piggeries.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of February 15th I notice the enquiry: "Would stone walls for a pig house be damp and unhealthy if boarded on the inside and packed with some dry material to the width of three inches." The answer given, though somewhat noncommittal, I fear may be misleading, as I feel sure the experience of those who have built piggeries with stone wall has been anything but satisfactory, and I have very grave doubts as to the effect of the lining and packing having the desired effect of preventing dampness of the atmosphere in the building, as it will be more or less conducted by the packing. In cases where men have unfortunately built stone walls and proved their unsuitableness, probably the best thing that can be done to improve them is to line them with board, on the inside, and in that case I think a dead air space would be much better than the packing. It is claimed that concrete walls do not conduct frost and dampness and are therefore drier than some walls. Of this I cannot speak from experience, but I believe there is some show of reason in the claims since it is known that a concrete wall, while setting, at least, will absorb a large quantity of water, and it may have the effect after being fully set of absorbing moisture, but in the absence of experience as to this I should feel safer in recommending a frame building lined inside, and to make at once warm and dry would use two thicknesses felt paper. To do this it would probably be necessary to double board on the inside and paper between, but very cheap cull lumber might be used for the inside lining. In my experience cement floors answer the purpose all right where abundance of bedding is used. If bedding were scarce it would probably be necessary to make plank sleeping places for the pigs on a part of the floor of each pen. J. G. SNELL.

Peel Co., Ont. [NOTE.—It is claimed by those who advocate cement concrete walls that they dry by evaporation, and that by that means vacuum cells are left all through the walls, which are nonconductors, and that consequently a concrete wall is dry and warm in winter and cool in summer. If this is correct a stone wall may be improved by building up five or six inches of concrete on the inside to the height of the stone wall.—ED.]

Hunters Improvement Society's Show.

BY SPECIAL REPRESENTATIVE. The fourteenth annual meeting of this Society was held at the Royal Agricultural Hall, London, Eng., on March 8th, 9th and 10th. The first day was occupied in awarding the twenty-nine Queen's premiums of \$600 each to Thoroughbred horses likely to get hunters, each premium horse being allotted to a certain district and to serve not less than fifty half-bred mares, and to stand or travel in the district to which he may be allotted as the Royal Commissioners on Horse-breeding may direct. For these premiums there were entered 116 Thoroughbred stallions, some few amongst them being typical hunter sires, but many not of any particular amount of either quality or value for this purpose. The second day of the Exhibition was devoted to the judging of the hunter classes, which numbered eleven. The Exhibition is one of great educational value, inasmuch as one is able at one center to see a picked selection of the hunter stock of England. The Exhibition also affords an excellent market for such stock, from the fact that the show is largely patronized by the elite of the hunting fraternity. The quality and merit of the several classes and exhibits was hardly up to the superb exhibition of last year, when the young stock classes were such that with unani-

mous approval was accorded them the honor as being as good a lot as ever seen at any exhibition of this Society. The number of entries in these classes shows a very satisfactory increase over those of previous years, as the following table will explain:

Year—	'92	'93	'94	'95	'96	'97	'98
Hunter sires and colts.....	11	29	31	36	31	26	24
Hunter geldings.....	20	22	62	99	90	117	81
Hunter mares and fillies...	75	66	79	78	61	78	71

There was but one entry in the hunter sire class, and at the time of dispatch no award was procurable. There were three classes for geldings—one, two, and three year olds—and for these there was an entry of seventy-three. The classes were very useful, but of no exceptional merit; the premier winner being a very excellent and typical hunter colt, Raby, by Knight of Ruby, bred by and owned by Mr. James Ingledew, who secured the Challenge Cup (value \$250), the special prize as best gelding in the three class (value \$50), and the Society's gold medal in addition to the premier class prize (value \$100).

The young female classes numbered fifty-nine entries; generally speaking, being of better quality than the gelding and colt classes; the premier winner being here undoubtedly Lady Grace, two years old, who, in addition to the \$100 premier class prize, secured the special \$50 prize as best young mare one, two, three or four years old, and the R. N. for the Challenge Cup.

In the four classes for matured animals, mares or geldings, shown in the saddle, there was a capital entry and strong competition for the various premiums. "Zeo."

Our Scottish Letter.

In my last letter I think I gave some account of the Glasgow Stallion Show, the opening event of the kind in this country. It was, as usual, well attended and the quality was well sustained. The champion of the show, Mr. Matthew Marshall's Hiawatha 10067, is likely to have a good season. The champion Shire, Buscot Harold 16576, is much nearer to the Scottish type than most Shires, but he lacks the quality and style of Hiawatha. Lord Londonderry's Chastelard 10179, which won in one of the three-year-old classes at Glasgow, is a sweet, upstanding horse, and seems likely to have a good season in the Glasgow district. Mr. Richard Dunn's Gay City 10194, which tied with him and was preferred by one bench of judges, is a thicker and more massive horse, and is a son of the famous Cawdor Cup champion horse, Prince of Carruchan 8151, which he greatly resembles. Chastelard's sire, Holyrood, was a most distinguished show-winner, and was also bred by Lord Londonderry. Charlie Aitkenhead, who was long with Mr. Taylor at Park Mains, Renfrew, is in charge of the Seaham Harbour stud, and made a splendid job of both Holyrood and his son.

Shire men are having a grand time. Royalty and nobility patronize the breed, as was done in the halcyon days of the Shorthorn supremacy, and extraordinary prices are being paid by those in the ring. Between princes, dukes, lords, and millionaires generally, prices are being paid which make the modest Clydesdale man envious. Still, it is a curious fact that the highest prices paid for draft horses in Great Britain have been put down by tenant farmers for Clydesdales as simple business transactions. Still, let us not grudge the Shire men their money. Mr. Mundy got an average of £166 14s. 5d. for 46 of different ages the other week, and other averages were £118 5s. 9d. for 48, £82 17s. 5d. for 24, and £69 7s. 9d. for 16; but the most extraordinary figures were reached at the Sandringham sale of the Prince of Wales' stud, when the extraordinary average of £224 was reached. The highest price was £1,207 10s., paid by Sir J. Blundell Maple, M. P., for the three year old filly, Sea Breeze. The most notable feature of the Shire Horse Show was the phenomenal success of a Scotchman, Mr. Alexander Henderson, Buscot Park, Farringdon, Berks, who won all the champion and challenge cups, Buscot Harold being champion stallion, with his stable companion, Markeaton Royal Harold, the reserve, and Aurea champion mare, with the noted Queen of the Shires, which stood champion at the Royal, Manchester, reserve. Perhaps the most remarkable thing of all is the fact that Aurea is the dam of Buscot Harold. We do not remember ever hearing of a similar incident, and most notable of all, the awards were cordially endorsed by all parties.

The Hackney Horse Society held the field during the first week of March, and a magnificent show was the result. The awards were hardly as generally approved by the public as were those at the Shire Show, but, truth to tell, there is still a good deal of difference of opinion as to what makes a really tiptop Hackney. There are marked differences in type, even in families of one line of breeding, and it is hard to believe, for example, that the same breed is responsible for Rosador 4964, the champion of last year, and Royal Danegelt 5785, the champion of this year. Yet both horses are got by the famous Danegelt 174, and are not far apart in the breeding of their respective dams. It is a sufficient indication of the differences in Hackney taste to remind readers that last year Rosador was supreme champion, with Royal Danegelt reserve, whereas this year the positions are reversed. A bystander would say that Royal Danegelt is the bigger horse of the two, but as a matter of fact he is not. He won in the class for horses over 15 and not over 15.2, whereas Rosador won in the class for horses over 15.2. This in itself sufficiently indicates the difference in type of the two horses. Royal Danegelt is a grand harness horse, with lovely manners, a beautiful walker, and a fine, stately, but not sensational, trotter. He is rather upright in his shoulder and plain on his top, but he has magnificent quarters, and does everything in such a well-balanced way that one's heart warms to him. Rosador, on the other hand, is a far better made horse, his shoulders being perfect, and he has the conformation of a riding horse, which the other certainly has not. He is so uniformly well made that it does not occur to the bystander that he is as big as he actually is, and he moves with the most extravagant and sensational Hackney action. He is not as well made over his quarters and thighs as Royal Danegelt, but in regard to all other shapes

he simply beats him hollow. The victory of Royal Danegelt, which is owned by Sir Walter Gilbey, Bart., cannot be said to have become popular, but it was clear as noon-day that amongst the genuine Hackney fancy Rosador, which is owned by his breeder, Mr. F. W. Buttle, Thirkleby Manor, Wharham, would have been much more popular. The junior champion cup went to Mr. Tom Mitchell's Edemynag 5989, which has now won first at this great show three years in succession. He was got by Ganymede 2076, and the reserve to him was a lovely two-year-old, Lord Drewton, bred and owned by Mr. Frank Usher, Market Weighton, and got by the best named Hackney in Great Britain, Gentleman John 3624, which stood second to Royal Danegelt in his own class. Lord Drewton is the image of his sire and deserved his honors. Amongst the females Scottish Hackney breeders did very well. The President-elect of the Society is a Scotchman, Mr. C. E. Galbraith, Terregles, Dumfries, and he won the junior championship with his home-bred three-year-old filly, Vivandiere; third in the same class with another home-bred filly, Trilby; and first and second in the class for brood mares over 14 and not over 15 hands, with Lady Ulrica 4024 and Danish Lady 6559. Mr. Alexander Morton, of Gowbank, Darval, whose enthusiasm for the Hackney is unbounded, showed a lovely filly in the three-year-old class, named Gold Flash 10006. She was bred in Scotland by Mr. William Scott, of Gilfoot, Carlisle, who has one of the best studs of mares in the country, and for a time seemed likely to win the class. However, she was finally put between Mr. Galbraith's two fillies, so that in the three-year-old class all three fillies at the top were bred north of the Tweed. Gold Flash eventually stood reserve for the junior cup, beating all the two-year-olds and yearlings, and finally was declared the fourth best female in the show, the champion being the magnificent old mare, Brunette 49, a daughter of Lord Derby II. 417, now owned by Mr. Stewart Forster, and one of a pair of full sisters which about ten years ago carried the English shows by storm when exhibited in the driving classes. The reserve champion female was Sir Gilbert Greenall's Orange Blossom 5957, a truly lovely type of Hackney, and in our opinion the best mare in the show. Vivandiere stood third, and then came Gold Flash, so that Scotland is coming to the front in Hackney breeding. Amongst other successful exhibits from this part of the world were: Mr. David Mitchell's yearling filly, Polonia, bred by himself, which stood fifth in her class, and the same owner's Sabina 9496, which stood first here as a three-year-old in 1896, and was highly commended or fifth this year; Mr. James MacMeekin's Flora Crompton 10927, a beautiful mare, which occupied the same place in her class; and Mr. Alex. Morton's home-bred mare, Audacia 6367, which stood third in the same class as Orange Blossom. The first prize mare in the class not exceeding 14 hands, Ailsa 8822, although owned by Sir Gilbert Greenall, was bred by Mr. Morton at Gowbank also. Sir Gilbert purchased Gold Flash from Mr. Morton at the show. The sire of Gold Flash, Audacia, and Ailsa was Goldfinder VI. 1791, a remarkably well-bred horse which Mr. Morton bought at a London show some years ago for about £100 and sold to Sir Gilbert Greenall more than twelve months ago for £3,015. He is undoubtedly one of the best breeding stallions in England to-day. In the two-year-old filly class Mr. Henry Liddell Grainger, Aytun Castle, Aytun, another Scottish breeder, took fourth prize, with Premier Marsh, a lovely filly, by His Majesty, which last year was unbeaten in Scotland. The introduction of produce groups gave zest to the proceedings of the past week, and the awards were very interesting. First prize went to the champion Ganymede 2076, his three gets being Edemynag, Stow Gabriel, and The Conqueror, the last Mr. Alex. Morton's stud horse, which stood fifth in the same class as Rosador; Stow Gabriel belonging to Mr. Joseph Morton, a Norfolk breeder, and standing fourth in the same class. Next to Ganymede came the celebrated horse, Connaught 1453, with Gay Connaught 6020 (which stood second in the three-year-old class, and is out of the same mare as Royal Danegelt), the reserve champion mare Orange Blossom, and another mare named Geisha, which last year was owned by Mr. C. E. Galbraith and won several prizes. The third sire was Connaught's son, Garton Duke of Connaught 3009, perhaps the best sire of harness horses in England to-day. His representatives were the second two-year-old colt, Acid Drop 6248, and the mares Lady Helmsley 8085, which stood second to Orange Blossom in their class, and Queen of the West 11422, fifth in the same class.

The bull sales have been held of late, but we will reserve remarks on them until next letter, when the Galloway sales will be over like the rest, and general comments may be made.

Windmill Not Satisfactory for Filling Silo.

To the Editor FARMER'S ADVOCATE:
SIR,—Replying to Robert W. Meek's query in your March 1st issue re filling silo by windmill power, I would say, from my experience of two years with power mill, that such an experiment would surely result in disappointment. My reasons are that to have good ensilage you must keep on every day filling silo until finished, and at that season of the year winds that will give the necessary power are very seldom to be had. With regard to the make of windmill, I am one of those loyal fellows who invested in a Chicago Aermotor, and it has given me even better satisfaction than I had anticipated, but there is no reason for buying such a distance from home. If mill happens with an accident you must wait for repairs an unnecessary time. (The Toronto Aermotor is practically the same machine.) One Canadian manufacturer told me a twelve-foot windmill would give about from two to two and a-half horse power in a fifteen-mile wind. I would not like to be without mine now.
Wm. Ferguson,
York Co., Ont.

FARM.

The Fence Question.

To the Editor FARMER'S ADVOCATE:

SIR,—All up-to-date farmers are replacing their old rotting down wood fences with the late galvanized steel wire ones. Those who still insist on building the rail, plank and corduroy fences are looked upon as old fogies, and well they may be, for the time has come when wooden fences are out of date, and the wire ones have come to take their places. Then the question naturally arises, What is the best fence for a farmer to put up? Having been in the fence business for over five years, and in that time having handled three of the leading fences, and having seen the rest all in use, I feel that I am able to say just what kind of a fence a farmer should build.

First—He should have his end posts set very firmly, so that they will not give. If he does not wish to buy some of the iron ones which are manufactured he can use the following, which is just as good as long as it lasts: Cut, of the most lasting wood in your locality, the end posts 11 feet long and about 20 inches in diameter, set in the ground and firmly tramp. The second posts, or brace posts, should be 9 feet long and about 12 inches in diameter, set in the ground and firmly tramped. Then fit in a good brace about 6 inches from the ground in the brace post to within 12 inches of the top of the end post, then pass around the tops of the end and brace posts, about 6 inches lower than top of brace, four No. 10 wires; splice ends and twist into four-strand cable from half way between posts, which gives a very firm end. Then he should put on ten No. 12 cable wires, put on with ratchets at one end, and spaced as follows: 3-3-3-4-5-6-7-8 inches, in all 47 inches, which, with a barbed wire 7 inches above, makes a fence 4 feet 6 inches high. He should stay the wires together with the stiffest stay on the market—the one advertised by the Bowen makes as good as any—the stays to be about 14 inches apart, and made of two No. 10 wires twisted together into a solid cable. Experience has taught me that this kind of a fence, taking into consideration that it is horse high, pig tight, and bull strong, and that it gives perfect satisfaction, is the best, therefore the cheapest fence on the market to-day.
Morgan Co., Ill., U. S. A. JAS. A. GROVES.

Making Over a Rail Fence.

To the Editor FARMER'S ADVOCATE:

Our way of making a straight rail fence out of a done snake one requires the following tools: an axe, bucksaw, sledge hammer and wire pinchers. Take two pieces lumber, one by three, four feet long, lay one on the other, drive a wire nail through one foot from the end, or put a carriage bolt through; this forms an X to hold the rails while you put the wire on. Cut two lengths of stakes, one 4 1/2, the other 6 1/2 feet long, sharpen them, take medium-sized rails, lay them in line, lap one on the other 8 or 10 inches; take 4 1/2 foot stakes, drive one on each side at center of lap; take No. 11 annealed wire, raise the rail to any height desired, put wire around stakes under rails, pull tight and twist. Next put on 4th rail, lean 1 x 3 pieces against stakes, put rails on level with top of stakes, put wire on as before. Now fill in rails below, either two or three as required. To finish fence, take long stakes, place 4 feet apart at foot, lean across fence on each side of other stakes, drive in ground, put wire around stakes and under 4th rail, put on top rail, or rider, put wire around stakes over the rails on one side and under on the other; always pull wire tight as possible. The tendency of all straight rail fences is to go endways. To prevent this, take two rails, put at foot of stake, one on each side, and brace to top of next stake, wire to top and bottom rails; do this every 8 or 10 rods. Cost of wire from 1 1/2 to 2 cents per rod. Two men can build from 25 to 30 rods in a day.
Peel Co., Ont. H. C. C.

The Old Rail Fence was Good in its Day.

To the Editor FARMER'S ADVOCATE:

SIR,—From an item in last issue on "Farm Fencing," I take it that you invite correspondence on this line. For over forty years I have had experience chiefly with the much despised snake fence; and now in bidding it good-bye I wish to speak kindly of it. It was a good backwoods fence in its day, and in strict harmony with the surroundings of our early settlements. It had advantages over every fence of the present day—no cash needed in its erection or maintenance. The rails being split and the bottom rail laid, the women folk did the rest, a big consideration when the husband had to turn out at the McKenzie rebellion, or to attend the potash kettle. This winter I have drawn from Sarnia nearly 800 cedar posts. These will all be in the ground by seeding time. The posts cost \$10 per hundred at the yard. One trip was a day's work, and the load from 50 to 60 posts. At \$3 per day for man and team the posts would cost me \$16 per hundred. On both sides of my lane I put them 14 feet apart, and six strands of barb wire. The posts are eight feet long and are put 31 feet in the ground. Five wires would make a very good fence with a little banking up.

In my cross fences I put the posts 11 feet apart, and use the best of the rails. Strips made from rails wired to the post at top and bottom and center keep the rails in position. Six rails high makes an excellent fence—strong, durable, and

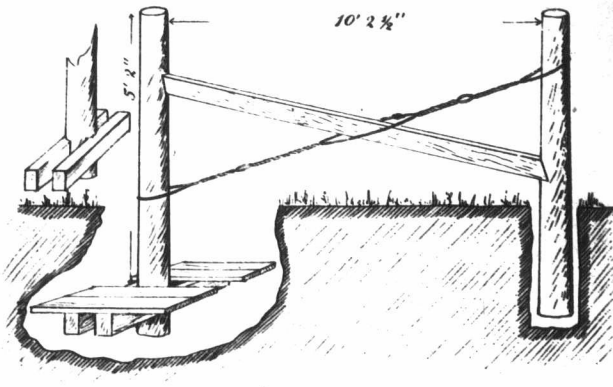
effective. Old rails fairly sound will last in such a fence for years; making a cheap fence, taking up no more land than a wire fence, and is the best purpose to which we can put sound old rails. The job is let at 15 cents per rod—to move the old fence, bore the holes, pack the posts, put on the wire, or the rails, I giving a hand to put on the wire and the rails. I pay 2 1/2 cents per pound for barb wire, but the price varies, and as I have not finished the work I have not made any calculation yet as to the exact cost per acre.

I must admit, Mr. Editor, your suggestion for setting a corner or terminal post is open to discussion. Too expensive to be practical. A sound post is necessary, but it need not be any heavier than an average post, nor need it be placed deeper in the ground; yet there are two things that must be remembered in setting a corner post: If not braced it is the one that will yield, and is more likely to be heaved with the frost. Here is my plan to prevent both: In bracing, a pole is let into a notch near the top of the corner post and braced against the foot of the next post and a stake firmly driven into the ground—any one knows that part; but to prevent it from heaving with the frost I put a cross-piece, 2 x 4 and 3 feet long, into a notch in the post two or three feet under the surface. A post so fixed will neither lean nor heave and will stand as solid as if built in with stone and cement. If the same is done with gate posts the gate will swing on being touched instead of being dragged open with both hands.
Lambton Co., Ont. JOS. OSBORNE.

The Best Fence and How to Build It.

To the Editor FARMER'S ADVOCATE:

SIR,—I have had five years' experience building both hand-made and woven wire fences, and will say, Farmers, build your own fences. The money paid for a woven or factory-made fence will build twice as much if you weave it yourself. Use hard coiled wire, No. 7 or 9 for the top, No. 9 for the bottom, and No. 11 for the intermediate wires, stayed with No. 12 or 13 soft wire every foot; space it as follows, beginning at the bottom: 3 1/2, 3 1/2, 4, 5, 5, 6, 7, 8, 8 inches, making a 50-inch fence. Keep this fence 18 inches from the general level of the ground and bank or plow the earth to it. No wire fence should be put on the level except yard or hog enclosures. This width of fence will allow your



CORNER OR END POST FOR WIRE FENCE.

line posts (ordinary eight foot posts) to be placed 3 1/2 feet in the ground. The cost for wire and staples will not exceed 30 cents per rod. Good cedar posts can be bought here for 12 1/2 cents. A weaving outfit we will say costs \$10, making a total cost of only 76 1/2 cents per rod for the first 100 rods, including posts, wire, staples, and machine. A factory-made coiled wire fence will cost you 60 cents per rod for the wire alone.

I know of no better way of securing the ends than the ordinary way—by bracing to a second post. The only objection is the big, unsightly wooden brace, and this can be remedied by using two-inch gas pipe, which makes a very neat end. Bracing may be done away with by setting a good large post in 4 or 5 feet square of stone and cement, but when people in this country settle on building a fence, they want it completed within 24 hours. End posts should be set four feet in the ground. I enclose you a drawing of a good end post. It is the best way I know of for setting corner posts where a double strain comes and they are apt to lift if not thoroughly anchored underground. One thing I would like every person to do when they are in too great a hurry to go to the gate. Instead of getting over in the middle of a panel of fence and sitting down on the top wire, go to a post. It is much easier to climb it there and will not spoil the appearance of the fence. Some day you may have reason to feel as I do when some brainless article flops himself over my fence. I can excuse a beast much easier.
Elgin Co., Ont. J. I. ROUTLEDGE.

Rebuilding Old Rail Fences.

To the Editor FARMER'S ADVOCATE:

SIR,—My plan of utilizing a worn-out zigzag rail fence is as follows: First of all, I tear down the old fence, placing the rails and stakes that are fit for use again in piles by themselves, and the worn-out rails in piles by themselves, for summer firewood. When I have bottom cleared, I set up the fence by the posts to be built. I then cut stakes long and one half foot long and sharpen one end, which I set in the ground ten or twelve inches and space them as far apart as the

length of is done, I overlapped stake wire keep on rails high I then cut I drive in them about of the fence rail for a put on gate the cross stake to from the pinchers. two post of rails u substantial Ontario

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To the Edi SIR,— issue, on spection actual ter following not pater est and fence tha panel has

First p ened at o drive a p line of p feet or t first pair, the stake tom rail Now for sharpen o drive the 18 inches upright s touches, then put the stake about two necessary your fence

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To the Edi SIR,— 15th issu the descri ago. Thi Picket W smooth th and thes twisted a

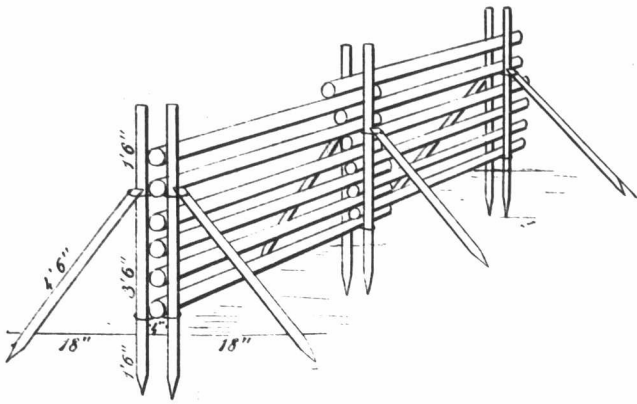
length of an ordinary rail will permit. When this is done, I commence at the bottom to put on rails, overlapping the ends, and fastening them to the stake with number eleven smooth fence wire. I keep on in this way until I have the fence four rails high, which brings it to the top of the stakes. I then cut cross stakes and sharpen one end, which I drive in the ground ten or twelve inches, placing them about two and one-half feet from the bottom of the fence, and long enough to hold a good sized rail for a rider where they cross at the top. I then put on good solid rails for riders, and wire them to the cross stakes. I then pass a wire from one cross stake to the other, passing it under fourth rail from the bottom and drawing it tight with the pinchers. It usually takes from one and a half to two pounds of wire per rod, according to the size of rails used. I have found this a very cheap and substantial stock-proof fence.

Ontario Co., Ont. ROBT. SPENCER.
Renovating Old Rail Fence—Setting Anchor Post.

To the Editor FARMER'S ADVOCATE:

SIR,—In reply to your article in March 15th issue, on Farm Fencing, I would say after close inspection of a number of patent devices, and an actual test of five or six more, we have adopted the following one of our own invention, and therefore not patented, which we think is the cheapest, neatest and best. We have at least 200 rods of this fence that has been built for six years, and not one panel has ever blown down.

First prepare the stakes, 6 or 6½ feet long, sharpened at one end and sawn off square at the other; drive a pair of stakes about 4 inches apart and in a line of proposed fence, next pair stakes to be 11 feet or the distance the rails will allow from the first pair, and so on to end; then put a wire around the stakes six inches from the ground for the bottom rail to rest on, then build on three more rails. Now for the braces. Cut the braces 4½ feet long, sharpen one end, flatten the other end to one inch; drive the brace into the ground about one foot, and 18 inches from upright stake. Cut a nick in the upright stake one inch deep just where the brace touches, which should be ¾ feet from the ground, then put on second wire, cross the wire between the stakes, wire to come down onto the braces about two inches, then lay on two more rails, or, if necessary, three, if the rails are very small, and your fence is complete.



The cost for new material is very small, as old stakes that are too short for cross stakes for worm fence can be used, or a cedar or oak rail will make two stakes or a stake and a brace; the wire will cost about one cent per rod. I think two men could prepare stakes and braces and put up 20 rods in a day. In this fence there are no wide spaces for stock to get their heads through; you can replace broken rails easily, or take out a panel without cutting a wire or taking out a stake.

I am pleased you are asking for discussion for setting anchor post and other post for wire fence, as we have put up considerable wire fence and propose putting up a long stretch in the spring, and I have given it a good deal of consideration. I am afraid the frost would burst the cement. My idea at present is, dig the hole 4 feet by 2 feet and 3 feet deep, with a hole 1 foot deeper in the center for bottom of post to rest in; take the anchor post, cut a gain 2 inches deep and 6 inches wide one foot from the bottom end, spike on securely a piece 2x6 inches and 3 feet long of good, tough wood, this piece to be set on a line with fence; set next post 15 feet from first post, put a brace from near top of anchor post to near ground of second post, put two or three twisted No. 9 wire from top of second post to ground line of anchor post. Before filling in end post put a flat stone on outside end of cross piece, fill in earth to within one foot of top, then fill in with small stones or gravel; this will keep the post from heaving with the frost. For intermediate posts I intend to use rather small ones, from four to six inches at top, and sharpen bottom end.

Peel Co., Ont. J. PICKERING.
Five Smooth Wires, with Barbed Wire on Top.

To the Editor FARMER'S ADVOCATE:

SIR,—Having noticed an article in your March 15th issue, entitled "Farm Fencing," I send you the description of a wire fence we built two years ago. This fence is advertised in your columns by Picket Wire Fence Co. of Toronto. We have five smooth twisted wires and a barbed wire on top, and these are joined together by wire sections, twisted around strands two feet apart, alternately.

The spaces between wires vary. Ours are placed 6, 7, 9, 11, 12 inches apart from the ground up.

We set posts 12 feet apart and 3 feet deep, except the three end ones, which were 6 feet apart and 4 feet deep, and braced thus, W. Two strips were spiked into notches near bottom of end post, and large stones placed on each side of post. The wires were wrapped around end post, and tied to wire to prevent post from turning and letting wires slack. Posts will last longer without a bank than with, if land is dry. I consider this fence neat and strong, and not so dangerous as barbed wire. Total cost per rod two years ago, including posts and staples, 65 cents. Wire is now cheaper, which will materially lessen the cost of fence.

Ontario Co., Ont. ALEX. JEFFREY.

Clover an Excellent Fertilizer for Potatoes.

BY JOHN TAYLOR, WATERLOO CO., ONT.

Our regular crop rotation is not arranged to suit the potato crop especially, but our potato crop is worked in with the rotation. Our potatoes will be planted the coming season on land that grew a crop of wheat in 1897. The field was seeded down and has an excellent catch of clover. The clover will be allowed to grow in the spring till about May 15th, when it will be plowed. The ground will be thoroughly harrowed, rolled and worked with the disk harrow. After the ground has been plowed and harrowed thoroughly a coat of barnyard manure will be spread on top (about 15 good loads per acre) and worked in with the disk harrow. More manure could be applied if the land needed it. Some will, perhaps, be afraid they could not work it in by cultivation, but we have found no difficulty in that regard. We believe clover can scarcely be valued too highly as a fertilizer for potatoes. Some of the finest crops of potatoes we ever grew were grown on an old clover sod which was full of clover roots. It was plowed about May 1st, planting the seed right in the sod every third furrow. It will take the potatoes about thirty days to come up, but you are almost sure, everything else being favorable, of a fine crop of good smooth tubers.

We will plant White Elephant mostly, which we find to be a good all-round potato for family use. Seed is cut from good averaged sized marketable tubers, two eyes to a piece. Too great care cannot be taken to have good fresh seed. Potatoes that have sprouted and grown much in the cellar or pit are not as good for seed, as so much of the vitality is lost. We prefer to plant in drills from 30 to 36 inches apart, setting about 14 inches apart in the row, 4 to 5 inches deep. During the last two seasons the bugs have been unusually plentiful. Last year many crops were almost destroyed in this locality by the bugs early in the season just as the potato was coming up. On that account we found late planting, near June 1st, the best for field crop.

Too great importance cannot be attached to cultivation. We keep working on the land with harrow and disk till potatoes are up. Then use the horse hoe or scuffler, running deep at first, then shallow, only stirring the surface, as we must be careful not to break the roots of the growing potatoes. Frequency will depend on the season largely. It does not pay to let a crust form after rain, as then a great deal of moisture is lost by evaporation. We are decidedly opposed to hilling up as is usually done by the plow. First because great injury is done the crop by cutting the little fine rootlets which spread out between the rows. Then the moisture is not so well distributed among the potatoes after a rain. Potatoes use a great deal of moisture. All the hilling needed is simply to keep the potatoes from being sunburnt. The growing tubers are apt to swell and crack the soil, but a very little earth thrown on them with the scuffler is all the hilling that is required. We prefer applying Paris green dry with plaster to destroy bugs, but have had little trouble yet with blight.

The Growing of Mangels, Carrots and Turnips.

BY THOS. A. CHISHOLM, BRUCE CO., ONT.

One of the objects of growing roots by most farmers is to help to clean the land, and either partially or altogether take the place of summer-fallowing. In regard to carrots, the first sowing of the three mentioned roots, the work up to the time of sowing is very similar to the others, but I always select the most mellow and cleanest part of field; then after sowing, even in the most favorable seasons, the germination and growth are very slow up to the thinning time, often giving weeds a start, causing the thinning to take at least double the labor of turnips, also a good deal more work is required to harvest crop, and greater care in stowing them away in such a manner that they will keep. This to a certain extent also applies to mangels; but as carrots are good for horses, and mangels for pigs, as well as being excellent for late spring feeding; it is well to grow them both to this extent at least.

Now, as to the preparation of land for these above-mentioned crops, it is very much alike in the first place, which, if at all possible, is best begun immediately after harvest the previous season by a light plowing of an oat stubble (if grown on sod all the better), followed by harrowing, and late in the fall by a deep plowing; after manuring the carrot portion of land with well-rotted manure, at the rate of fifteen to twenty loads per acre, if light or medium soil, but if heavy soil would recommend

less to be put on in fall, and a coat of green manure as free of weed seeds as possible, to be applied in the winter because of its mellowing effect on such soil.

For turnips and mangels apply manure in the winter, spreading as evenly as possible on surface, manuring the mangel portion heavier than the turnips, not less than twenty loads per acre, working the manure into soil as early as possible in spring by either common harrow, disk harrow, or gang plow, as found best adapted for the purpose. Have always plowed until last year with single plow before drilling up, but last year worked it with iron plow and disk harrow and secured a good crop.

Sow carrots about the 10th of May, earlier or later a week or so, according to season; on drills as narrow as can be worked, scuffed, say about 25 inches, sowing two pounds of seed per acre. Have sown turnips from the 1st of June to the 15th of same month in drills from 28 to 30 inches wide, sowing from 1½ to 2 lbs. of seed per acre.

To secure even germination of seed it is well to keep ground harrowed not less than each half-day's plowing, and also rolling if weather is very dry, leaving it rolled for a week or ten days before drilling up. Have found the half-long white carrot to be a good yielder. Mangels—The long red is the heaviest yielder, but the yellow mangel and the Golden Tankard are very fine quality. Turnips—I usually mix all the kinds of swede seed seedsman has on hand, but would recommend growing a portion of some green-topped swede turnips separated for late spring feeding, as they are extra good keepers, and also some Greystone, Aberdeen or white globe for early fall feeding.

Home Grown Seed Corn Earlier than Imported.

BY WILLIAM MOUNTAIN, PERTH CO., ONT.

We invariably follow the practice of plowing down sod, a clover sod being preferred, although on two or three occasions we have sown corn two years in succession with good results, the land being in good heart and well fertilized. We plow down the sod just before sowing, plowing as wide as can well be turned, working with disk and Acme harrows until it is as fine as it is possible to make it, using the roller if necessary, rolling after seeding also. The land intended for corn is top dressed during the winter with barnyard manure just as it is made, about ten loads to the acre. In our opinion, clover is a very valuable fertilizer, although it is not always available. By top dressing and plowing down a good heavy stand of clover it insures a sufficient amount of heat and moisture to give it a good start.

The varieties which have done best with us for the silo are the following, in the order named: Butler County Early Dent, Huron Dent, and Compton's Early. These varieties insure a good degree of maturity and a large proportion of cob. For a crop to husk, Compton's Early White Flint and Smut-nose. I would prefer to plant in hills were it not for the fact that we are generally pushed by work at this time, and also on account of the harvester working better when in rows than in hills. We sow with the seed drill, 37½ inches apart, sowing about ½ of a bushel to the acre. As soon as the corn is well above ground we commence to use the weeder, using it once a week or more if the ground is baked by rain, until corn becomes too large. We use the scuffler about three times at intervals, beginning at a good depth and becoming shallower as the corn roots extend outward. When scuffling the last time, about the time of blossoming, we put a homemade attachment on the rear of the scuffler which shoves a quantity of the loose earth up to the roots. We sow rape just alongside of the corn row on the south or east side. We only sow rape in part of the corn crop. Some years rape is quite a success, and in others, especially dry ones, it is only a partial success. For feeding lambs in the late fall the rape is good, and in a favorable fall makes a good growth after the corn crop is removed. It has been our experience that home-grown corn seed matures a week or more earlier than the same variety brought from the south.

Root Growing at the Dominion Experimental Farm.

BY JOHN FITZGERALD, FARM FOREMAN.

Comparing heavy clay soil against any of the sandy soils, I would say the clay takes one-quarter to one-third more labor. If a farm will allow selection of soil, choose for carrots light sandy loam; for mangels, medium; turnips, heavy sandy loam, tending to clay. For carrots or mangels select a field that has been a meadow two or three years. Plow very shallow immediately after the hay is taken off. Harrow and disk harrow sufficient to cut up all the sod and keep the surface cultivated until autumn. The cultivating should be done when the soil is dry and very warm. This is an excellent plan to kill thistles, scutch grass, or any other weeds. If the soil is heavy I would plow and subsoil deep in the autumn and spread on twenty tons manure per acre. For turnips select a field that has been in grain the previous year and has had clover sown with it. Do not touch the field until about May 30th, when you will have a heavy growth of clover to plow under. Roll with a heavy land roller. Disk harrow thoroughly up to the time of sowing, then make your drills two feet apart. Roll down about one third and sow.

Time and Manner of Sowing.—Carrots, 3 to 4 pounds per acre, sow May 1st to 10th; mangels, 4

to 5 pounds, sow May 1st to 10th. Turnips may also be sown at this date up to June 15th, at the rate of 2 to 3 pounds per acre; sow on drills two feet apart. Thin carrots to 4 to 6 in.; mangels, 8 to 12 in.; turnips, 8 to 12 in. apart in the drills. To test seed, take a small box filled with earth, select 100 seeds, plant them in straight rows so that they may be easily counted. Keep the box in a warm place in the house, or a better plan is to send a small sample of each to the Central Experimental Farm, Ottawa, where they will be carefully tested and reported to the sender free of charge. I consider the following varieties best, carrots: Improved Short White, Mammoth White Intermed., Iverson's Champion Giant White Vosges; but there are several other short white varieties equally as good. For red carrots: Early Gem, Guerande or Orheart. Mangels: Mammoth Long Red, Giant Yellow Intermediate, Champion Yellow Globe. Turnips: Purple-top Swede, Skirving's Champion, Jumbo or Monarch. As to keeping quality all of the varieties which I have mentioned are good keepers, providing they are put into the root house right. They should be put in dry and clean and in bins five feet square and five feet deep. Keep the root house well ventilated and at a temperature of 36 to 38 degrees.

To grow roots successfully do not fail to observe the following: The first day you can see the young plants up in the rows and the soil is dry pass a hand wheel hoe along every drill, loosening both sides at once very close to the row, allowing the air to get into the hard-packed soil. This will also kill all the weeds that have started. I have often found it well to pass over the drills twice with the hand wheel hoe before the plants are high enough to use the horse cultivator. This is the point where so many fail in growing roots. They allow the plants to get high enough for the horse cultivator to work and at the same time the weeds have grown equally as well, when it costs three times as much to hoe and thin the plants, besides the great loss or drawback in growth of the crop. By this plan of close cultivation, thinning is made an easy matter, and the crop requires less hoeing. Keep on the horse cultivator at short intervals when the soil is dry whether there be weeds or not as long as you can get through the rows, and in no case allow the soil to roll against the roots, as covering the roots will stunt their growth.

Hay Growing and Seeding Operations.

BY W. A. HALE, SHEERBROOKE CO., QUE.

Living as I do within two miles of a city where manure can be bought for 50 cents a heavy two-horse load and five to six tons of it delivered by one man in a day in the fields, I am at present making hay my principal market crop, selling it loose, delivered in the city. Therefore my main method of rotation is not altogether what I should recommend for ordinary mixed farming, as I have no silo, and do not now grow roots in the large quantities that I once did. In the hay meadows I maintain their fertility principally by top dressing, allowing at the rate of five tons of good manure a year to the acre, but this proportion is put on at different periods as the soil and season seem to demand. Frequently, enough for five years is put on and harrowed in at the time of sowing the grain (oats, 3½ bushels to the acre I usually seed down with), or if the soil is in good heart and the meadows simply require re-seeding (timothy is apt to run out on our soils in five years, some suppose from using dull knives in the mowing machines). The lea is plow 4 deeply, oats and grass seed sown in spring. The question of rotation is too important to be treated properly in a short article. Wheat is but little grown here. Of oats, the American Banner I find the best all round; barley, the two-rowed Chevalier; and of field peas, the Prince Albert. Hay for market should be timothy, or with a slight mixture of Alsike clover. In Boston they prefer timothy with one-third red-top. For home use, particularly for dairy and fattening stock, I prefer orchard grass, June grass, June clover, and Alsike cut early, even earlier than what is called early cut hay, and timothy, Mammoth clover, 3 lbs.; Alsike, 3 lbs. to the acre. For immediate pasture, 4 qts. timothy, 1 bushel June grass, 3 lbs. Alsike, and 3 lbs. White Dutch clover. Barley preferred for seeding down, next oats, if sown early, sow and cover with light harrow after the grain has been harrowed in, then roll thoroughly, or if a seeder is used roll without harrowing.

For keeping up the fertility of the soil I use ordinary manure, piled first so as to rot before spreading, and so prevent many weeds from seeding, and for root crops other than potatoes, turn the manure once before spreading. Hardwood ashes and clover plowed under I find very profitable. In using ashes, they seem so peculiarly adapted to clover that I would spread them on the grain at time of seeding down, but with little or no hopes of any benefit the first year, but for three or four years afterwards ashes will show their benefit on clover in a way that nothing else will. Save the ashes, and do not let our American cousins buy them, even at 25 cents a bushel!

To keep free from weeds, hoed crops, the use of a weeder [NOTE.—Such a weeder as that advertised by Maxwell elsewhere in this issue.—EDITOR], and by early plowing, cross harrowing in the spring with a disk or spring-tooth harrow, and again harrowing in fine weather before sowing barley. I have subdued a market garden that had been given up to weeds. For preserving moisture I find that

grain fields that have been well rolled in spring and hay fields that have been top dressed in the autumn suffer less than those that have not, while for root crops constant shallow cultivation in dry weather has a wonderful effect.

I have never yet thought it necessary to treat seed oats, wheat or barley for smut, nor field peas for bugs, depending on clean seed to start with, and to prevent scab in potatoes I avoid planting on the same ground without four years intermission, and select a soil as free from moisture or a clay mixture as possible, and use manure that is not too strong in nitrogen.

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

To the Editor FARMER'S ADVOCATE:

SIR,—Upwards of 1,000 varieties of farm crops have been tested in the experimental department of the Ontario Agricultural College, Guelph, within the past twelve years, and 600 of them have been grown for at least five years in succession. Nearly all the Canadian sorts, and several hundred new varieties imported by the Experimental Department from different parts of Europe, Asia, Africa, Australia, and the United States, have been included in these carefully conducted experiments. Some of the new varieties have done exceptionally well and have already been distributed over Ontario, through the medium of the Experimental Union, with very gratifying results. The Siberian oats, Mandscheuri barley, Herrison Bearded spring wheat, and the Mammoth Cuban Yellow Dent, Wisconsin Earliest White Dent, and the Salzer's North Dakota varieties of corn, which are now becoming so popular in Ontario, were imported by the Experimental Department, and after being thoroughly tested were distributed in small quantities. The present system of co-operative experimental work in agriculture was started in 1886 with 60 plots, which were situated on twelve different farms in Ontario. Since that date, however, the work has increased from year to year, and in 1897 there were 11,497 plots, which were situated on 2,835 farms.

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

LIST OF EXPERIMENTS FOR 1898.

1. Testing nitrate of soda, superphosphate, muriate of potash, mixture, and no manure with corn.
2. Testing nitrate of soda, superphosphate, muriate of potash, mixture, and no manure with mangels.
3. Growing three leguminous crops for green fodder.
4. Growing three mixtures of grain for green fodder.
5. Testing four varieties of millet.
6. Testing four varieties of grasses.
7. Testing four varieties of clovers.
8. Testing three varieties of buckwheat.
9. Testing three varieties of spring wheat and one variety of spring rye.
10. Testing four varieties of barley.
11. Testing five varieties of oats.
12. Testing four varieties of peas.
13. Testing three varieties of beans.
14. Testing five varieties of carrots.
15. Testing four varieties of mangels and one variety of sugar beets.
16. Testing two varieties of Swedish and two varieties of fall turnips.
17. Testing six varieties of corn.

Material for either No. 1 or No. 2 experiment will be sent by express, and for each of the others by mail. The supply of material being limited, those who apply first will be sure of obtaining the desired outfit. It might be well for each applicant to make a second choice for fear the first could not be granted.

Particular varieties need not be mentioned, as all the kinds to be distributed are those which have done exceptionally well upon the trial plots in the Experimental Department.

C. A. ZAVITZ, Director, Guelph.

Agricultural College, March 21, 1898.

Gasoline Engines on the Farm.

For a good many years I was unable to decide what was the best farm power or what was most convenient and economical to operate such machinery as we needed on the farm. I have tried in turn tread and sweep powers, steam engines, and, lastly, a gasoline engine. Two years since I purchased a six-horse power gasoline engine, and can now say that it fills the bill exactly—just what every farmer should have who shreds his fodder and grinds feed in sufficient amount to justify the outlay of money on a good power. During the year I shred from forty to sixty acres of corn fodder, cut oats, grind feed and a few tons of bone meal for myself, and do a good deal of grinding for neighbors. With a convenient power I find that I use it much oftener than I did powers that took considerable time to get them ready for business.

I cannot imagine anything more convenient than a gasoline engine for use on the farm, unless it would be a perpetual motion. At any time, day or night, hot or cold, I can go into the barn, and without so much as even striking a match, have my engine running at full speed in two or three minutes. Oil it up and start it, and you need not go near it again for half a day, and only then to oil or refill the gasoline tank. It gives a strong, steady power, and is very easy to operate. I have not

been out a cent for repairs in the two years that I have been running my engine. It occupies but little space on the barn floor, and there is no danger of firing the hay or straw, or any litter that may accumulate around the engine. As to cost of running, this item does not foot up very much, as no engineer is needed, and the cost of fuel or gasoline is only fifty or seventy-five cents a day, according to the amount of power necessary to speed up the machinery you have in operation. It does not have to be very large. A two-horse power engine would do for a small farm. I would always have an engine on trucks, so that it might be easily shifted about the barn or to different parts of the farm. The two-horse engine being small, I would mount on runners, as two horses could draw it easily about from place to place when needed. We know there are many farmers who would buy a power for home use if they were sure they were getting a good, cheap, safe and reliable machine. I will only add that if you select a reliable make of gasoline engine you will make no mistake, and after you get it you will wonder how you got along without it.—W. W. S., in *Prairie Farmer*.

Regulation of Sex.

The problem of regulating the sex of domestic animals at the will of the breeder is one which has engaged the attention of scientists and experimenters for centuries with very meager results. Many theories have been advanced, with more or less confidence and assurance, but in practical application we apprehend the exceptions to the rule have proved so numerous as to cast grave doubts upon their reliability, and the mystery seems as far as ever from being revealed. In a late number of that excellent English journal, the *Farmer and Stock Breeder*, Mr. C. T. Fields-Clarke, F. S. I., M. S. A., discusses the subject in a lengthy article, and arrives at a conclusion which seems to be tolerably satisfactory to himself. From this article we quote the following:

"The subject of generation and of its ally, reproduction, with the question of sex is an interesting one, and has justly engaged the attention of savants of all ages from the earliest times until now—from Aristotle and Pliny to Huxley and other scientists of our day. Interesting as the subject is for its own sake, it is, of course, doubly so when research is rewarded by practical results likely to tend to the convenience or profit of any class of the community.

"An experience extending over many years in the breeding of horses and cattle has led me to the conclusion of our ability to regulate sex in offspring. Although the knowledge of the matter has required much time, patience, and labor to acquire, a very short space will suffice to explain clearly the *modus operandi* required, and very little time will be necessary to understand the principle fully.

"Now, it is generally known that mammalia possess two ovaries, in which the ovum or egg is produced. For distinction these ovaries may be termed right and left. As a rule, horses and cattle give off one ovum only, alternately from the right and left ovary at each menstruation, the sex being determined by the particular ovary from which the ovum emanates, and is in no way affected by male fluid, except as a germinating element.

"What I wish specially to record is that one ovary contains male eggs only, and the other female eggs only, and the development or otherwise in either or both of the ovaries is affected more or less by the various influences mentioned in the preceding paragraphs by the authorities quoted, particularly food and temperature. Take sheep. It is an indisputable fact that ewes are more susceptible to conceive when in an improving condition, or in other words, the ovaries have been called into activity by the improved change in condition.

"I am convinced (setting aside freaks in nature) that the left ovary contains the female ovum, and the right ovary the male ovum, and that the first ovum which escapes into the uterus at the age of puberty is from the right or male ovary, and at each succeeding menstruation the sex of the ovum alternates.

"Further, if two ovum are given off from the left simultaneously twin females result, *vice versa* from the right ovary; or, if the right and left give off together twins of different sexes appear, assuming, of course, they are attacked and fecundated by the spermatozoa of the male. My greatest difficulty has been in fixing what sex the first fetus would be, knowing that the young animals have menstruated ovum many times before fecundation has been permitted. After the first fetus has been determined the regulation of sex is then a matter for careful observation. Take a concrete case. Suppose a cow to be fit for the bull shortly after her first or any calf, and the calf in question is a bull calf, and it is desired to reverse the sex at the next calving, then fecundation should be effected at the 1, 3, 5, 7, or any odd number of menstruations after calving. If, however, it is desired to repeat bull calves, then fecundation should be effected at 2, 4, 6, or any even number of menstruations after calving. The principal point to grasp is that each menstruation changes the sex alternately.

"The persistent manner in which nature has responded to this rule, as vouched by experiments extending over many years with large herds and studs, leads me to claim it as one of nature's unerring laws. What is more, the children of Adam are each the victim of this 'order of nature.'

Since the important bearing of dairyman's p is one of the Ontario cheese a late issue Instructor in haulage of m ages a cost to cent per pound twice that an pointed out saved in haul Each factory tory and wi still further reason of th What is tru equally well portable prod haulage and

During th has been ma system of ros edly striking but see that many small and incompe great lack of not hope, ho out and accep counties or but while th brought abou much to pres and fields, w use of wider advantage h ducted tests wagons mad ment Static macadem, g and on mead wet and dry means of a s load was in e Contry to o cases the six inches in were made v The followi

1. On mac trials made, hauled on th a load of 2,000

2. Gravel road, except the broad t that of the six trials, a the broad tri load of 2,000

3. Dirt R from ruts a hauled on t quired for 2 When the s inches of ve favorable to in each of th clay road, a firm underr favorable to with mud d and spongy showed uni The differer or about 3,2 broad tires 2,000 pounds of road the vantage. A the differen narrow tire about 25 to gravel or m On the othe deeper, the types of wa dition is re sets of wh tires cease materially with deep nary use of of the bre shown a m with that The second track wher nated this d for the bro the first ru deep with in its own eliminate broad tire sufficient, l that both passed ov narrow tire to the sav much more of light vel runs of the

Broad Tires and Good Roads.

Since the cost of transportation has a very important bearing upon a farmer's and particularly a dairyman's profits, the improvement of our roads is one of the live topics of the day. At the Western Ontario cheese and butter convention, reported in a late issue, Mr. A. W. Campbell, Provincial Instructor in Roadmaking, pointed out that the haulage of milk to a factory over a good road averages a cost to the producer of three-quarters of a cent per pound of cheese, and over a bad road just twice that amount. Were all our roads good it was pointed out that half a million dollars could be saved in haulage each year in this one industry. Each factory, too, could draw from a larger territory and with greater expedition, which would still further reduce the cost of manufacturing, by reason of the need for fewer factories and men. What is true in cheese factory districts applies equally well where creameries manufacture the exportable product; and also in other sections where haulage and traffic are necessary.

During the last few years considerable effort has been made to have a more generally uniform system of road building adopted. This is undoubtedly striking at the root of the evil, as one cannot but see that even a slightly different system in the many small road beats, directed by ever-changing and incompetent instructors, must result in a great lack of progress and improvement. We cannot hope, however, to see an ideal system worked out and accepted by the entire country, or even by counties or municipalities, within a short time, but while the desired change is being gradually brought about, individuals or neighborhoods can do much to preserve the condition of the roads, lanes and fields, with less draft on their horses, by the use of wider tires on their wagons. The amount of advantage has been arrived at by carefully conducted tests of the draft of wide and narrow tired wagons made at the Missouri Agricultural Experiment Station during the past two years on macadem, gravel and dirt roads in all conditions, and on meadows, pastures and plowed fields, both wet and dry. The draft has been determined by means of a self-recording dynamometer. The net load was in every trial the same, viz., 2,000 pounds. Contrary to public expectation, in a large majority of cases the draft was materially less when tires six inches in width were used than when the tests were made with tires of standard width—1 1/2 inches. The following is a summary of the results:

1. On macadem street, as an average of the two trials made, a load of 2,518 pounds could have been hauled on the broad tires with the same draft that a load of 2,000 pounds required on the narrow tires.

2. Gravel Road.—In all conditions of the gravel road, except wet and sloppy on top, the draft of the broad tired wagon was very much less than that of the narrow tired wagon. Averaging the six trials, a load of 2,482 pounds could be hauled on the broad tires with the same draft required for a load of 2,000 pounds on the narrow tires.

3. Dirt Roads.—(a) When dry, hard, and free from ruts and dust, 2,530 pounds could have been hauled on the broad tires with the same draft required for 2,000 pounds on the narrow tires. (b) When the surface was covered with two or three inches of very dry, loose dust, the results were unfavorable to the broad tire. The dust on the road in each of these trials was unusually deep. (c) On clay road, muddy and sticky on the surface and firm underneath, the results were uniformly unfavorable to the broad tires. (d) On clay road, with mud deep, and drying on top, or dry on top and spongy underneath, a large number of tests showed uniformly favorable to the broad tire. The difference amounted to from 52 to 61 per cent., or about 3,200 pounds could have been hauled on the broad tires with the same draft required to draw 2,000 pounds on the narrow tires. In this condition of road the broad tires show to their greatest advantage. As the road dries and becomes firmer, the difference between the draft of the broad and narrow tires gradually diminishes until it reaches about 25 to 30 per cent. on dry, hard, smooth dirt, gravel or macadem road, in favor of the broad tire. On the other hand, as the mud becomes softer and deeper, the difference between the draft of the two types of wagons rapidly diminishes until the condition is reached when the mud adheres to both sets of wheels; here the advantage of the broad tires ceases entirely, and the narrow tires pull materially lighter. (e) Clay road, surface dry, with deep ruts cut by the narrow tires in the ordinary use of the road. In every trial the first run of the broad tire over the narrow tire ruts has shown a materially increased draft when compared with that of the narrow tire run in its own rut. The second run of the broad tires in the same track where the rut is not deep completely eliminated this disadvantage, and showed a lighter draft for the broad tire than the narrow tire showed in the first run. Where the ruts were eight inches deep with rigid walls, three runs of the broad tire in its own track over the ruts were required to eliminate the disadvantage. Three runs of the broad tire over this track have in all cases been sufficient, however, to so improve the road surface that both the broad and narrow tired wagons passed over the road with less draft than the narrow tires did in the original ruts. In addition to the saving of draft, the road was made very much more comfortable and pleasant for the users of light vehicles and pleasure carriages by the few runs of the six inch tire. Summing up all the tests

on dirt roads, it appears that there are but three conditions on which the broad tires draw heavier than the narrow tires, viz.: (1) When the road is sloppy, muddy or sticky on the surface and firm or hard underneath; (2) when the surface is covered with a very deep, loose dust and hard underneath; (3) when the mud is very deep and so sticky that it adheres to the wheels of both kinds of wagons. It appears that the draft must be extraordinarily deep to show a higher draft for the broad than for the narrow tires. The three conditions just named, therefore, are somewhat unusual and of comparatively short duration. Through a majority of days in the year and at times when the dirt roads are most used and when their use is most imperative, the broad tired wagons pull materially lighter than the narrow tired wagons.

4. A large number of tests on meadows, pastures, stubble land, corn ground, and plowed ground in every condition, from dry, hard and firm to very wet and soft, show without a single exception a large difference in draft in favor of the broad tires. This difference ranged from 17 to 120 per cent.

5. It appears that six inches is the best width of tire for a combination farm and road wagon, and that both axles should be the same length, so that the front and hind wheels will run in same track.

Contents of Stacks.

The following rules may be considered practically accurate for ascertaining the contents of hay stacks. For circular stacks, square the average girth, multiply by .07958, multiply this by the perpendicular height—all in feet—gives the contents of the stack in cubic feet. For the conical top take area of eaves (girth at eaves squared, multiplied by .07958) and multiply by one-third the perpendicular height. For oblong stacks with perpendicular ends, multiply the length by the average width, and the product by the height from the ground to the eaves. For the top multiply the area at the eaves by half the height to the ridge.

The weight of hay per cubic yard in the stack varies from 112 pounds to 300 pounds, depending on the nature of the hay, the size of the stack and the part of the stack taken. A cubic foot of hay usually runs from seven to nine pounds. For the different conditions of hay and stacks, the number of cubic yards to a ton will approximately vary as follows:—

	Square Stack. Cubic Yards.	Round Stack. Cubic Yards.
If not well settled.....	12	13
If fairly well settled.....	10	11
If very compact.....	8	9

DAIRY.

Aid for an Algoma Dairy Enterprise.

W. H. EVOY, Bar River, Algoma, Ont., writes us as follows:—"In October we called a meeting of the inhabitants of two townships, and organized for a cheese factory; chose the site, which is all that could be desired for situation on the boundary line between Laird and McDonald townships; elected our officers for a joint stock company, with 400 shares of \$5 each (\$2,000). We sold 300 shares, and have about 275 cows signed to start with, and will have no trouble getting 500 cows in two years, but now the trouble begins. We have not found any place yet where we can get the money to build with at a reasonable rate. We are willing to pay 6 per cent.; the security is good. Now, can you tell us where we may raise the money? Amongst your many friends and acquaintances we think you have plenty of moneyed men."

Mr. Tillson's Reply to Mr. Linton.

To the Editor FARMER'S ADVOCATE:
SIR,—In answer to your correspondent, I. Linton, on page 129, FARMER'S ADVOCATE of 15th March, asking how I get the milk through a 1 1/2-inch pipe 30 rods to the piggery without having the pipe clog. I beg to say that I have had no trouble in that way. The floor of my separator room is about five feet above the ground level, and the steam boiler room is two feet below ground level; the back end of boiler room is partitioned off for skimmed milk room, the floor of which is six feet lower than separator room. In this room there is a large double milk vat, similar to a cheese vat, holding 80 to 100 gallons, arranged for cold spring water or steam to pass through in space between the two vats so that we can cool the skimmed milk directly after separating, and when we wish to use it for feeding calves or pigs we let in the steam and heat it very quickly. This vat sits up about four feet from the floor. The milk runs from the separator in a tin trough into this vat, then into the 1 1/2-inch pipe leading to hog house. We run live steam through this same pipe for heating and cooking feed in the hog house. There is a regular fall all the way from creamery to the hog house of one inch to the rod so that the milk all runs clean out of the pipe. At the upper or creamery end of this pipe we have a direct fall of from three to four feet from the large receiving vat into this 1 1/2-inch pipe, which gives a small pressure to start it off rapidly, and as the milk stands some little time in this vat, after separating no froth enters the pipe to clog it, and then this pipe has a connection at the upper end with waterworks pressure, so that after passing the milk through we open a tap and let a strong force of water flush through. We have not had the least trouble with the milk clogging in the pipe or

sticking fast to the pipe from the heat of the steam, which I was most afraid of. I intend to have an arrangement whereby I can open or shut all or each of these three taps at the upper end from the hog house or lower end by having three wire cables running from the hog house to creamery and connected with each stopcock—milk, water, and steam—and worked same as a railway semaphore, all to be worked from the hog house end.

E. D. TILLSON,
Annandale Farm, Norfolk Co., Ont.

**Kerosene Emulsion for Lice on Cattle--
Liniment for Garget.**

To the Editor FARMER'S ADVOCATE:

SIR,—In perusing the pages of the ADVOCATE I notice quite often parties asking for cures for lice on cattle. You answer the questions well. My cure is as follows: Say for 50 cows take 4 pounds hard soap (common), cut it into small pieces or shave it up into a kettle, put 2 or 3 quarts of water with it, and boil till it is all dissolved. In a pail put 6 quarts coal oil. Now pour your soap into the pail, and mix thoroughly soap and coal oil together away from the fire. Take a barrel and pour the mixture into it, and add 6 gallons of soft water, stirring all well together, and it is ready for use. With this bathe your stock well; don't be afraid to apply it liberally and thoroughly all over the animal. Then in 24 hours take curry comb and brush and brush them well. If they are bad give another bath in 2 or 3 days, as some eggs and stray lice may be missed. Then look and see how clean your stock will be. The old hair will come off freely, the scurf will be loosened up, and if you curry them well your stock will be and feel 50 per cent. better, and will then thrive and do well.

Another Recipe.—If a cow has got her udder externally hurt by being hooked, struck, or by climbing over some obstruction, as is often the case, bathe the parts well with hot water, and then dry well by rubbing with a coarse cloth, then apply goose oil, 1 part; coal oil, 1 part; spirits of turpentine, 1 part; all well mixed together; apply liberally, and rub well in twice a day. If she is a fresh cow and in high flesh she may have a good deal of fever in her udder. Feed her lightly, and give her a dose of opening medicine—1 1/2 pounds Epsom salts and 2 ounces ginger, dissolved in 2 quarts warm water—before she calves, and one after a few days; if bad case add teaspoonful saltpeter in dose after calving. Give warm drinks for 2 or 3 days. Use liniment same as above, and your cow will come through all right in most cases.

Silver Spring Creamery, Pa. I. LINTON.

**Some Holstein-Friesian Butter Records --
Canadians In It.**

At the annual meeting of the Holstein-Friesian Association of America, held March, 1897, the board of officers was authorized to offer \$1,250 in prizes for authenticated weekly butter records, made under the supervision of the officer of some experiment station. In connection with the published schedule of records of the cows competing for these prizes for the official year 1897-8, it is explained that the principle which governs in the awards is similar to that which governs in handicapped races, when different ages compete. The ages are placed on such a footing that all, as near as possible, have an equal chance of winning. A graduated scale of requirements, increasing with every day of increased age from two to five years, is fixed. The requirement at two years is 9 pounds, at five years 15 pounds. The increase for each day is .09 of an ounce, and each cow is credited with the percentage she makes in excess of requirement, and the total result is the equivalent record at full age in pounds of butter on the basis of 80 per cent. fat.

It is gratifying to find that in this great record of tests some Canadian cows take a very high stand: Calamity Jane, owned by A. & G. Rice, Currie's Crossing, Ont., being only surpassed by one full aged cow, which was Helena Burke, owned by Henry Stevens & Sons, Lacona, N. Y., while Inka Sylvia, owned by G. A. Gilroy, Glen Buell, Ont., a three-year-old cow, with the allowance for age, scored the highest of the 68 cows in the competition. The equivalent record for these three cows, therefore, stands as follows:

Name of Cow.	Age, Years.	Pounds of Milk.	Average Per Cent. of Fat.	Total Score.
Inka Sylvia.....	3	568 1/2	3.69	29 lbs. 0.78 ozs.
Helena Burke.....	7	654 1/2	3.11	25 " 7.28 "
Calamity Jane.....	6	560 15/16	3.44	24 " 2.21 "

The Essentials to Success in Dairying.

E. C. Bennett, of Iowa, writing to the American Creamery, thus summarizes the essentials to success in dairying:

"The farmers here have already learned that there are three essentials to success in these days of close margins: yea, four of them: A good flow of milk, sufficient fat contents, persistency in 'holding out,' and economical use of the food consumed. The last requirement is now seen to be the most vital one of all. What boots it if a cow gives a wash tub full of milk twice a day, testing way up in F sharp, if it takes a dollar's worth of feed to produce ninety-five cents' worth of butter? The pivotal point upon which loss and profit stand poised is the selection of cows of the type, temperament and heredity which you can train to produce the most butter-fat from a given quantity of food."

ENTOMOLOGY.

Legislating Against the San Jose Scale.

In order to protect the fruit-growing interests of Canada from injury by the further introduction of the insect pest known as the San Jose scale, Hon. Mr. Fisher, Dominion Minister of Agriculture, on March 16th introduced a bill prohibiting the importation of any trees, shrubs, plants, vines, grafts, cuttings or buds usually called nursery stock from any country to which the Act may be declared to apply by order-in-council. In like manner its application may be suspended when it appears that the importation of nursery stock may safely be permitted. Any importations made shall be forfeited to the Crown, and may be destroyed, and the person so doing will be liable for an offence under the Customs Act. Any classes of plants, cuttings, etc., shown not to be liable to the scale may be exempted by order-in-council, and the importation of nursery stock for scientific purposes permitted. The rules of the House were suspended so that this Bill could be given the three readings at one session, which was done, the Opposition concurring. Two or three members took exception to the measure as altogether too drastic, its supporters, however, contending that prohibition was the only effective way to deal with the pest, and to supplement such legislation as that adopted by the Ontario Legislature for getting rid of the pest in a few counties where it has been introduced. Hon. Mr. Fisher was backed up in his position by petitions from fruit-growers, and practically all the fruit-growers' associations in Canada; also by the views of entomologists as to the serious nature of the scale and the difficulty of combating it, though so far as the published reports go little information of a specific nature was given as to the actual destruction on fruit or other trees wholly or in part by the pest. Protests have been made by those interested in importing U. S. nursery stock or desirous of so doing, and it will be felt severe in Manitoba and the Northwest where nursery stock from Eastern Canada does not thrive like that grown in Northern Minnesota. In the meantime dependence will have to be placed altogether both East and on home-grown stock. The new Act placed a strong lever in the hands of Canadian nurserymen with which to raise prices, but of which they would do well not to press, otherwise strong feeling will be provoked. The Bill also passed the Senate, and the following day received the Royal assent, and became law. The countries from which importations are prohibited are the United States, Japan, and Hawaii. Orders were at once issued to all customs officers concerned. The urgency in pushing the Bill through was that advantage might not be taken of any interval to flood the country with American stock which might be infested.

GARDEN AND ORCHARD.

The Spraying of Fruit Trees.

In your issue of March 15th there is a timely article by Mr. E. Edwards, of Prince Edward Island, on this subject. My object in speaking of this article is to draw attention to some inaccuracies in the latter part.

In the first place, I think it a great pity that nearly every writer—whether he has had any practical experience or not—offers a different formula for the preparation of Bordeaux mixture. They all "go down" with the newspaper men, if the article happens to be apropos of the season. The result of this great variety of formulas is that we have a corresponding variety in results. One man says: "I sprayed my peach trees with Bordeaux mixture last year and burned the leaves very badly." He is asked to give the formula which he used; he probably doesn't remember, but "took it from one of the newspapers." Another has had a similar experience with plum trees, another with apples, and so on.

The first formula for the making of Bordeaux mixture, offered by French vineyardists, was 6 lbs. of bluestone, 4 lbs. of lime to 22 gallons water. This was to prevent diseases of the grape. The foliage of the grape is not easily injured by fungicidal sprays, so that this strength could be used with safety. Later experiments proved, however, that it was unnecessary and inconvenient to use so much lime and bluestone, and twice the amount of water was added to the above, or 50 gallons, and the resulting mixture found to be equally satisfactory. The foliage of fruit trees differs very much in its susceptibility to injury from copper, salt and arsenical sprays. Even among apples there are varietal differences. Mr. Edwards makes a serious mistake in recommending Bordeaux mixture as strong as 10 lbs. of copper sulphate to 50 gallons water, with Paris green at the rate of 1 lb. to 240 gallons of Bordeaux fluid. There is hardly any doubt that such a mixture would take every leaf off peach and plum trees. I have never been able to use in spraying peach and plum trees a formula stronger than 3 lbs. each of copper sulphate and lime to a barrel containing 45 to 50 gallons of water, and Paris green at the rate of 1 lb. to 300 gallons.

The main point I wish to emphasize, however, is the desirability of adopting a uniform recipe, or formula, for the preparation of Bordeaux mixture.

The more formulas before the public, the more confusion and mistakes are sure to follow.

The Ontario Government has done excellent work in carrying on spraying object lessons throughout the Province. Why not adopt the formula which has given such satisfactory results in Ontario, thus lessening confusion and helping to popularize a desirable and I may say necessary orchard practice.

JOHN CRAIG.

Cornell University, March 21, 1898.

The New Dominion Horticulturist.

The vacancy in the staff at the Central Experimental Farm, caused by the resignation of Mr. John Craig, the late Horticulturist, has been filled by the appointment of Mr. W. T. Macoun to that position, whose portrait appears herewith. Mr. Macoun, a son of Prof. John Macoun, Botanist and Naturalist of the Dominion Geological Survey Dept., was born in 1869, at Belleville, Ont. He attended the Central School there until 1882, when he removed to Ottawa, where his education was continued at the Collegiate Institute. During the summers of 1883, 1884, 1885 and 1887, he acted as his father's assistant in his botanical and biological researches, and travelled through parts of Nova Scotia, Northern Ontario, the Northwest Territories, and British Columbia. Having concluded his preparatory studies, he obtained employment, in 1888, at the Central Experimental Farm, where he has been since. After the resignation of the former Horticulturist, Mr. W. W. Hilborn, in the winter of 1888 and 1889, Mr. Macoun assisted the Director in carrying on the work of the Horticulturist during the following spring and summer. He was continued in this work until the appointment of Mr. John Craig, in 1890, and at that time paid special attention to the study of varieties of fruit. Since 1889



MR. W. T. MACOUN.

Mr. Macoun has had charge of a large proportion of the agricultural experimental work on the farm. During the autumn of 1882 he went to Europe and visited some of the more important institutions there, where experimental work is being done, particularly Rothamstead, established by Sir John Lawes; the Royal Agricultural Society's Experiment Grounds, Woburn Sands; and the trial grounds of Henry Vilmorin, Esq., of Paris. In 1893 he was appointed assistant to the Director and Foreman of Forestry, and since that time has carried on the work in the forestry belts and on the ornamental grounds. In 1896, at the request of Dr. Fletcher (Entomologist and Botanist), who has hitherto managed this part of the work, Mr. Macoun was placed in charge of the Arboretum and Botanic Garden. The reports prepared by Mr. Macoun concerning the branches of the work carried on under his charge, which were included in the report of the Director during 1893, 1894, 1895 and 1896, give evidence of much careful work and are very creditable to the author. He has also assisted the Director, Dr. Saunders, in carrying on the work of the cross-fertilization of cereals and fruits, and many of the more promising varieties now under trial are the result of his careful work.

Small Fruits, and How to Grow Them.

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

The growing of small fruits in the farmer's garden is quite simple if the main points are understood. The garden should be laid out properly; that is, instead of the old-fashioned garden of a few rods square with a high picket fence around it, it should be a long, narrow piece, making it convenient to do most of the work with the horse and cultivator. The rows of plants should be long and straight and at a proper distance apart so as to allow the cultivator to be worked easily between

the rows, which will leave but little to be done with the hand hoe. The varieties of fruit the farmer would mostly need would be strawberries, raspberries, gooseberries, black and red currants. The ground for strawberries and all small fruits should be prepared the fall previous to planting by plowing deeply and subsoiling if possible and working in a liberal coat of yard manure; or, what is better, plow down a good clover sod and apply about fifty bushels of wood ashes per acre. Top-work the ground in the spring as soon as dry enough until fine; then plow and top-work again, when it will be ready for planting. Now mark out the rows for strawberries, either with a marker or a line 3½ feet apart. Use a spade for making the holes, and if a marker has been used set the spade with the center of the blade on the mark and force into the soil with the foot, shoving the handle from you and back again. Insert the roots of the plant by holding the plant in the left hand and spreading the roots out well with the other hand, covering them and at the same time firming the soil well around the plant. This is a very important point in the planting of all trees and plants. Leave the crown of the plant on a level with the soil. The plants should be set from 15 to 18 inches in the row, and nothing but strong, healthy young plants that have never fruited should be used, and as soon as all the plants are set the cultivator should be run through them so as to loosen the soil that has been trampled down in planting. This process should be continued at least once a week throughout the season, always going the same way. This will keep the runners in their proper place, and as the new plants begin to set narrow down the cultivator until the row has become 18 or 20 inches wide, then hold them at that. Cut off all blossoms the first year, as any fruit produced the first season is at the expense of the plant.

A new plantation should be put out every spring, as this method will be found to take less time than cleaning an old bed, at the same time giving a larger yield and of superior fruit. In sections of the country where the snowfall is light a mulch of coarse manure applied late in the fall after the ground has become frozen will be found to be beneficial, but where much snow falls it should be put on very light, or not until the month of March. When plants begin to grow rake the covering into the space between rows. This will hold moisture and keep fruit clean. It should be sufficient to keep down all weeds, as no cultivation is done until all fruit is picked.

VARIETIES.

Out of the two hundred or so varieties that are grown at the present time, I will select three or four varieties that I consider most suitable for the farmer's garden. They will comprise early and late varieties, so as to prolong the season. *Van Diemen* is a good grower and healthy, an early, perfect bloomer; season of fruiting extra early; good yielder. The fruit is uniformly of good size and very handsome, of a dark crimson color, firm, and of good quality. *Haverland* is a good one to plant alongside of *Van Diemen*, as it requires a perfect bloomer to make it productive. Time of blooming the same, plant healthy, and vigorous grower; plants can be set two feet apart in row. It is very productive, berry large and long, of a bright scarlet color, ripens early and holds out well to the end of the season; a good berry for home use. *Saunders* is a variety of great value; plants are strong growers and quite healthy; very productive, a perfect flowering variety; it blooms late, and thus often escapes the spring frost. The berry is large, well shaped, and of good dark color; a good variety for market or home use. *Bubach* is an imperfect bloomer; plant large and vigorous; does not throw out many runners, but enough for a matted row; berry very large, of a bright, showy color; firm, and of good quality; a good one for home or near market.

(To be continued.)

POULTRY.

An April Fool in the Poultry House.

Eggs were not coming in as plentiful as I thought they should be, so I decided to spend a little time in the poultry house. Before long I saw one of my best biddies approach a nest and begin picking at an egg which she soon broke and proceeded to enjoy as one of the dainties of the season. She was immediately caught and imprisoned, where she was left without even water until the next day.

Then armed with a sharp penknife I caught her and pared her sharp bill, being careful not to cut too deeply, until it was no longer so useful as a chisel. Then placing her in the center of the scratching floor in a vacated henhouse, placed before her a tempting new-laid egg. She looked at it, then began picking it, first on one side, then on the other and from all possible points, scratching it over and rolling it around as if to find a weak spot. Then she walked away, apparently disgusted; but on second thought returned and renewed the attack, repeating with emphasis her former efforts. Then she took a look in the gravel box, no doubt wishing to find a stone heavy enough to break that egg. Four or five times she returned to the egg and spent considerable time with it, but at last she became convinced that it was beyond her skill, and she repaired to the dust bath and would not even look at it again. I believe she is cured, at least as

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far as strong-shelled eggs are concerned. Had it been in a nest with other eggs she might have broken one against another; or she might also have rolled it against something hard; but we will hope the attempt will not be renewed. GYRA.

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.]

Veterinary.

Foot Rot in Sheep.

A. C., Brome Co., Que.:—"A number of my sheep are lame. The feet seem to be putrid between the toes. We have pared the horn (which had turned in) off and cut off the rotten part. Have also dressed the feet with tar, and tried a box with bran and turpentine for them to run through. They have lots of bedding under them in a shed, and run in a dry yard. What is the remedy?"

[The trouble is apparently foot rot, and may prove very serious if it assumes the contagious form. For prevention the hoofs of sheep should be pared and trimmed occasionally. It is when the hoofs get overgrown that the trouble begins. The treatment consists in carefully paring the hoof with a sharp knife, being careful to cut away all the horn under which the rot is concealed, and apply freely finely pulverized bluestone, or better, a mixture of blue stone and verdigris, half of each, which may be kept in a small bottle for convenience of use. Keep the sheep in a dry, well-bedded place till a cure is effected.]

Scours in Calf.

J. W., Bothwell Co., Ont.:—"Will you kindly give me a receipt for scour in calves? I have given them boiled milk and wheat flour with very little benefit."

[Gastroenteritis or white scour in calves is a disease almost entirely confined to suckling calves. Perhaps there are few diseases the causes of which are so little understood by the ordinary farmer. Scarcely a month passes without receiving the following enquiry: "What must I do to prevent my calves scouring?" Our reply is, treat them naturally. This disease arises from the practice of taking and rearing them on artificial food; that is, with milk from old milk cows deficient in colostrum or that creamy, oily substance called in the Old Country "beastings," which acts as a natural purge. Hence constipation is first of all set up, followed by an acid secretion from the lining membrane of the intestines, which coagulates the milk and separates it into its component parts, the curd or cheesy part remaining as a foreign agent, and the fluid or whey part coming away in the form of white semi-fluid flocculent matter. Our first effort must be to restore, if possible, the natural secretion of the intestinal canal by removing the offending agent. A gentle purge may be given first of all. Take: castor oil, 8 ounces; tincture of opium, 1 ounce; sweet spirits of nitre or peppermint water, 1 ounce. Give two large spoonfuls twice a day till the bowels act more naturally. The food must be looked to, taking away half the quantity of milk and substituting in its place the same quantity of flax-seed gruel, which will prevent the accumulation of the coagulated milk. Should the scour become chronic the following mixture may be tried: Prepared chalk, 1 ounce; catechu, 1/2 ounce; ginger, 1/2 ounce; opium powder, 1 dram; peppermint water, 1 pint. A large tablespoonful to be given in a quart of thick gruel. In ordinary cases, if taken in the early stage, a dose of castor oil works a cure, if milk is given warm and in small quantity.]

DR. MOLE, M. R. C. V. S., Toronto, Ont.]

Enteritis - Indigestion.

NEW SUBSCRIBER, Grey Co., Ont.:—"Sow two years old, four weeks after having pigs took sick, would not eat, but lie around, and vomited a good deal; was sick two days, then died; after she died quite a bit of blood passed from her. (2) Calf about eight months old last fall was put in a field of clover. When put in the stable in the fall seemed bloated all the time, and passes a great deal of wind, has not grown any all winter, and is just in the same state."

[The sow had inflammation of the bowels, from what cause we do not know. No treatment. (2) The calf has indigestion. Treatment—Give a physic of say half a pound of Epsom salts dissolved in a pint of boiling water, and add a teaspoonful of ginger and coffee-cup of molasses. After the physic operates freely on the bowels give a teaspoonful of the following mixture in feed three times daily: Bicarbonate of soda, gentian, ginger, of each one ounce; pulv. nux vomica and pulv. capsicum, of each half an ounce; finely powdered charcoal, two ounces; aniseed, powd., 1/2 oz.; well mixed.]

Retention of Afterbirth.

J. M., Carleton, Ont.:—"Last summer we experienced considerable trouble with our dairy cows by retention of afterbirth. Would you kindly give us a remedy in the ADVOCATE as soon as possible?"

[Do not allow your cows access to cold water or expose them to cold drafts soon after calving. A hot mash a few hours after delivery frequently assists nature in performing its duties in this respect. Some give a couple of quarts of scorched

oats in the belief that it possesses medicinal virtues in this respect, and upon which we are not prepared to debate. Various drugs are said to possess a stimulating action upon the womb and cause it to evacuate its contents, but them we will not recommend, as we consider their introduction attended with more or less danger, and would advise the removal by hand of any afterbirth remaining intact after 36 hours, and its immediate burial.]

Mange.

T. E. H., South Edmonton, Alta.:—"1. I recently bought an eight-year-old horse; he is in good condition, but itchy in the skin; he keeps scratching all the time, his skin raises up in blisters, and the hair comes off these spots. What is the cause and cure? 2. The same horse has a lump on the hind foot about the size of my fist; it does not lame him, but having no hair on it, it is easily hurt and made to bleed. It looks as if it had been doctored some time. 3. I have another horse which has one sore eye, it runs matter all the time, has been so for a year. The flesh in the corner of the eye is red, and seems to be growing up on the eye."

[1. Your horse is suffering from mange. Wash the itchy part well with strong soap suds; dry off by rubbing thoroughly with coarse cloth, and then rub the following well in with your hands: Sulphur, six ounces; turpentine, four ounces; vaseline, ten ounces. Mix well. 2. The lump on hind foot can only be successfully removed by the knife. 3. I would advise you to show your horse's eye to a veterinary surgeon, as the abnormal growth will likely have to be removed by operation.]

W. A. DUNBAR, V. S., Winnipeg.]

Sore Leg.

AN OLD SUBSCRIBER, Swan Lake, Man.:—"I have a mare eleven years old, weighs 1,200 pounds. She stood in stable ten days, drove twenty miles, then stood in stable from Saturday till Monday. When I went to her I found she was lame on right hind leg. I examined it carefully, could find nothing, but swelled up to her hock, rubbed it with the hand, then with yellow oil. She stood for four weeks, then I poulticed it for three days, then it broke on the back of leg between fetlock and hoof; it was very painful all the time, sometimes the blanket was wet with sweat. The hole closed twelve days after breaking, very nearly all swelling gone except around fetlock, but she can hardly put her foot to the ground."

[Prepare your mare for a purgative by feeding exclusively a bran mash diet for at least sixteen hours, and then give ball composed as follows: Barbadoes aloes, seven drams; calomel, one dram; powdered ginger, two drams; syrup or soap, sufficient to form ball. When the physic has ceased to operate give morning and evening in food for two weeks hyposulphite of soda, four drams; powdered gentian, two drams. Apply to the leg strong tincture of iodine every alternate day for two weeks, or until the skin becomes quite sore.]

W. A. DUNBAR, V. S.]

Grease.

SUBSCRIBER, High Bluff, Man.:—"I have a horse eight years old, weight about 1,500 pounds, large boned, bred from a Clyde horse. He has had the fever, which has been so common in the country, twice in a year and a half; last time having it in April last, which left him with swelled legs, two hind and one front leg. The legs were very sore to touch, especially the cords. A scurf came on them and hair came off. Swelling went down considerably while working, but swelled some again at night. Since idle in winter has swelled again on hind legs and a little on one fore leg; has broken out above and around fetlock; one hind leg is running an oily matter, just behind and above fetlock. Horse is in fair condition and feels hearty and has good appetite. Is the disease liable to get serious? Should he be exercised? Please prescribe what to do for him, and oblige."

[Prepare your horse for physic by feeding an exclusive bran mash diet for twenty hours, and then give the following dose: Barbadoes aloes, one ounce; calomel, one dram; powdered ginger, two drams; syrup enough to form a ball. When the physic has operated, give twice a day for two weeks, in food or water, Fowler's solution of arsenic, one ounce. Apply twice daily to the legs this lotion: Creolin, two ounces; water, one quart. Before applying this lotion for the first few times, wash the parts with warm soft water and castile or carbolic soap.]

W. A. DUNBAR, V. S.]

Lame Horse.

J. B., Southern Manitoba:—"An agricultural horse about 1,300 pounds weight, ten years old, was laid up about the middle of December last with what I now believe to have been lung fever, though I did not know what it was then, and he was not specially treated for it. Seemed unable to urinate, so washed sheath out, and gave him at intervals of two days or so one ounce doses of sweet nitre. Kept him warm, chilled his water, and gave him boiled feed. He coughed a little. In about ten days he was feeling well enough, but was very stiff all round. Kept him in a loose box, and as he did not improve, rubbed his legs twice a day for a week with the following liniment: Ammonia solution, three ounces; soft soap, four ounces; oil of turpentine, eight ounces; olive oil, four ounces. This limbered him up quite a bit, and I began to work him a little round the yard. About ten days ago I had to make a long trip and

had to use him. Since then he has been rather lame in nigh front leg. When pressure is applied to the muscles between fetlock and knee it evidently gives pain. He lies down a good deal, and seems to have some difficulty in rising. Am using the same liniment again. He is a heavy feeder, rather soft, and I frequently have to wash his sheath out. Has a spavin which I blistered twice winter before last, and gave him six weeks rest. From that time till beginning of this winter it didn't seem to trouble him, but he is rather lame with it now. I drew a lot of grain with him in the fall. Have I time to blister him before spring work, or should I wait till I can turn him out on the grass?"

[After preparing your horse for physic give the following: Barbadoes aloes, one ounce; calomel, half a dram; powdered ginger, two drams; soap, sufficient to form a ball. When the purgative has operated give every night for ten days, nux vomica, one dram; nitrate of potassium and gentian, of each two drams. It is better to apply the blister about two or three weeks before you turn the horse out to grass. W. A. DUNBAR, V. S.]

Calves with Sore Feet.

A. C. B., Regina, N.-W. T.:—"What is wrong with my calves' feet? The first one has a hard lump on each of its hind feet, or on the joint just above the hoof. The whole joint is swollen and hard, and there is like a scab on the inside of the lump about the size of a five cent piece. I noticed this about six weeks ago. About a month ago another one became affected in the same way on one foot, and is quite lame, and now I notice a third with one foot slightly swollen, but the sore is there. This one I bought only a short time ago. These calves are running loose with others in a stable which is rather damp and warm. They eat well and appear healthy. They are fed oat straw and oats and watered regularly. What can I do for them?"

[The cause of the ailment is probably the filthy state of your stable. Clean the place well, give plenty of clean straw for bedding, and improve the ventilation. Examine your calves' feet between the cloats, and if sore apply with a swab the following lotion: Sulphuric acid, two ounces; water, twelve ounces. Mix. W. A. DUNBAR, V. S.]

Chronic Indigestion.

J. K., Wentworth Co., Ont.:—"I have a horse about ten years of age, naturally full of life and grit. All winter he has been doing very little, and getting the best of feed and care. He eats more than any of the other horses, and they are rolling fat, while he is so thin I am ashamed of him. Have given him a boxful of condition powder, also a lot of Herbagum, but he looks no better. Took him to a veterinary to have his teeth filed, but he said that was useless if he was eating well. He seems to feel well, but plays out easily on a long drive. Would be pleased to know of anything that would help him?"

[This horse has chronic indigestion, and the fact that he is eating well is no indication whatever that his teeth are in good condition; have them examined by a competent veterinary surgeon, and if any unevenness exists he will understand what is required, and correct it. Prepare him for a physic by feeding nothing but bran mashes for a day, and on the following morning give the following drench: Barbadoes aloes (the best), six drams; calomel, one dram; ginger, three drams; dissolved in a pint of cold water, and continue the mashes only until the physic operates freely. If no action is noticed in twenty-four hours he requires exercise, and if purging is violent do not allow much water to drink and keep still, and what he does get should have chill removed. When purging ceases give a teaspoonful of the following in his feed three times daily for a month, or longer if improvement is not entirely satisfactory, and restrict his feed to fifteen pounds good hay per day and a liberal amount of bran in his oats at each feed: Bicarbonate of soda, nitrate of potash, pulv. gentian, of each three ounces; pulv. nux vomica, one and a half ounces; powdered capsicum, one-half ounce; arsenious acid, one and a half drams. All well mixed. Such animals always eat more than healthy ones, and which only aggravates the symptoms. He is liable to have spells of colic, etc., in this condition.]

Goitre.

A SUBSCRIBER, Simcoe Co., Ont.:—"As I have had some trouble with my lambs this spring, I thought I would write you, as you or some of your readers might know something or have had some experience in the matter. They all have lumps in their throats, one on each side, varying in size from a marble to a small hen's egg. They affect the breathing, and lambs do not seem able to take milk from ewe. They rarely live more than a day, and bad cases less than an hour; in fact, most of them never get up. In other ways seem all right, being good large lambs. The sheep are thoroughly well cared for, fall pasture being principally rape. They were put in yard at night and protected from all storms. In winter they are kept in pen 20 x 30 and 10 feet high, on stone basement 4 feet above ground, lighted and well ventilated, is not cleaned out, but kept dry with plenty of litter. There is a root cellar 8 feet high, full size, under pen. In morning they get Alsike clover or pea straw, flail threshed; also a small barrow of Aberdeen turnips, hay again at night; exercise in yard every day if not stormy; free access to pure water, but have

noticed that they will eat snow sometimes instead. When I mentioned size of pen I forgot to state that there were nineteen in flock, grade Shropshire, served by thoroughbred ram 15th of October. Do you think it would be heredity, or would a change of ram that is of another breed be beneficial?"

[Your lambs are affected with goitre or enlargement of the thyroid glands, the supposed cause of which is the excessive quantity of lime salts in the drinking water; or, in other words, your land may be largely impregnated with limestone, as it has always been more prevalent in limestone sections. The treatment in adult cases is the application of iodine and its salts, both externally and internally, but this is not applicable in your case. I see no way out of the trouble for this season, and look upon the present outbreak as due in some peculiarity in last season which may not occur again to such an extent. We know of a limestone section where the calves are coming in the same condition as your lambs. We can recommend no specific preventive treatment. If any of the readers of the FARMER'S ADVOCATE can we will be pleased to hear from them. But in a mature animal the following is nearly always followed by good results: For a sheep give potassium iodide in ten grain doses once a day for two or three weeks, and apply the following to the enlargement once daily, rubbing in well: potassium iodide, 4 drams; iodine crystals, 2 drams; alcohol, 4 ounces; water, 4 ounces; and add strong ammonia, 3 drams; and expose to bright light until the solution becomes clear.]

Bog Spavin.

P. C., Kent Co., Ont.:—"I have a two-year-old colt that sprung a bog spavin about a month ago; can it be cured; if so, what is the cure?"

[Young horses frequently happen with this accident; unless it is large and feverish, and the animal is lame, we would advise leaving it alone. If lameness is present, and the swelling hot and painful, pack it with ice for two or three hours at a time twice a day until all fever is gone, and then apply the following blister, rubbing in well, and oil on third day: Hyd. biniodide and iodine crystals, of each one dram; lard, one ounce; well mixed.]

Miscellaneous.

Trout Raising.

A. B. S., York Co., Ont.:—"Would like to ask a few questions through your valuable ADVOCATE. 1. How old are trout before they spawn? 2. How long does it take the eggs to hatch? 3. What is the weight of a trout at three years? 4. What is best food for trout? 5. Can fresh water shrimp be transplanted in trout ponds for food successfully? Where can they be obtained, and how much per thousand?"

[1. Fully 50 per cent. of one year and nine months old female trout spawn. The eggs laid by them are small and delicate, and only a very few of them hatch. A breeder who understands the business of fish culture would not waste time by spawning these young females, but only those that were two years and nine months old and older—90 per cent. of which can be impregnated under favorable circumstances.

2. This depends wholly on the temperature of the water. Eggs that were deposited at the head of a spring where the water was say 48 degrees to 50 degrees would hatch in 60 or 70 days, while eggs laid several miles further down stream (under the influence of the intense cold air in winter) the temperature of the water would be close to freezing point, say 33° to 34°. Here the eggs would take from 100 to 120 days to hatch. It is well not to hatch trout ova in water that stands above 38° in winter, as the fry when breaking the shell will be prematurely born and therefore not so strong and vigorous as they otherwise would be.

3. Everything depends on the feeding-grounds. Trout will at three years old vary from 1/2 to 1 1/2 lbs. in weight. I have seen 10,000 three-year-old fish liberated from a pond where they had been well cared for and all fed alike, some of which were 7 and 8, others 9 and 10, and the larger ones 12 inches in length. It is, however, considered very gratifying to the breeder whose three-year-old crop averages half pound.

4. When more trout are confined in a pond or stream than nature will supply with food, such as water insects, snails, flies, etc., additional food must be provided. By no means use livers. This animal food ruins the general appearance and flavor of the fish, and makes the offspring weak and delicate. Mr. Chas. Wilmot, who was formerly Inspector of Fisheries and Fish Culture for Canada under the Dominion Government, and now breeding the "Speckled Beauties" on a very extensive scale at Credit Forks, Ontario, appears to have solved the problem of food for hungry trout. He annually collects from the Great Lakes upwards of 20 tons of salmon trout spawn which he freezes and feeds to his young trout while in the nursery ponds. After they are two years old and liberated into the larger sheets of water where angling is allowed the trout have to depend upon fresh water shrimp and other insect life for their sustenance.

5. Yes. The gentleman referred to above has imported the shrimp from Wisconsin, and can not only stock your pond with them, but also send you fish eggs for food. You had better write him for particulars.

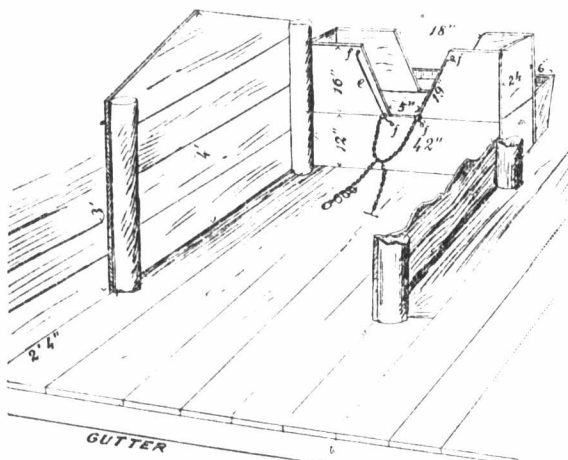
Basement for Poultry—Wire Fencing.

W. E. PROSSER, Muskoka Dist., Ont.:—"I. My neighbor on a sandy farm has a barn 60 x 40 feet on 7-foot stone walls. On the south side it has two doors, 6 feet square, 15 feet apart. It has also two windows in the east and one in the west wall about two feet square. Would it do to divide this basement into two or three apartments and in each of which keep about 300 fowls. They would also have a good outdoor range. 2. I propose to do some wire fencing this summer, and am thinking of framing the bottoms of ash posts into timbers to lie on the ground so as not to be heaved out by frost. What is your opinion of my plan? What is the best and cheapest style of wire fence?"

[1. Such a building as has been described would be very unsuitable for fowls. The stone walls would render the building damp, inducing disease. It would also be far too dark without more windows; in fact, about one-third of the south wall should be of glass (double in winter), and windows in the ends and back would also be of advantage. Fowls never do well in large flocks; in fact, successful poultry-keepers claim that from 30 to 40 is quite enough together, and these should have from 180 to 200 square feet of floor surface, or from 5 to 6 square feet for each fowl. 2. See letters in this issue on farm fencing. Corner posts at least should be well set into the ground, and if held down as recommended by some of our correspondents they could never heave. Ash posts would answer if thoroughly treated at the lower end, also the tops, with hot coal tar.]

Yuill Cow Stall—Feeding Ensilage in Hoard's Stall.

T. J. POLLEY, Lennox Co., Ont.:—" (1) You give in the ADVOCATE a plan of the stall and manger used in the cow house of Jos. Yuill, of Carleton Place. (2) How could anyone feed ensilage in the Hoard stall?"



YUILL'S COW STALL, SHOWING ARRANGEMENT OF TIE.

To the Editor FARMER'S ADVOCATE:

SIR,—Inclosed find a description of our stalls and cow ties: Each cow stands in her own stall. The floor of stall and manger is 7 feet, and as the manger is movable, it can be placed any length from the gutter to suit the length of the cow, but for ordinary cows 5 feet for the stall and 2 feet for the manger suits the purpose nicely. The stall for large size dairy cows requires to be 3 1/2 feet wide; for small cows, 3 ft. 3 inches is wide enough; and for young cattle, 3 feet is enough. When making the manger, have a 12-inch board in the bottom, and make it 28 inches high, saw a V-shape piece out of the center of the manger, 18 inches wide on top, and 5 inches wide at the upper side of the 12-inch board. Bolt a rod on each side of this space. On these rods are the ends of a small chain 18 inches long, having flat rings. At the center of the loop is welded a common cow chain, having the large ring removed. The rods are 19 inches long, with a shoulder on each end about an inch high to hold the rods out from the boards so the rings will slide up and down easily. Some of the advantages of this tie are: The cow has great liberty, can lick herself all over, cannot waste her feed, get her feet into the manger, nor annoy her mate. She can reach the water easily in the six-inch trough in front.

J. YUILL & SONS, "Meadowside Farm," Lanark Co., Ont.

2. In the FARMER'S ADVOCATE of March 15th, 1898, issue, page 129, a cut of Hoard's stall was given, showing box for ensilage, roots, grain, etc.

Raising Calves.

S. C. NUTTER, Sherbrooke Co., Que.:—"Can you name a desirable and profitable ration in which large proportion of fresh brewer's grains, oil meal, etc., could be used for feeding calves from commencement to eighteen months? Am anxious to feed as little milk and hay as possible. At what age will calves commence to eat the brewer's grains? Also please give ration for feeding six months old calves taken from pasture. What is the probable gain in weight on these calves, if fed all they will eat? Would two-year-olds be more profitable to feed?"

[I am afraid I cannot give a satisfactory answer to your correspondent, since the plan outlined is new to me, nor can I find any literature bearing directly upon the subject. I do not think that

satisfactory results would be obtained from feeding calves largely upon brewer's grains. Calves will eat the grains about as soon as they will eat anything, but it is my opinion that they should be used sparingly for such young animals, though I am not prepared to state any definite quantity. Oats, ground flaxseed, and clover hay should combine well with the grains. For my part, I should make the latter fodders the main part of the ration, and use the grains very sparingly, increasing gradually if the condition of the calves warranted it. I am afraid that it will be very difficult to raise the calves satisfactorily without milk, and that it would require a great deal of skill and care in feeding.

A mature animal will take about two bushels of brewer's grains per day, in addition to 4 or 5 lbs. of meal, and 8 or 10 lbs. of hay. As for meal, I would say, use whatever can be bought for the lowest price per pound. Corn, or corn and barley should be good. The greater the mixture of grain, the better. It is my opinion that two-year-old cattle would make a much more profitable use of the brewer's grains than calves, as well as giving much less trouble. Even for mature animals, it is better to restrict the quantity of brewer's grains, and feed meal and hay.

G. E. DAY, O. A. College, Guelph, Agriculturist.

P. S.—Will not someone of wider experience with brewer's grains give advice in this matter?—G. E. D.]

Millet Seed as Feed.

SUBSCRIBER, Bruce Co., Ont.:—"I have some forty bushels of millet seed, and hardly know what to do with it. Is it good feed; if so, how does it compare with other grain?"

[Millet seed bears a close resemblance to barley in its composition, except that it contains more fat and albuminoids. Their percentage compositions of digestible nutrients are as follows: Barley—Albuminoids 8, carbohydrates 58, fat 1.7; nutritive ratio 1 to 7.9. Millet seed contains albuminoids 9.5, carbohydrates 45, fat 2.6; nutritive ratio 1 to 5.4. We would suggest that the seed be ground or boiled, and fed sparingly at first to either cattle, horses or swine.]

Overfed Stallion.

READER, Durham Co., Ont.:—"I like the ADVOCATE very much, and think it is improving all the time. It is a grand improvement coming every two weeks. Your Scottish letters are worth a great deal to those of us who are interested in horse-breeding, and I hope you will continue them. I have a stallion that is a good feeder in the winter, but has a very poor appetite in the spring of the year; has had colic, and bloated a little, probably once a year or so. How should he be fed when fitting him for season? What could I feed him to give him an appetite? Should he have anything?"

[An experienced but modest horseman replies to the above, as follows: "In my experience I never had a horse that bloated, but I have had some that did not have much of an appetite, and I used the following condition powder: Gentian root pu., 2 ozs.; saltpeter, 2 ozs.; sulphate iron, 1 oz.; hypsulph. soda, 2 ozs. Give teaspoonful three times a day in feed. This has always toned up the stomach, and gives them a good appetite. I would judge this horse has been overfed, which will always defeat its own purpose. Feed regular just what he will eat up clean.]

Canadian and Advanced Holstein Record.

ROBT. FRASER, Dundas Co., Ont.:—"Would you please explain through your paper the difference between Canadian Register of Holsteins and the Advance Register of Holsteins?"

[The Canadian Holstein-Friesian Herd Book, like the majority of such registers, is concerned solely with the pedigrees of animals, while the Advanced Registry, which is part of the machinery of the Holstein-Friesian Association of America, was instituted for the purpose of registering authenticated records of milk and butter production. A heifer calving at just two years old is required to produce 6,500 pounds of milk in ten months, or nine pounds of butter in a week, while a mature cow (five years old) must reach 10,700 pounds of milk, or fifteen pounds of butter. Proportionate amounts are required of animals of intermediate ages. To be eligible for this registry a bull must be the offspring of an Advanced Registry cow, the full brother of two or the half-brother of four such cows, and must be examined by an inspector of the Association and found worthy. If your correspondent has a particular interest in the question of advanced registry he should write to Mr. S. Hoxie, Yorkville, N. Y., Supt. of A. R., for a pamphlet giving all the details of the subject.

G. W. CLEMONS, Sec. Can. Holstein-Friesian Association.]

Cattle Loose or Tied—Mammoth Clover—Position of Root House and Silo.

ESQUIRE, Simcoe Co., Ont.:—" (1) Do you think cattle would not thrive better (horned and loose than tied up in stall. I would like to hear the opinion of your readers as to experiments in that line? (2) Does Mammoth clover only live one season; is it better for plowing down than red clover? (3) Would root house do as well under gangways into barn as under barn? (4) Would silo not be handier at center of barn than at corner; would it not do between gangways at side of barn?"

[1] According to the experience of Thomas McMillan, Hon. Wm. Mulock, and others, whose

opinions are in the FARMER'S ADVOCATE, months of more economical loose than in men who have passed. (2) clover, lives more luxuriantly crop to plow could be given house were objection to True, it would but the plan (4) It always to put a silo handier in ordinary circumstances gangways for purpose. T. neath one of walls, where feeding.]

Is There a Reader?

READER, know does cattle that to kill them much is also

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Pounds

GEO. PH paper very out it. In give the fo pounds w butter, and to make 100 fat test. G

[Milk co pounds of b however, c other subst 100 pounds cent. more butter, pro ing, etc., are we trust, w

Per Cent. in Milk	Value
2.8	2.8
3.0	3.0
3.1	3.1
3.2	3.2
4	4
5	5
6	6

Straw-Cu

R. S. B., ing of the resolution threshing n a combined so as to ha thereby all barn, as th space than having the liquid man up by the stitutes the manufactu market, as structed, a manifold."

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office at Fr feet by tw flowers are a waiting r office (dent choice and would like rooms, and them?"

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opinions and results of experiments were published in the FARMER'S ADVOCATE during the early months of 1897, feeding cattle make decidedly more economical gains when dehorned and running loose than if tied up. We would like to hear from men who have made a trial during the winter just passed. (2) Mammoth clover, like common red clover, lives from year to year. On account of its more luxuriant growth it surpasses red clover as a crop to plow down. (3) Provided sufficient space could be given under gangway to barn, and the house were made frost proof, we do not see any objection to placing the root house in that location. True, it would then not be as handy for feeding, but the plan of stable would govern that feature. (4) It always seems a great waste of valuable space to put a silo inside the barn. It certainly would be handier in the center than in the corner, but under ordinary circumstances the location between the gangways at the back of barn answers the best purpose. The feed-room could then be built beneath one of the gangways or just inside the stable walls, where all the feed could be readily mixed for feeding.]

Is There Compensation for Lump Jaw?

READER, Ontario Co., Ont.:—"Please let me know does the Government allow anything on cattle that have lump jaw, and it being necessary to kill them? Which Government, if any? How much is allowed?"

[Lump jaw (actinomycosis) is one of the ailments coming under the provisions of the Dominion Contagious or Infectious Animal Diseases Act, under which slaughter may be ordered and compensation may be paid by order-in-council, but as a matter of fact no compensation is given for lump jaw. The only cases in which it is done at all is for hog cholera, and what is called the "Pictou Cattle Disease," a small matter peculiar to one locality in Nova Scotia. Lump jaw also comes under the provisions of the Ontario Public Health Act, and officers of local boards of health may take steps to destroy animals so affected if deemed necessary, but there is no provision for compensating the owners of animals so destroyed.]

Pounds of Milk per 100 Pounds Butter.

GEO. PHILIP, Ontario Co., Ont.:—"I find your paper very interesting. Would not like to be without it. In your next or subsequent issue kindly give the following information: The number of pounds whole milk it takes to make 100 pounds of butter, and the number of pounds milk required to make 100 pounds of butter on the basis of butter-fat test. Give the different tests from 2.8 to 6.0."

[Milk containing 2.8 per cent. of fat yields 2.8 pounds of butter-fat per 100 pounds milk. Butter, however, contains approximately 20 per cent. of other substances, viz., curd, water, etc., so that 100 pounds of 2.8 per cent. milk would yield 20 per cent. more butter than butter-fat, or 3.36 pounds of butter, provided the process of skimming, churning, etc., are thoroughly done. The following table, we trust, will answer Mr. Philip's question:

Per Cent. Fat in Milk.	Lbs. Milk to 100 Lbs. Butter-fat.	Lbs. Whole Milk to 100 Lbs. Butter.
2.8	3574.3	2859.4
2.9	3448.2	2754.4
3.0	3333.3	2666.6
3.1	3225.8	2580.6
3.2	3125	2500
4	2500	2000
5	2000	1600
6	1666.6	1332.8

Straw-Cutting Threshing Machine Wanted.

R. S. B., Peterboro Co., Ont.:—"At a late meeting of the East Peterboro Farmers' Institute a resolution was carried to ask manufacturers of threshing machines to try and place on the market a combined threshing and straw-cutting machine, so as to have the straw cut at time of threshing, thereby allowing farmers to keep the straw in the barn, as the cut straw would take a great deal less space than the long, besides the great benefit of having the short straw for bedding and absorbing liquid manure. I think if this question were taken up by the agricultural papers and the different Institutes there would be no difficulty in getting the manufacturers to put such a machine on the market, as there is no doubt that it can be constructed. The advantages to the farmer would be manifold."

Flowers for an Office.

DR. A. D., Quebec:—"I am opening a dental office at Fraserville, and have two rooms of fifteen feet by twelve feet, and I want to know what flowers are best and finest, etc. One room is to be a waiting room (parlor), and the other to be an office (dentist's). I would like to have something choice and fine, but not, of course, too costly. I would like to have a good appearance of both rooms, and also want to know how to take care of them?"

[The following might be mentioned as among the most satisfactory plants for house culture, providing-gas is not used in the house; in this case none of the flowering plants will do well: Geraniums, Fuchsias, Chrysanthemums, Callas, Begonias, Primulas, Cyclamens, Cactii, Tradescantias, Farfugiums, Palms, and Ferns. To give full directions as to management would fill a book; a few of the more important points might be briefly noted as follows: Keep the plants in clean, porous pots, and make allowance for good drainage; soil should be rich and contain sand enough to make it friable; water only when necessary, then give a thorough soaking. The hollow sound of the pot

when rapped with the knuckles is an indication that the plant requires water. The atmosphere should be kept moist by means of water evaporating in the room. The foliage should be sprayed frequently, and kept free from dust. All the sunlight possible should be given, and the plants should be turned daily to prevent leaves all turning to the light. Pinching back too vigorous shoots must be attended to in order that plants may grow symmetrically. A vigilant watch must be kept for insects, and prompt measures must be taken for their removal. Plants must not be expected to bloom all the year around, but should be given a rest after a season of bloom by placing them in a cooler temperature and giving only enough water to keep them alive.

H. L. HURT,
Ontario Agricultural College. Horticulturist.]

Rib Grass in Clover Seed.

N. P. J. H., Middlesex Co., Ont.:—"You will find enclosed a number of small seeds which we found among our clover seed. Could you give me the name and description of the weed in your next issue of the ADVOCATE, and oblige?"

[There seems to be no more common medium for the introduction of bad weed seeds than clover and grass seed, for the reason that so many weed seeds are small and inconspicuous. In 1894 the late Prof. Pantou, of the Ontario Agricultural College, secured sixty samples of clover seed from seed merchants and others in various parts of Ontario, and with very few exceptions were they free of weed seeds of some description. The most numerous weed seeds were sorrel, but in nine samples rib grass seed, or plantain, similar to the seeds sent us, was found in varying quantities. The seeds are about the same size as those of red clover, light brown in color, slightly elongated, furrowed on one side, and bearing a darker spot in the center of the groove or furrow. This weed has become quite common in most sections of Ontario. It has been introduced from Europe, where it is sometimes used for sheep pasture, although we would not recommend it for that purpose. It is a simple perennial, living from year to year, but being reproduced from the seed only. Its leaves are long, ribbed, hairy and narrowed at the base. The stems which support its seed-spikes are usually about a foot high, or more in favorable locations. Each plant may bear several spikes, which are usually from one to two inches long, being, however, much shorter than the common plantain frequently seen growing about the dooryard.

Rib grass continues to grow throughout the greater part of the growing period of the year. It comes into flower in June, and continues to produce seed all through the remainder of the season. When it has obtained a foothold in a meadow the field should be broken up and followed by a hoed crop. When a grain field is infested it should receive thorough autumn cultivation, followed the next season by a soiling crop, and this followed by a crop of rape or a hoed crop.]

Weeders—Artificial Manures—Pure-bred or Cross for Bacon.

A. J. BARKER, York Co., Ont.:—"1. Are those 'weeders' referred to by Mr. Rennie, of the Ontario Experimental Farm, of any use in destroying weeds such as mustard in grain crops? 2. Have any of your readers used artificial manure on roots and profited by it? 3. What kind of hog is best, a pure-bred or crossed, for the present market?"

[1. The weeders referred to are illustrated in D. Maxwell & Sons' (St. Mary's) advertisement in this issue of the FARMER'S ADVOCATE. The teeth do not dig deep enough to root out plants more than about an inch deep, but such as mustard seldom sprouts if at a greater depth. We would therefore expect considerable mustard to be destroyed by two or three cultivations by this weeder after the grain is a few inches high. 2. Readers are asked to reply. 3. It is simply impossible to reply directly to this question. We have frequently published the opinions of others, which in many cases were contradictory. In a recent conversation with an intelligent pork-raiser we were almost persuaded that the Tamworth-Berkshire cross left all other breeds or crosses in the shade, but it does not require a very long time to do a little careful experimenting in this line, and whatever conclusions are reached there need be no loss of feed, pigs or money.]

MARKETS.

FARM GOSSIP.

East Middlesex, Ont.

As a rule new clover and winter wheat have come through the winter in good condition, though the latter has a light top. Plowing is in progress. Several fine lots of export cattle are fattening in Westminster and Dorchester, but no sales reported yet; 4 1/2c. per lb. talked of by exporters. Dairy cows in good demand. Many imported here from further west every season. First auction sale the other day averaged from \$35 to \$40. The average number of pigs are being fed. Young stockers six weeks to two months old go at about \$3 each. Disappointingly poor maple syrup season; weather not favorable. Price \$1 per gallon. Many cheese factories now running butter plants. New one just started at Dorchester Station. Butter sales 19 cents and over. Cheesemaking will not start till latter part of April or 1st of May.

T. W.

Norfolk County, Ont.

A new organization called the Farmers' Union, formed among farmers supplying a local canning factory, has started in this county, with Mr. L. Colver, of Bloomsburg, President, and S. Kitchen, Secretary. The other officers are a vice-president and three directors. The annual meeting is held in December, and all other meetings are at the call of the President. The main object of the organization is to promote the business interests of the members. Its meetings are open. Fruit-growers, milk producers, factory patrons or farmers in any other lines in a given locality can adopt the same plan of organization to guard their interests.

Grenville County, Ont.

A prominent merchant advertised best seed corn just arrived, fresh and good. I found out that he got it from a roller mill about eight miles east of the town. This corn he gave all the well-known names, as White Flint, Red Cob, Early Dent, etc., when in reality it was common western feed corn totally unfit for seed. I have known cases where such corn was planted three or four times before it would grow, and even when it did grow the crop was light and thin. I believe if a reliable seed house were to put a good man, preferably a farmer's son, on the road, say through Eastern Ontario, appointing sub-agents in every township to thoroughly canvass the farmers, he would not only do good work for the seed house, but would be of great service to enterprising farmers.

C. F. F.

Oxford Co., Ont.

The past winter has been very pleasant, good sleighing much of the time; all necessary teaming got through with. Many farmers have been hauling barnyard manure to the fields as it was made, some in large piles, others in heaps ready to be spread in the spring, and, better still, many spread right from the sleigh. Generally plenty of fodder; cattle wintered fairly well. Feeders who have good export steers are holding on, looking for 4 1/2c. to 5c. Second-class cattle are being sold to local butchers, at from 2 1/2c. to 3 1/2c. No activity in the market. Live hogs, which, perhaps, are the principal meat product, have taken a drop. For a time they brought \$5, then \$4.75 and \$4.60, and still the tendency is downward. Many farmers have sold their wheat and oats, at about 85c. and 32c., respectively. Complaints are loud and long against the grain gamblers and speculators demoralizing the market. Good draft horses bring all the way from \$100 to \$175, and are being bought for export. Good general purpose horses are also sought after, from \$60 to \$100, generally \$70 to \$80. Cows and store cattle are held so high that few care to buy them, and bring more at auction sales than is really warranted by the prices of other stock. Fall wheat looks very well considering the poor start much of it had in the dry weather last fall. That sown on clover sod or clover aftermath, plowed early, looks much the best. The spring opened very early, and we are having remarkably open weather. Farmers who have dry land have been plowing for over a week, and some have got a part of their garden seeds sown. A good farm lately sold for \$6,100; others are held at from \$5,000 to \$6,000. Owing to the great amount of money looking for investment, the rate of interest has taken a drop, and any man can borrow all the money he can give security for at 5 per cent., and farms can be bought and rented to tenants so that the rent will yield 4 to 5 per cent. on the purchase price, and, generally speaking, the prospects for the farmer are better than they have been for years.

D. L.

Kent Co., Ont.

We are having one of the earliest springs on record. Since the 1st of March the weather has been fine and warm, and for the past two weeks we have had warm showers daily, consequently the roads are almost impassable. The trees are budding, and clover, grass and fall wheat never looked better. Hay is plentiful, at from \$4.50 to \$6.50 per ton. Millfeed is dear: Shorts, \$15 per ton; bran, \$13. Cull beans are fed quite extensively by dairymen in conjunction with the above, and are considered cheap feed at 30c. to 35c. per bush. Cattle of all kinds are scarce and dear. At farm sales prices run wild. Buyers are paying 3c. and 3 1/2c. for light and heavy stockers, respectively; butchers' cattle, 3c.; and exports stuff for May delivery is worth 4c. per lb. Milch cows sell readily at \$30 to \$50 each. The dressed hog trade is closing at \$5.75 per cwt. Live hogs are moving, at \$4.50, per cwt., with a large number of young pigs in farmers' hands. Horse buyers are numerous. Good sound chunks in best demand, at prices ranging from \$60 to \$85 each. Farmers themselves are beginning to buy, which is a pretty good sign of higher prices. The bad roads and high water has paralyzed trade in grains; holders cannot deliver them. Wheat is still being held for the dollar by a great many. Beans have an upward tendency, at from 50c. to 68c. per bush. We are extremely anxious that the Government impose a duty on beans equal to that imposed by the Americans against us. This would secure us the Klondyke trade, which would put the bean industry on a solid base once more. During the bad roads butter has run up to 25c. per lb. and eggs 20c. per dozen. Apples are scarce, at 25c. and 30c. per peck, and potatoes 85c. a bag. The duty imposed on tobacco and the consequent high prices realized is directing attention to that industry. As high as \$250 has been made per acre. The soil of Essex and Kent is well adapted to the growth of this plant, and a large acreage will be planted the coming season.

W. A. McG.

London (Ont.) Live Hog Market.

Friday, March 25th.—Paid drovers off cars. Lean, long singers, \$4.80 per cwt.; light, fat and heavy, \$4.40 per cwt. Long, lean, white, half Yorkshire hogs in great demand; short, light and fat hogs, nearly unsalable. Farmers should not deliver hogs under 100 lbs.; every undersized hog takes up room for a real singer in any packing-house.

Ask your neighbor if he reads the "Farmer's Advocate." If he does not, get him to.

Montreal Markets.

When the season (Lent) is taken into consideration, the market, with the offerings not much lighter than is usually the case, has been maintained at a very even level, and although rates or prices seem often to be at variance, fully a quarter cent per pound, it can hardly be called so, but the cause is more than likely attributable to the quality of the cattle offered. On a market like Montreal, where so much of the stock is purchased by the head, or, as the butchers term it, "dressed," it is sometimes rather difficult to get at a fair quotation that will give the reader an idea of the market. Sales during the past week have been at a fairly good rate for the drover, and may be classed something like this: Nice straight steers and heifers, well finished, from 1,050 lbs. up to say 1,200, have made the top market price—from 44c. to 44c. per lb.; good even steers or heifers lacking quality and finish, about the same weights, from 34c. to 4c. per lb.; cows and rough young stock, all the way from 24c. to 34c. per lb.

The British Markets.

For some time back these markets have been steadily working back, with an occasional advance, only to decline further on the next market. With each decline exporters have hoped that the bottom had been reached, but it apparently appeared as far off as ever. Nor is there much prospect of any speedy recovery, as navigation from Canada will speedily open, when the shipments, instead of reaching to 7,000 or 8,000, as at present, will, with the expected heavier shipments from the States, reach well up to 13,000 and 14,000 per week, beside the usual complement of about 25,000 quarters of beef. This, coupled with the expected run of between 75,000 and 80,000 head of Argentine cattle, does not at all improve the outlook for some time to come. Indeed it is doubtful if shippers have made a dollar on their winter shipments, what with the unsatisfactory state of the Glasgow market, owing to the fishers' boycott, and the "stalled" state of the London and Liverpool markets, and it is still more doubtful if any will be made on the first shipments.

The Horse Trade.

What may be termed an auspicious spring opening in this trade about the first of March has speedily been turned to a very bad one. The markets opened with a good demand from British buyers, doubtless encouraged by the widespread reports of limited supplies of good horses, but such a rush was made by various shippers on the same day, that the bottom practically dropped out of this trade, and everything but the choicest horses were losing nearly all the expenses—or from \$15 to \$30 per head. The latter figure is an actual fact, which came under my own observation. But, notwithstanding, buyers on this side still have hopes of a better trading, and anything good in horseflesh is quickly cashed and at good firm prices—drafts, \$110 to \$140, and a little more for something extra; good heavy chunks, \$85 to \$110 each; drivers, \$75 to \$145.

Toronto Markets.

No life in the market may be said with regard to the trade. The business drags along all day without any improvement in the immediate prospects; a considerable number of cattle carried over from each market. The export season has not yet opened; in the next few weeks the demand will be larger. Word has just been received from Mr. Archie Thompson, who is wintering at Buenos Ayres. He says that there are 70,000 cattle and 25,000 sheep to be shipped to the Old Country; these will compete with Canadian shipments. Mr. Pat. Brene is in charge of these cattle across the ocean. The total receipts for last week were 1,675 cattle, 473 sheep, 3,515 hogs.

Export Cattle.—There was little or no movement in shipping cattle. Prices are quoted at \$3.25 to \$4.25 per cwt., in one or two deals a trifle over. Extra choice steers brought \$4.25, with \$5 over on the deal. One bunch of cattle, averaging 1,470 lbs., sold at 44c. per lb.; this is the best price paid this winter, as they were extra choice Polled Angus breed. Brown & Snell bought five carloads export cattle at \$3.75 to \$4.25 per cwt. Joseph Gould bought 13 export steers, 430 lbs. average, at \$4.25 per cwt. William Levaok bought 90 cattle, at \$3.12, averaging 1,000 lbs. each. Export bulls are quoted at \$3 to \$3.50.

Butchers' Cattle sold fairly well at from \$3.40 to \$3.80 per cwt. One load of butchers' cattle, averaging 1,050 lbs., sold at \$37 each. One load, averaging 1,125 lbs., at \$3.85 per cwt. A few loads of butchers' cattle sold down to \$3.80 per cwt., but no reports of sales were made to us. Common at \$3.12. Wm. Levaok bought 94 cattle, mixed, at \$3.30 to \$3.80 per cwt. T. Halligan bought 10 steers, 1,050 lbs. average, at \$37 per head, and four good butchers' cattle, 1,040 lbs. average, at \$3.90 per cwt.

Bulls.—Very few export bulls on offer. H. Talbot sold one load, 1,100 lbs. average, at \$4. One load of light bulls sold at \$3.25; heavy at \$3.65 per cwt.

Stockers.—There was a good demand from Buffalo. Stockers sold at \$3.35 to \$3.55 per cwt. Mr. H. Maybee sold two carloads at \$3.55. Mr. I. Smith sold one load, 550 lbs. average, at \$3.55, and \$5 back on the load.

Feeders.—Very few on offer, not many wanted. Prices are quoted at from \$3.50 to \$4. Drivers report that there are a number of American buyers in the country districts who buy cattle and ship through in bond. They are offering more money than our drovers are willing to pay for the Canadian trade, so that the result is the farmers are holding their cattle at a little above our market at present. H. Maybee sold 12 feeders, 1,000 lbs. average, at \$3.65 per cwt., less \$2 on the deal. Mr. Rowntree bought 18 feeders, 1,050 lbs. average, at \$3.65 per cwt.

Sheep.—Butchers' and export ewes were steady at \$3.20 to \$3.40 per cwt. Mr. P. Kinnear would pay as high as \$3.62 for a few good ewes to complete a carload which is being shipped to the West Indies. Bucks are steady at \$2.75 to \$3 per cwt. The batcher took above 200 from Montreal trade.

Lambs sold fairly well, \$5.40; yearlings at \$5.60 per cwt., or from \$4 to \$6 per head.

Calves are in good demand at from \$4 to \$7; poor calves not wanted. About 36 on offer.

Milk Cows.—A fairly active trade, only a moderate supply on offer. Prices ruled firm at from \$20 to \$40 per head. A few springers wanted for next market day.

Hogs are showing a decided weakness; the hog cholera scare is causing a great deal of trouble. Mr. Harris is refusing to handle stores on this market, and no more will be sold on any account. Choice sizers are quoted at \$4.30, for 150 to 200 lbs. each; light fats, \$4.03; heavy fat, \$4.50; sows, \$3.25; stags, \$2. Mr. Carey, of Montreal, took a double deck of hogs, thick, fat and heavy.

Dressed Hogs.—The receipts are small, no demand, owing to the hog cholera scare. Prices easier, at \$6 per cwt. to \$6.20.

Dressed Meat.—Good demand; prices hold good for all carcasses. Sheep and lambs are quoted at \$6 for lambs, \$5 to \$6 for mutton. Beef by the side is quoted at \$4.50 to \$8. Can goats flesh be detected from lamb in carcass is a question that caused a good deal of comment to-day. A French buyer from Montreal declares that with a consignment of lambs was a Nanny goat, but the men stoutly declare that although Nanny is missing they do not know who dressed her for the Montreal market.

Butter.—In good supply in farmers' rolls at 23c. per lb.; all sorts wanted for local trade. The market is firm, at 15c. for medium, 22c. for creamery prints.

Cheese.—Market steady; prices range from 8c. to 84c. per lb.

Australia sends more butter to Great Britain than does Canada and the United States together. The last year, 1897, Victoria contributed 169,075 cwt.; New Zealand, 76,522 cwt.; New South Wales, 23,835 cwt.; in all, 269,432 cwt.

Eggs.—More plentiful; two dozen for 25c.; strictly fresh-gathered, picked, choice quality at 15c. per dozen. A little weaker; tanners are holding off, and believe that prices will still go lower; stocks are accumulating; 84c. to 10c.; No. 1 green at 8c.

Wool.—Stocks down to the lowest on record for the last three years; fleece, 20c. to 21c.; pulled at 20c. to 21c.; extras, 22c. to 23c.

Hay.—The receipts fair; there was a good demand; 25 loads sold at from \$8 to \$8.75 per ton.

The Grain Market.—The receipts of grain and other farm produce on the street market were small owing to the bad roads.

Wheat.—Steady, 500 bushels selling at 78c. to 82c. for white, red at 85c. to 85c. per bushel. There is no change in the local wheat market. Exporters are shipping out old purchases, but are not making any new contracts. No red wheat on hand. Manitobas are held pretty firmly on account of scarcity; asking \$1.10 for No. 1 hard.

Barley.—Steady; 400 bushels selling at 36c. to 364c.

Oats.—Steady; 1,000 bushels selling at 35c. to 354c.

Peas.—Steady and firm, at 59c. per bushel; 53c. to 55c. for blue.

Potatoes.—In active demand; car lots are quoted at 58c. to 60c. per bag. On street market in farmers' loads, held firm at 60c. to 70c. per bag.

Toronto Horse Market.

The attendance of horse buyers at Grand's Repository last Tuesday was excellent. There was a good active trade, bidding spirited, and three carloads of horses from Mr. T. G. Ferris, of Windsor; Mr. T. Silver, of Newmarket; and Mr. L. McMillan, of Botany, Ont., were all sold at prices ranging from \$20 to \$150. A bay horse, 1,600, suitable for heavy delivery, brought \$97.50. Several wagon horses (ranging from 1,200 lbs. to 1,350 lbs.), suitable for cartage and delivery purposes, five to eight years old, sold for \$50 to \$85 per head. A load of ordinary drivers, suitable for delivery men, sold at \$30 to \$20 per head. A nice brown gelding, 13.24, suitable for saddle or light harness work, five years old, fair action, brought \$150. A black gelding, six years old, 16 hands high, suitable for brougham work, sold to a doctor for \$110. A pair of horses, brown gelding and a dark brown mare, fetched \$150, the two. A number of farmers were on the lookout for horses suitable for farm work; not many on offer; all sold at good prices. Mr. W. Harland Smith reports that trade was satisfactory to shippers and dealer. There was a good demand for all classes of horses, and improvement in prices over last year. He quotes the following: Good drivers with fair action in demand, at from \$75 to \$150; good chunks from \$40 to \$75, suitable for delivery purposes; heavy horses in demand for city delivery. Good horses are scarce, and all kinds fetch good prices.

Toronto, March 25th, 1898.

Chatty Stock Letter from Chicago.

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

Table with columns for CATTLE, SHEEP, and HOGS, listing prices for various grades and weights.

According to the United States Department of Agriculture there are less cattle in the United States now than at any time since 1885, and less hogs than at any time since 1881. Sheep are estimated as being a few more than were estimated last year, but less than any other year since 1878. In consideration that the population of this country is largely increased, and the consumption of meats is so much larger, it looks as though all branches of live-stock raising must be profitable for many years to come. Chicago receipts for 1898 thus far, with comparisons:

Table comparing Receipts, Cattle, Hogs, and Sheep for 1898 and 1897.

The supplies of all kinds of good stock are moderate, and the general demand seems to be pretty good. There is a healthy feeling in the general trade, and stockmen feel encouraged. A representative of one of the big cattle slaughtering concerns, who is probably in as close touch with Western cattle-growing operations as any other party connected with the trade, says: "It will take at least four years to restock the ranges with cows to their former capacity. It will take three years more to get steers on the market after the cows begin to breed." Average weight of cattle received at Chicago last month, 1,111 pounds, the same as in January, and 14 pounds lighter than February, 1897, and 64 pounds lighter than February, 1896. Average weight of sheep received here last month, 91 pounds, against 92 pounds in January, 89 pounds a year ago, and 96 pounds two years ago. The average weight of cattle at Chicago for months mentioned was as follows:

Table showing average weight of cattle at Chicago for months from 1896 to 1898.

Texas is overlastingly working up her reputation on fine cattle. They had a fat stock show at Fort Worth that was a creditable thing. Here is the way some Texas cattle have been selling lately: Seventeen head belonging to J. B. Wilson's daughter, Jessie, averaged 1,438 pounds, at \$4.40, and eighteen head belonging to A. Silberstein, 1,508 pounds, sold at \$5.30. Silberstein & Co., Dallas, Texas, sold three loads of choice 1,424 to 1,602 pound fed Texas steers to Hammond at \$5.20. At a recent sale of Hereford cattle twenty Gudgeall & Simpson bulls brought \$9,525; average, \$476.25. Eleven Fankhouser bulls brought \$4,990; average, \$463.08. Thirty-one bulls, \$14,515. Twenty Gudgeall & Simpson and Fankhouser cows brought \$14,490; average, \$483.66. Sixty head of cows and bulls brought \$29,005; average, \$483.41. The advance in price since these same breeders made their preceding public sale in October, 1896, very strongly illustrates the growing value of pure-bred cattle since that time. The average in 1896 was about \$173. An Aberdeen-Angus breeder had to discontinue his card in the papers. He says he has used up all his surplus bulls, and is tired of answering so many letters.

The average weight of the hogs received at Chicago last week was 224 pounds, the lightest in about two years, against 226 pounds for the week previous, and 228 pounds for the corresponding week in 1897. The big heavy hogs have been scarce, and have been commanding a premium over light. The demand for lightweights, however, has been better than for medium weights. Here is a bird's-eye view of one day's hog market: Drovers of packing hogs averaging 222 to 224 lbs. cost \$3.95 to \$4.00, and 164 to 176 pounds \$3.90 to \$3.95. Armour bought 5,300 head; Anglo-American, 1,200 head; Bowd & Lunham, 600 head; Chicago, 600 head; Continental, 800 head; Hammond, 800 head; International, 900 head; Lipton, 900 head; Morris, 1,200 head; Swift, 2,300 head, and butchers 1,000 head. The hog feeders are complaining that they were advised to market lighter weights, and now they see the 400-pound hogs outselling the 200-pound hogs.

Feeders of lambs in Colorado are not getting quite as good prices as they had hoped. Last year prices were low at the start, but advanced steadily until they reached the high mark, \$6.10, in April. This year the first shipments in January sold at \$5.85, over a dollar per hundred higher than a year ago, but since then prices have gradually declined until now they are about the same as a year ago.

Swift & Co. are to build a slaughter house for cattle in New York City. They have plants at Chicago, Kansas City, St. Louis, St. Joseph, Omaha, and St. Paul, not to mention, of course, their cold storage houses all over the East and abroad.

The Morris Butts Hog Packing House at the City of Mexico was destroyed by fire.

The Hammond Packing Co. is negotiating for the old Silberhorn pork packing plant at Sioux City. They have plants at Chicago, Omaha, and expect to have one at St. Joseph. The horse famine is approaching. Even now we are using from the fall crops of 1895 and 1896 colts, and as we haven't one choice horse where four could be sold at good prices, how will it be when we have to depend upon the scant crops of succeeding years? Horses are being used younger than they should, and the outlook for a supply of good ones for the next few years is not encouraging.

BOOK TABLE.

"Feeds and Feeding."

[A HANDBOOK FOR STOCKMEN AND STUDENTS.] For many years past able scientists of both the old and new worlds have devoted their energies to a study of the laws of animal nutrition. Both Canadian and American experiment stations have acquired much definite knowledge along these lines, adding to the former store of knowledge. From all these fruitful sources Prof. W. A. Henry, Director of the Wisconsin Experiment Station, assisted by Prof. F. W. Woll and Mr. A. M. Troyer, has selected much data important in establishing principles and helpful in directing rational practice. The whole is incorporated in one excellent volume of 35 chapters.

Commencing with plant growth and animal nutrition, it is clearly shown how the former works into the latter. Mastication, digestion and assimilation are clearly set forth in chapter II., a study of which will enlighten a stockman much along these important lines. In dealing with animal nutrition, the mysteries of the formation of tissue, wastes of the body, influence of various food elements, etc., are clearly indicated. The sources of muscular energy, too, are practically considered, as well as the nature of fattening as influenced by various foods. The explanation and calculation of feeding standards composes an interesting and useful chapter of 22 pages, concluding Part I.

Part II. opens with a consideration of leading cereals and their by-products, going into the composition of various grains and their influence in the animal economy. Minor cereals, such as rice, sorghum and millet seed, buckwheat, oil cake, cotton cake, etc., are practically dealt with as to their value in feeding various classes of stock. Indian corn, the grasses, leguminous plants, such as clovers, as well as roots, tubers, cabbages, etc., are each given due consideration.

Part III., embracing the feeding of farm animals, contains chapters under the following heads:—"Investigations Concerning the Horse," "Feeds for the Horse," "Feed and Care of the Horse," "Calf Rearing," "Results of Steer Feeding Trials at the Stations," "Factors in Steer Fattening," "Counsel in the Feed Lot," "The Dairy Cow—Scientific Findings," "Station Tests with Feeding Stuffs for Dairy Cows," "Influence of Feed on Milk," "Public Tests of Pure-bred Dairy Cows," "Feed and Care of the Dairy Cow," "Investigations with Sheep," "Experiments in Fattening Sheep—Wool Production," "General Care of Sheep—Fattening," "Investigations with Swine," "Value of Various Feeding Stuffs for Pigs," "Danish Pig-Feeding Experiments," and "Feeding and Management of Swine—Effect of Feed on the Carcass of the Pig."

We would like to devote more space to a review of this worthy work, but what has been said will indicate that the important points in this great and intricate subject have been well covered in a way to materially help the practical feeder. The previous standard works on this subject were those of Ormsby and Stewart, but another was needed, and Prof. Henry's contribution comes at an opportune time, and is new in its conception and plan. It is well bound in cloth, and contains over 650 large pages, the type used being large and clear. We congratulate Prof. Henry upon the work, which we consider a valuable addition to our library. We have made arrangements with the publishers whereby we can furnish our readers with copies at \$2 each, or as a premium for sending us the names of three new yearly subscribers to the FARMER'S ADVOCATE at \$1 each.



THE LITTLE STOWAWAY.

"Would you like to hear about it?"

I eagerly assent, and the narrator folds his brawny arms upon the top of the rail and commences as follows:

"Bout three years ago, before I got this berth as I'm in now, I was second engineer aboard a Liverpool steamer bound for New York. There'd been a lot of extra cargo sent down just at the last moment, and we'd no end of a job stowin' it away, and that ran us late o' startin'; so that, altogether, you may think, the cap'n warn't in the sweetest temper in the world, nor the mate neither; as for the chief engineer, he was an easy-goin' sort of a chap, as nothing on earth could put out. But on the mornin' of the third day out from Liverpool he came down to me in a precious hurry, lookin' as if somethin' had put him out pretty considerably.

"Tom," says he, "what d'ye think? Bless if we ain't found a stowaway." (That's the name, you know, sir, as we give the chaps as hide themselves aboard outward-bound vessels and gets carried out unbeknown to everybody.)

"The dickens you have!" says I. "Who is he, and where did you find him?"

"Well, we found him stowed away among the casks for'ard, and there I did see a sight and no mistake. Every man Jack o' the crew, and what few passengers we had aboard, was all in the ring on the fo'c'stle, and in the middle was the fust mate, lookin' as black as thunder. Right in front of him, lookin' a reg'lar mite among them big fellers, was a little bit of a lad not ten years old—ragged as a scarecrow, but with bright, curly hair, and a bonnie little face of his own, if it hadn't been so woful thin and pale. But, bless your soul! to see the way that little chap held his head up, and looked about him, you'd ha' thought the whole ship belonged to him. The mate was a great hulkin' black-bearded feller, with a look that 'ud ha' frightened a horse, and a voice fit to make one jump through a keyhole; but the young 'un warn't a bit afeared—he stood straight up and looked him full in the face with them bright, clear eyes o' his'n, for all the world as if he was Prince Hal to a whisper—"as how he comed o' better blood nor what he seemed; and, for my part, I'm rather o' that way o' thinkin' myself, for I never yet see'd a common street Harab—as they calls them now—carry it off like him. You might ha' heered a pin drop as the mate spoke.

"Well, you young whelp," says he, in his grimmest voice, "what's brought you here?"

"It was my olefather as done it," says the boy, in a weak little voice, but as steady as could be. "Father dead, and mother married again, and my new father says as how he won't have no brats about eatin' up his wages; and he stowed me away when nobody warn't lookin', and giv me some grub to keep me goin' for a day or two till I got to sea. He says I'm to go to Aunt Jane, at Halifax, and here's her address. And with that he slips his hand into the breast of his shirt and out with a scrap o' paper, awful dirty and crumbled up, but with the address on it, right enough.

"We all believe every word on't, even without the paper, for his look and his voice and the way he spoke was enough to show that there warn't a ha'porth o' lying in his whole skin. But the mate didn't seem to swallow the yarn at all; he only shrugged his shoulders with a kind o' grin, as much as to say, 'I'm go old a bird to be caught by that kind o' chaff,' and then he says to him, 'Look here, my lad, that's all very fine, but it won't do here—some o' these men o' mine are in the secret, and I mean to have it out of 'em. Now, you just point out the men as stowed you away and fed you this very minute; if you don't, it'll be the worse for you!"

"The boy looked up in his bright, fearless way (it did my heart good to look at him, the brave little chap!) and says quietly: 'I've told you the truth; I ain't got no more to say.'

"The mate says nothin', but looks at him for a minute, as if he'd see clear through him, and then he faced round to the men, lookin' blacker than ever. Reeve a rope to the yard; he sings out, loud enough to raise the dead; 'Smart now!'

"The men all looked at each other, as much as to say, 'What on earth's a comin' now?' But aboard ship, o' course, when you're told to do a thing you've got to do it; so the rope was rove in a jiffy.

"Now, my lad," says the mate, in a hard, square kind o' voice that made every word seem like fittin' a stone into a wall, 'you see that ere rope? Well, I'll give you ten minutes to confess, and if you don't tell the truth afore the time's up I'll hang you like a dog!"

The crew all stared at one another as if they could not believe their ears (I didn't believe mine, I can tell ye), and then a low growl went among 'em like a wild beast waking out of a nap.

"Silence, there!" shouts the mate in a voice like the roar of a nor'easter. "Stand by to run for'ard, as he held the noose ready to put it round the boy's neck. The little fellow never flinched a bit; but there was some among the sailors (big, strong chaps, as could 'a' felled an ox) as shook like leaves in the wind. As for me, I bethought myself o' my little curly headed lad at home, and how it 'ud be if any one was to go for to hang him; and at the very thought on't I tingled all over, and my fingers clinched themselves as if they was a-grippin' somebody's throat. I clutched hold o' a handspike and held it behind my back, all ready.

"Tom," whispers the chief engineer to me, 'd'ye think he really means to do it?'

"I don't know," says I, through my teeth; 'but if he does he shall go first, if I swing for it!"

"I've been in many an ugly scrape in my time, but I never felt 'as bad as this. Every minute seemed as long as a dozen, and the tick o' the mate's watch reg'lar pricked my ears like a pin. The men were very quiet, but there was a precious ugly look on some o' their faces, and I noticed that three or four on 'em kep' edgin' for'ard to where the mate was in a way that meant mischief. As for me, I'd made up my mind that if he did go for to hang the poor little chap I'd kill him on the spot and take my chance.

"Eight minutes," says the mate, his great, deep voice breakin' upon the silence like the toll of a funeral bell. "If you've got anything to confess, my lad, you'd best out with it, for yer time is nearly up."

"I've told you the truth," answers the boy, very pale, but as firm as ever. "May I say my prayers, please?"

"The mate nodded, and down goes the little chap on his knees, and puts up his poor little hands to pray. I couldn't make out what he said (fact, my head was in such a whirl that I'd hardly ha' knowed my own name), but I'll be bound God heard it, every word. Then he ups on his feet again, and puts his hands behind him, and says to the mate, quite quietly, 'I'm ready."

"And then, sir," the mate's hard, grim face broke up all to once, like I'd seed the ice in the Baltic. He snatched up the boy in his arms, and kissed him and burst out a-cryin' like a child; and I think there warn't one of us as didn't do the same. I did for one.

THE GREAT CANADIAN PUZZLE!

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13. -A-U-A-A-: A valuable time saver.
14. L-U-I-R-: A prominent Canadian statesman.
15. -A-A-A-A-: Visited by all tourists to Canada.
16. L-R-A-E-D-E-: Commander-in-Chief of Canadian forces.
17. -E-H-A-E-: Found in most Canadian cities.
18. - man - makes - - himself - - eaten - - : An old proverb.

HOW TO SECURE THE PRIZES.

Send a correct list of the above drop-letter words, enclosing \$1.00 for a year's subscription (new) to the FARMER'S ADVOCATE, and you can secure the \$50.00 or other grand prizes as provided below. This puzzle may seem difficult at first, but you can do it, as there are no names or other words in the list which every school boy and girl do not see almost daily. To give EVERY ONE a chance to secure a handsome present, we promise to send a Gold-plated Pin, Roman Knot design, heavily chased, set with sparkling gem—garnet, opal, or emerald—suitable for either lady or gentleman, to EACH person who answers eight of the above questions, and encloses with his or her list \$1.00 for one new subscriber to the FARMER'S ADVOCATE. The Pins will be forwarded as soon as list and money are received; but the grand prizes will not be awarded till June 1st, when winners' names will be published. Winners of the Gold-plated Pin prize will also have the chance of gaining the \$50.00 or one of the Watches. Owing to the wonderful popularity of the ADVOCATE with both old and young, by simply showing others a copy and calling their attention to its superior merits you will have no difficulty in obtaining their subscription, which must be sent in along with the answers to the puzzle. Give your own address and that of the subscriber. All answers must reach this office by May 20th, when the contest closes. Address THE FARMER'S ADVOCATE, London, Ontario. This is a very easy way to secure a beautiful present. No doubt many will take advantage of our liberal offer. The first prize will be awarded the sender of correct answers to the full list, but if several correct answers to the puzzle should be received, the \$50.00 will be given to the one whose list is neatest and best written, and the Gold and Silver Watches to the second and third best. If no complete list is received the \$50.00 will not be awarded, but the Gold Watch will be forwarded to the sender of the best list, and the Silver Watch to the second best.

Mr. J. W. Westervelt, Principal of the Forest City Business College, London, Ont., has kindly consented to act as judge in deciding which lists of answers are neatest and best written. Lists will be submitted to him by us without the names attached.

ANSWERING THE PUZZLE.

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

"God bless you, my boy," says he, smoothin' the child's hair with his great hard hand. "You're a true Englishman, every inch of you; you wouldn't tell a lie to save your life! Well, if so be as yer father's cast you off, I'll be yer father from this day forth; and if I ever forget you, then may God forget me!"

"And he kep' his word, too. When we got to Halifax he found out the little un's aunt, and gev her a lump o' money to make him comfortable; and now he goes to see the youngster every voyage, as regular as can be; and to see the pair on 'em together—the little chap so fond of him, and not bearin' him a bit o' grudge—it's 'bout as pretty a sight as ever I seed. And now, axin' your parding, it's time for me to be goin' below, so I'll just wish yer good-night.—The Sailor's Magazine.

Seasonable Recipes.

HOT CROSS BUNS.

We have been specially requested to print this early for those who intend to use it for Good Friday. Warm four cupfuls of the best bread flour until it is warm to the touch when the hand is stirred through it. Mix a third of a cupful of softened butter and three tablespoonfuls of sugar to a soft cream, add a cupful of milk that has been scalded and cooled until it is lukewarm. Add two eggs, first beaten very thoroughly together without separating the whites and yolks. Add also a large saltspoonful of salt, and finally the flour. Beat the batter till it blisters. A great deal of the success of this bread depends upon the thoroughness of the heating.

Let the buns rise for at least nine hours, or until they are about three times their original bulk. Turn the dough out on a floured board. Dredge it lightly with flour and do not add any more. Roll out the dough about two inches thick. Cut it into large biscuits with a coffee cup or a large tin cutter. Put about a teaspoonful of currants and one or two thin slices of citron in each bun. Lay them on a biscuit pan close together and let them rise for one hour in a warm place and closely covered so that the air cannot reach them and dry their surface. It is a good plan to rub a little melted butter over the top of each of the buns before they are put in

the pan to rise. Let the buns bake in an oven that is not hot enough to bake bread, for twenty-five minutes. Brush them over after they are baked with a little syrup made by mixing a tablespoonful of sugar with a tablespoonful of boiling water, and return them to the oven to become dry. If you wish a cross on them, slash the top of each of the buns with a very sharp knife just before they are put in the oven, making an even cross. This cross is sometimes colored with a little caramel or burned sugar, so that it will be a little darker than the rest of the bun when they are baked.

COLORING EASTER EGGS.

Easter eggs can be colored with aniline die. It should be diluted to the proper shade and the eggs boiled in it. Green, the color of hope and resurrection, is particularly appropriate, but a variety is pleasing—red, pink, blue, pale yellow and purple. Eggs can be boiled hard and painted in water-colors with a single spring flower, as a primrose, or a butterfly, also a symbol of the resurrection. They should be arranged in nests of moss. German children believe that the Easter eggs are laid by hares, so representations of this little animal are often placed on them, or near them. Painted butterflies, mounted on wire, can be made to hover over the nest.

TO MAKE CHOCOLATE ALMONDS.

Blanch the almond meats by pouring boiling water over them, and let them stand a few moments; then turn the hot water off and throw cold water over them. The skin may then be easily rubbed off. Break some sweet chocolate into small pieces, put them in a small dish, and stand this dish over a fire in a pan of boiling water. When the chocolate is melted put a blanched nut meat on the point of a hatpin and dip it into the melted chocolate; then lay it on oiled paper to cool. When the chocolate becomes set the meats may be again taken up with a pin; set a second coating of chocolate will please many that are very fond of chocolate.

Travelling Schools of Cookery.

What we might aptly term "Travelling Schools of Cookery" have become quite an institution in Canada and the U. S. of recent years. People who are eminently skilful in all culinary arts, who thoroughly understand the theory of scientific or hygienic cooking, and can readily demonstrate their practical knowledge, visit our principal cities and towns every year and lecture on the important subject of "What Shall we Eat?" in much the same way as professors and lecturers visit different parts of the country as "Travelling Dairies." Recently Mrs. S. T. Rorer, of Philadelphia, who has devoted much time and thought to this subject during the last twenty years, visited London, where she delivered a series of lectures which proved highly interesting, Mrs. Rorer being an authority on and an expert in the art of cooking and the artistic way of serving dishes. The following recipes may be useful to some of our readers; they were amongst the first given at the recent lectures:

MUSH BREAD.

Put one pint of milk over the fire until it is hot, then add one cup of white corn meal and stir constantly until it thickens. Then drop in (one at a time) the yolks of four eggs, stirring thoroughly as each yolk is added; then fold in the well-beaten whites. Turn into a baking dish and bake in a quick oven for thirty minutes.

TO MAKE GOOD COFFEE.

Allow one tablespoonful of coffee to one-half pint of boiling water. Keep it at almost boiling heat for ten minutes, but do not let it boil.

BOSTON BROWN BREAD.

Half pint white corn meal, half pint Yankee rye, one cup of whole wheat flour, one teaspoonful salt; mix well. Dissolve one level teaspoonful of soda in a little warm water and put it into a cup of molasses with one and a half cups of sour milk. Mix the whole, turn it into a mould, and steam for one hour; then bake in the oven for thirty minutes.

Some Suggestions for Summer Shade.

On the prairies, as far as the eye can reach, there is to be seen neither tree, shrub, nor vine about most of the homes, with the exception of a few cucumber vines in the garden. Even in well-wooded districts there are many homes left exposed to the hottest summer sun, when the temperature becomes unbearable in those houses. By training vines and creepers over the unprotected sides of the house a wonderful difference will be felt, but as sunlight is a necessity in every room the windows should be only partially shaded. Vines thus trained enjoy the heat of the sun, while they prevent it from striking the walls. Porches and verandas help to keep the house cool, and where these are lacking good substitutes may be made by simply driving a few posts into the ground and building a light frame on them, from which wires can be stretched to support heavy vines, or cords for the lighter creepers.

The most pleasing veranda I have seen was made to combine use and beauty, fruit and foliage. It was in the city, where economy in space is so essential, and was built on the sunny side of the house. The posts were put far out, to give sufficient space for a table to be laid for occasional meals. Rafters about six feet apart sloped from the walls of the house to the posts, and wires were stretched at intervals along the sides and roof. Some grapevines had been planted and trained to form a complete covering, and in the autumn great bunches of luscious grapes hung from the roof, enough for a large family. Instead of a board floor this summer room had a soft green turf, and round the border were planted ferns, lilies of the valley, violets, and other flowers that thrive in the shade. But where grapes are not available, other useful vines may be used, like the lima bean, asparagus bean and other climbers, which will help to supply the table as well as furnish shade. Then there are the good old morning glories, and the nasturtiums with their edible leaves and seed-pods, as well as their beautiful flowers, and the hop vine.

Among the ornamental shrubs we can also combine use with beauty. A crab-apple or peach tree, if carefully trimmed, will be an object of beauty from the time it blossoms in the spring until late in the autumn when the fruit is picked. Lilac, honeysuckle, roses, and other flowering shrubs are beautiful while in bloom, but that is a comparatively short period, and if there is not sufficient space for both the ornamental and the useful it would be better to have the fruit trees. Hardy evergreens planted this spring will in a few years protect the house not only from the summer sun but also from the winter storms. A row or cluster of healthy sugar maples planted at this time of the year will soon grow large enough to shade the house, and in ten years' time will supply the family with syrup.

A mother dreads no memories—those shadows have all melted away in the dawn of baby's smiles.—George Eliot.

If woman did turn man out of Paradise, she had done her best ever since to make it up to him.—Frederick Sheldon.

"A Finishing Touch."

The occasion for which that "finishing touch" is required is a very important one in the opinion of the pseudo young Chinaman who stands with upturned cheek receiving those final additions to his "make-up."

It is his first appearance in public, and he thinks that the whole world will be there to see him; his idea of the universe being restricted to the one small village in which he was born and from which he has never wandered.

His companion encourages him by telling him how short his ordeal will be and assuring him that of all the "character pictures" to be seen on the stage that night the greatest favorite is certain to be the one to which she is giving "A Finishing Touch."

A Housewife's Poem.

For the love of mercy sake!
Sally Ann has burnt the cake,
Folks are comin' from the town
And the house is upside down.
All the supper will be late—
'Tis too bad to make 'em wait—
But what can a woman do
Cleanin' house and bakin' too!

Oh, the trials o' this land,
Not a soul to lend a hand,
And the parlor carpet, more,
Hangs across the line outdoor.
Dust and dirt in great profusion,
Bakin', cleanin', all confusion;
Guess the comp'ny, when they come
Will wish that they'd stayed at home.

Fly around there, Sally Ann!
'Mongst the folks there comes a man
And you know as well as me
What a frettin' lot they be.



"A FINISHING TOUCH."

Never know'd a day so vexin',
Cleanin' house is so perplexin',
But when bakin' comes in too
Mixed with comp'ny—I tell you!

Pans and kettles, brooms and chairs,
Trip me over unawares,
Cats and dogs beneath my feet
Do not make my temper sweet;
Helter, skelter, here and there,
Books and nicknacks everywhere,
As I stand a lookin' down
Expectin' comp'ny from town.

Hark! the jolting wheels I hear
Of a wagon drawing near,
Mercy sakes! why, Sally Ann,
Surely 'tis that dreadful man
Comin' here all stark alone!
No, it's father comin' home,
Well, I never; they ain't come,
All this fuss for nothin'—hum!

—Florence Montgomery.

THE CHILDREN'S CORNER.

The Sick Fairy.

"Decidedly I am very ill," said the old fairy Chrysanthemum in confidence to her maid Daisy, as she leant back in her summer bower in Fairyland on a couch very neatly made of rose leaves and moss.

"Send Firefly at once for Dr. Camomile," she continued; "and, stay, he must take his lantern; because the old gentleman doesn't like flying in the dark. Ring the bell."

Daisy shook the stalk of a lovely Campanule which stood in one corner of the bower. In each flower sat a little elf, who struck the clapper inside with a golden rod he carried for the purpose; and such a lovely peal was rung as you couldn't possibly imagine. A page answered the summons. He was dressed in a dark suit and carried a lantern.

"Firefly," said his mistress, "trim your lamp

well, and start at once for Dr. Camomile's. If you should find him asleep, wake him up, and tell him the case is urgent."

Old Camomile, as he was irreverently called by young fairies, was a little cross at being disturbed, for he had just composed himself for a comfortable nap when Firefly came with his pressing message.

"Well," he observed sarcastically, on his arrival at his patient's bedside, "I concluded by the urgency of your message, my dear madam, that you were very ill; but I am happy to perceive that you don't look so."

"Appearances are deceptive, my dear doctor," replied Chrysanthemum, "but when I explain to you my symptoms, I am sure you will agree with me that no time was to be lost."

"Well, let us hear the symptoms."

"Oh, my dear doctor, when I tell you that I am losing all power over my wand!"

"What! What! What!" exclaimed the doctor, changing his tone to one far more serious.

"Yes," repeated the fairy, beginning to weep in her distress, "and the other day—would you believe it—I—I—(sobbing) turned the wrong boy into a turnip, and I positively got so nervous that I couldn't remedy the mistake. I came home and sank down here in such a state of nerves and palpitations that I have been unable to take a wand in hand ever since."

"Dear, dear," said the doctor, soothingly, "this is a sad state of things certainly; but never mind, don't distress yourself—it is tone, tone, we require. The system is lowered, and you must have a thorough change. I have it. Go and live among the mortals."

"As if I was not there every day!" exclaimed Chrysanthemum, and then muttered, under her breath, "He must be in his dotage!"

"What I recommend," pursued Doctor Camomile, "is that you should live among the mortals as one of themselves, taking any form which pleases you and keeping to it. Remember this is very important. You should renounce all magic arts for the time being, and with this thorough change and rest we shall set you up again, take my word for it. You take your household, of course, also disguised as mortals."

"That is not such a bad idea," admitted Chrysanthemum, "but as for thorough rest, being like the mortals is not the way to get that. They are full of cares and anxieties, such as we never trouble our heads with. They have no magic to learn, certainly, but they have so many queer, ingenious contrivances that it seems like magic sometimes. Their railways and electric telegraph and telephones are certainly wonderful things for such poor, clumsy creatures to contrive."

"Only a certain portion do the work," observed Doctor Camomile, "and the rest profit by it. You shall be one of those, and will have nothing to do but to sit and watch the antics of the mortals. And now let me prepare you some of my own particular tea, and see if you can't get a little sleep whilst I speak to your butler, Parakeet, about preparations for your journey and establishment in Mortal Land."

[TO BE CONTINUED.]

Off to the Klondyke.

We're off to the Klondyke to get some gold,
Me an' Baby and Cousin Jo;
In a great big sleigh like Santa Claus
We'll ride away over the snow.

Gramma's rocking-chair makes the loveliest sleigh,
The lounge is a reindeer, you know,
He gallops so fast over mountains and lakes,
To the place where gold nuggets grow.

The buffalo robe keeps us nice and warm,
We've candles and cookies to eat,
An' a bottle of milk for Baby Paul,
'Cause he is so little and sweet.

Jo says the nuggets grow upon the trees,
An' we shake 'em down like nuts;
But I'm pretty sure they grow in the fields,
Like the lilies an' buttercups.

An' the dandelions an' daffodils,
They all of 'em look like gold;
You can't spect Joey to know so much
'Cause he's only four years old.

The Blue Jay.

The blue jay is one of the most beautiful as well as one of the most intelligent of our native birds. He possesses all the wit and love of mischief which characterizes the common crow, to whom he is nearly related. Like the crow, he has a fancy for jewelry and all glittering objects, which he will steal and carry off to secrete in some safe hiding-place where he contrives to accumulate a store of treasures. The character of the blue jay has been much maligned. It has been accused of robbing the nests of other birds, and of pilfering corn to an injurious extent in the autumn. Though there may be some truth in these accusations, they are very greatly exaggerated. One may occasionally see a jay robbing the nest of another bird, but how many more may be observed which are innocently and profitably engaged? Ornithologists declare that about twenty per cent. of its food consists of injurious insects; beetles are eaten chiefly in spring, and grasshoppers constitute one-fifth of its food in August, but caterpillars and other noxious insects are eaten at the same time. Acorns and chestnuts are its favorite food, for which it will leave corn or any other grain untouched. Let us therefore allow the bright little bird to flit about our gardens and fields unmolested, for it undoubtedly does more good than harm on the premises.

Memory Gems Contest.

SELECTED BY MISS MATTIE BROWN, CLEAR CREEK, ONT.

I.
Make yourselves nests of pleasant thoughts. None of us yet know, for none of us have been taught in early youth, what fairy palaces we may build of beautiful thoughts, proof against all adversity. Bright fancies, satisfied memories, noble histories, faithful sayings, treasure houses of precious and restful thoughts which care cannot disturb, nor pain make gloomy, nor poverty take away from us—houses built without hands for our souls to dwell in.—*Ruskin.*

II.
Love virtue—she alone is free.
She can teach you how to climb
Higher than the spheric chime;
Or if virtue feeble were,
Heaven itself would stoop to her.
—*Milton: "Comus."*

III.
It's no in titles nor in rank,
It's no in wealth like Lou'ou bank,
To purchase peace and rest;
It's no in makin' muckle mair;
It's no in books, it's no in lears,
To make us truly blest;
If happiness hae not her seat
An' center in the breast,
We may be wise, or rich, or great,
But never can be blest;
Nae treasures nor pleasures,
Could make us happy lang;
The heart ay's the part ay
That makes us right or wrang.
—*Robert Burns.*

IV.
A beautiful behavior is the finest of fine arts.—*Emerson.*

V.
Nature is now at her evening prayers; she is kneeling before those red hills. I see her prostrate on the great steps of her altar, praying God for a fair night for mariners at sea, for travellers in deserts, for lambs on moors, and unfledged birds in woods. I see her now,—her robe of blue air spreads to the out-kirts of the heather where yonder flock is grazing; a veil, white as an avalanche, descends from her head to her feet. Under her breast I see her zone, purple like the horizon. Through its blush shines the star of evening. Her steady eyes I cannot picture,—they are deep as lakes; they are lifted and full of worship; they tremble with the softness of love. Her forehead has the expanse of a cloud and is paler than the moon risen long before dark gathers. She rests her bosom on the ridge of moor; her mighty hands are joined beneath it. So kneeling, face to face, she speaks with God.—*Charlotte Bronte.*

VI.
Desire not to live long, but well;
How long we live, not years, but actions, tell.
—*Watkins.*

VII.
Knowledge is now no more a fountain sealed.
Drink deep, until the habits of the slave,
The sins of emptiness, gossip, and spite,
And slander die. Better not be at all
Than not be noble.
—*Tennyson.*

VIII.
Peopled and worn is the valley,
Lonely and drear is the height,
But the path that lies nearest the storm-cloud
Lies nearest the stars of night.
—*F. R. Havergal.*

IX.
Of all sad words of tongue or pen,
The saddest are these: "It might have been!"
Ah, well! for us all some sweet hope lies
Deeply buried from human eyes;
And, in the hereafter, angels may
Role the stone from its grave away.
—*Whittier: "Maud Muller."*

X.
There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows, and in miseries.
On such a full sea are we now afloat,
And we must take the current when it serves
Or lose our ventures.
—*Shakespeare: "Julius Caesar."*

XI.
The more a man denies himself the more he shall obtain from God.—*Horace.*

XII.
They are slaves who dare not speak
For the fallen and the weak;
They are slaves who dare not be
In the right with two or three.
—*Lowell.*

XIII.
Earthly lights we do not ask for,
They but flicker, fade, and die;
Thou alone, the Light Eternal,
Can our spirits satisfy.
Bright the earnest of the future
Thou dost paint on winter skies,
Telling us of coming glory
Soon to greet our wondering eyes.
Snow may cast her mantle round us,
Cold may be the frosty air,
But above us, in the heavens,
We can trace Thy tender care.
We can read this timely message
Through the rift in sullen cloud.
Love can warm the coldest prospects
And with golden light enshroud,
Love can melt the frozen spirit,
Love doth cheer in gloomy hour;
Love will bring, in summer's absence,
Better gifts than choicest flower.
—*Charlotte Murray.*

XIV.
Even could the hand of avarice save
Its gilded baubles till the grave
Reclaimed its prey,
Let none on such poor hopes rely.
Life, like an empty dream, flits by—
And where are they?

Earthly desires and sensual lust
Are passions springing from the dust;
They fade and die.
But in the life beyond the tomb
They seal the immortal spirit's doom
Eternally.
—*Longfellow.*

XV.
No note of sorrow but shall melt
In sweetest chord unguessed;
No labor, all too pressing felt,
But ends in quiet rest.
No sigh but from the harps above
Soft echoing tones shall win;
No heart-wound but the Lord of Love
Shall pour His comfort in.
—*F. R. Havergal.*

CONTRIBUTED BY MISS ANNIE E. ROBSON, KINTORE, ONT.

I.
Is happiness thine utmost bent?
Why search afar for many a year,
When thou mayest find it now and near
If thou but find content?
—*C. E. Stevens.*

II.
Loyalty is still the same,
Whether it win or lose the game;
True as the dial to the sun,
Although it be not shined upon.
—*Samuel Butler.*

III.
Oh Duty! visitor divine!
Take all the wealth my house affords,
But make thy holy methods mine;
Speak to me thy surpassing words!
—*Julia Ward Howe.*

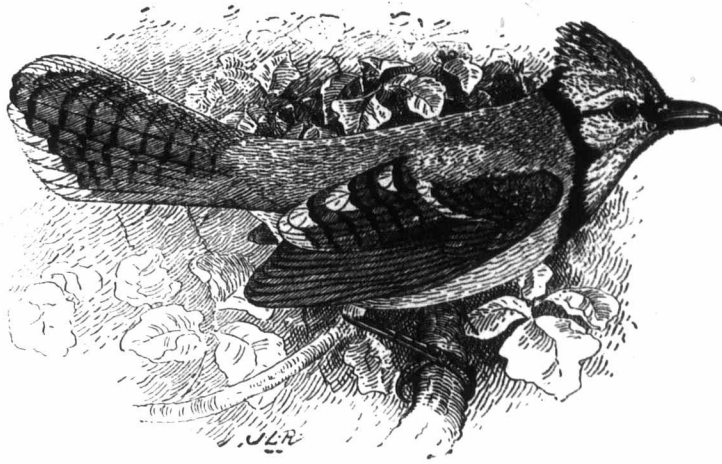
IV.
Honor to those whose words or deeds
Thus help us in our daily needs;
And by their overflow
Raise us from what is low.
—*Longfellow.*

V.
Bring us the airs of hills and forests,
The sweet aroma of birch and pine;
Give us a waft of the north wind laden
With sweet briar odors and breath of kine.
—*Whittier.*

VI.
Hark! how the sacred calm that breathes around,
Bids every fierce tumultuous passion cease;
In still small accents whispering from the ground
A grateful earnest of eternal peace.
—*Gray.*

VII.
Judge not of actions by their mere effect,
Dive to the center and their cause detect;
Great deeds from meanest springs may take their course,
And smallest virtues from a mighty source.

VIII.
Raise daily to some heavenly height
Apart from grief and care;
Hold converse with thy nobler self,
And God will meet thee there.
Thus comes the wisdom to direct
Through dim and tangled ways;
Thence comes the joy that lights and warms
Life's chill and cloudy days.



THE BLUE JAY.

IX.
Lord, none who are strong because care-free
Will carry a weight for another;
But one who's enduring and suffering for thee
Has strength for himself and his brother.
—*M. Elizabeth Crouse.*

X.
Count that day lost whose low-descending sun
Views from thy hand no worthy action done.

XI.
There is in nature just as much, or as little,
As the soul of each can see in her.
—*J. C. Sharp.*

XII.
No endeavor is in vain;
Its reward is in the doing.
—*Longfellow.*

XIII.
The present moment runs away into eternity, and
eternity is affected by our use of the present moment. It is
of everlasting importance whether we rightly use it or not.
Let us grasp at the eternal now and make it ours.
—*J. Trelease.*

XIV.
No evil dooms us hopelessly except the evil we love, and
desire to continue in, and make no effort to escape from.
—*George Eliot.*

XV.
I hold it true whate'er befall,
I feel it when I sorrow most;
'Tis better to have loved and lost
Than never to have loved at all.
—*Tennyson.*

How many men and boys—as well as women and girls—would be glad of the chance of earning \$50? What cares could be relieved, what pleasures given, with that sum! If you want to do a kind action to some friend or neighbor who is in need of money, let them see the offer we make in this issue to the solvers of the Canadian Puzzle. You can tell them of no easier way to earn fifty dollars. Or try and answer the questions yourself, and if you do not need the money, or watch, or pin, give them to some one less fortunate than yourself in the possession of this world's goods.

Women cannot see so far as men can, but what they do see they see quicker.—*Henry Thomas Buckle.*

THE QUIET HOUR.

Decreed.

"In all lives some rain must fall,
Into all eyes some tear drops start,
Whether they fall as gentle shower,
Or fall like fire from an aching heart.
Into all hearts some sorrow must creep,
Into all souls some doubtings come,
Lashing the waves of life's great deep
From dimpling waters to seething foam.

Over all paths some clouds must lower,
Under all feet some sharp thorns spring,
Tearing the flesh to bitter wounds,
Or entering the heart with their bitter sting.
Upon all brows rough winds must blow,
Over all shoulders a cross be laid,
Bowing the form in its lofty height
Down to the dust in bitter pain.

Into all hands some duty's thrust;
Unto all arms some burden's given,
Crushing the heart with its weary weight,
Or lifting the soul from earth to heaven.
Into all hearts and homes and lives
God's dear sunlight comes streaming down,
Gilding the ruins of life's great plain—
Weaving for all a golden crown."

Do Not Be a Slave.

Why will you keep caring for what the world says? Try, oh try, to be no longer a slave of it! You can have but little idea of the comfort of freedom from it—it is bliss! All this caring for what people will say is from pride. Hoist your flag and abide by it. In an infinitely short space of time all secrets will be divulged. Therefore, if you are misjudged, why trouble to put yourself right? You have no idea what a great deal of trouble it will save you. Roll your burden on Him, and He will make straight your mistakes. He will set you right with those with whom you have set yourself wrong. Here am I, a lump of clay; Thou art the potter. Mould me as Thou in Thy wisdom wilt. Never mind my cries. Cut my life off—so be it; prolong it—so be it. Just as Thou wilt, but I rely on Thy unchanging guidance during the trial. O the comfort that comes from this.—*Gen. Gordon.*

Keep Straight Ahead.

Pay no attention to slanders or gossip-mongers. Keep straight on in your course and let their backbiting die the death of neglect. What is the use of lying awake nights, brooding over the remark of some false friend, that ran through your brain? What's the use of getting into a worry and fret over gossip that has been set afloat to your disadvantage by some meddling busy-body who has more time than character? These things cannot permanently injure you, unless, indeed, you take notice of them, and in combating them give them character and standing.

If what is said about you is true, get yourself right at once; if it is false, let it go for what it will fetch. If a bee stings you would you go to the hive and destroy it? Would not a thousand come upon you? It is wisdom to say little respecting the injuries you have received. We are generally losers in

the end if we stop to refute all the backbitings and gossipings we may hear by the way. They are annoying, it is true, but not dangerous, so long as we do not stop to expostulate and scold. Our characters are formed and sustained by ourselves, and by our own actions and purposes, and not by others. Let us always bear in mind that "calumniators may usually be trusted to time, and the slow but steady justice of public opinion."

I Never Knew.

BY N. N. S.

I never knew before, the world
So beautiful could be
As I have found it since I learned
All care to cast on Thee;
The scales have fallen from mine eyes,
And now in light I see.

I never knew how very dear
My fellow-men could be,
Until I learned to help them with
A ready sympathy;
Their inner lives have made me know,
A broader charity.

I never knew how little things
As greater ones could be,
When sanctified by love for One
Who doth each effort see;
But now, a daily round of care
May win a victory.

I never knew; and still, dear Lord,
As through a glass I see,
And perfect light can only come
When I shall dwell with Thee;
When, in Thy likeness, I awake,
For all eternity.—*Living Church.*

Closed Doors.

Some persons are greatly troubled because doors of usefulness and opportunity are shut. It is true that some men like to shut doors, and slam them in other people's faces. When they are in they like to have other people keep out, and some seem to have no higher object than to do what they can to hinder others from doing anything. And often while those who shut doors entrench themselves in their castles, those outside fret and grieve over

such hindrances. They try to kick doors open, and they pinch their fingers in the cracks, and make a great noise about the wrong and the injustice to which they are subjected.

Good friend, has a door been shut in your face? Do not spend your time in kicking or banging the door, but consider, not what man intended, but what the Lord intended. Turn about. Perhaps the Lord has some purpose in this which is wiser and wider than you know. While men have shut the door on one side, perhaps the Lord is opening one on the other side.

Accustom yourself always to look at the bright side of things, and never make a fuss about trifles. It is pitiful to see what mere nothings some women will worry and fret over, lamenting as much over an ill-made gown as others do over a lost fortune; how some people we can always depend upon for making the best, instead of the worst, of whatever happens, thus greatly lessening our anxieties for themselves in their troubles; and ah! how infinitely comforting when we bring to them any of our own.

"For every evil under the sun There is a remedy—or there's none. If there is one, try and find it; If there isn't, never mind it."

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

April, with its tears and smiles so fitful, and its All Fool's Day, has crept in upon us almost unawares, and he who escaped having the epithet "April Fool" applied to him must have had all his wits about him, especially if there were any young folks around. Perhaps a few words about this peculiar custom may interest some of our young readers.

It seems to have originated only in the last century, and as the French records mention it long before we read of it in England, some assert that it had its origin in France. It is now practiced by the country people of Scotland to a much greater extent than anywhere else. "Hunting the gowk" is a favorite trick with them. It is played as follows: Some wag sends a poor fellow (the gowk, or, in other words, a sort of simple-minded fellow) to a neighbor, perhaps two miles distant, ostensibly on a real errand which is explained in the letter he carries to that person. The real contents, however, are these lines:

"This is the first day of April— Send the gowk another mile."

No. 2 looks regretful, says he is unable to fulfil the request, but that some other person a mile or so distant will do so, and gives the messenger a letter supposed to be to that effect, but which is, of course, the same as the first. Thus the fun goes on until someone, out of pity, tells the "gowk" that it is the first of April. The unfortunate butt of such a joke dare scarcely appear in public for several days without being pointed out as an object of ridicule.

Once, however, this very custom served a far different purpose. It is related that the Duke of Lorraine and his wife, who were captives at Nantes, in France, made good their escape on account of making the attempt on the first of April. They disguised themselves as peasants, the Duke carrying a hod on his shoulder and his lady a basket of rubbish on her back, and thus succeeded at an early hour in passing the city gates. A woman met and recognized them, and running to the guard told him about it, whereupon he laughingly cried out "April Fool," all the soldiers echoing the cry and paying no heed to the woman's story. The affair was told as a jest to the Governor, whose suspicions were at once aroused. He caused an investigation to be made, but the soldiers found the fugitives beyond their reach and themselves indeed "April Fools."

In Canada the small boy has the largest share of the fun, although occasionally his elders do not disdain to amuse themselves by innocent practical jokes on their unsuspecting neighbors.

Our puzzlers will be anxious to learn who have been the successful competitors during the quarter just ended, so I herewith append the names of winners of prizes for original puzzles during that time. Solvers' names will appear as soon as full returns reach me.

For original puzzles during Jan., Feb., and March, 1st prize (\$1.50) Miss Muriel E. Day, New Carlisle, Que.; 2nd (\$1), Miss Agnes C. Scott ("Kit"), Oshawa, Ont.; 3rd (75c.), "Ogma," Mitchell, Ont. The contest has been a close one, although many good contributors were very late in starting, but they will have a better chance next time.

How many of you have tried the Great Canadian Puzzle? All cannot win the great capital prize, but all have an equal chance of doing so, and every one can certainly secure a handsome pin. I hope all of you will make an effort to do so. With the increased number of subscribers we anticipate an influx to our corner which will make it even brighter and merrier than before. Hoping to realize this pleasant anticipation, Your loving—

UNCLE TOM.

A man cannot possess anything that is better than a good woman, nor anything that is worse than a bad one.—Simonides.

The Great Canadian Puzzle.

DEAR EDITOR,—Please let me know, in next issue, if, in "The Great Canadian Puzzle," one has some word or words which fit both in letters and meaning, but are not the same as your answers, will one have a chance for the \$50 prize? If it fits, will you count it right, supposing no other has words which fit even better? This little difficulty may occur also with the old proverb. "GYRA."

[In answer to "Gyra," no words will count as correct except those intended by the originator of the puzzle. This also refers to the proverb. We hope our readers are working vigorously at the puzzle. Do not be deterred by thinking the answers are difficult. You will be astonished at their simplicity when you see them published.]

Puzzles.

Address all work for this department to Miss Ada Armand, Pakenham, Ont.

1—HIDDEN CITIES AND TOWNS OF UNITED STATES.

- 1. Two men have just gone wheeling down the hollow, Ella!
2. At Christmas Tommy got a new ark and a toy tomahawk.
3. We may see those foreign friends of Otto's; we go directly by where the "Royal Oak" landed this morning.
4. The hunted hart forded the stream and evaded the hounds.
5. "Wages is agin' a workin' man nowadays," said Pat Erson, as he discontentedly viewed his week's earnings.
6. He suddenly became rich! Monday his uncle died and left him a large estate.
7. Senor Detoro, Italian harpist, played at the "Astoria," Tuesday last.

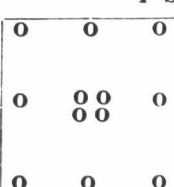
2—SQUARE WORD.

- 1. To degrade.
2. Healing ointments.
3. To divide.
4. To strike.
5. A girl's name.

3—DROP LETTER.

- 1. -r-s-r-, one of England's greatest poets.
2. -s-o-, one of the largest rivers in the world.
3. S-p-e-, an old fort in the United States.
4. -e-e-, an island in the Western Hemisphere.
5. -n-d-e-, a famous place.
6. N-o-b-, a British possession.
7. -l-l-b-d-, a city in Afghanistan.
8. -e-e-, a city in Europe.
9. -d-e-, a river in Europe.
10. K-u-h-o--ac-, a bay in Canada.
11. -u-s--l-, a lake in B. C.

4—SQUARE AND CIRCLE PUZZLE.



Divide this square into four pieces of equal size, each piece to be of the same shape and to contain three circles, without cutting into any of them. MABEL ROSS.

5—NUMERICAL ENIGMA.

- 10, 2, 1, 4, 9 is a Danish coin.
11, 9, 12, 8, 5, 9, 2 is a low shrub.
3, 7, 10 is hard wood.
10, 9, 6 is something every door should have.
The whole is the name of a famous man in a secret society.

6—ENIGMA.

In night but not in day. In clover but not in hay. In cold but not in heat. In furrows but not in feet. In arm but not in hand. In sand but not in band. In England but not in Spain. In honor but not in fame. Total a famous Indian chief. MARION SAUNDERSON.

- 7—1 is a flat stone.
2 is a yard and a quarter.
3 is a proposition.
1 is a vowel.

My whole is another word for to scourge. BLANCHE McMURRAY.

8—TRANSPOSITION.

A horseman riding along with a one in his hand, sees some two. He does not three, but secures some and four them. Thus he five what is not his. "KIT."

9—RHOMBUS.

- 1. Goes on water.
2. Is not pleasant.
3. Possesses wealth.
4. Is virtuous.
5. A pronoun and a verb.

Down.

- 1. Is in table.
2. An adverb.
3. To move quickly.
4. A weight.
5. Part of the body.
6. Long ago.
7. A common receptacle.
8. An exclamation.
9. Is in little.

10—"NEW FORM" PUZZLES.

- 1. Two O's, two T's, Two V's and a Z. Form this into something We all like to see.
2. Four I's, one V, and a U. Two O's, one M, and a Q. Form this into something Disliked by a few. MAGGIE SCOTT.

11—DROP LETTER.

- 1. -a-f-n--o-, city in United States.
2. M-a--i-, bay in New Brunswick.
3. -a--d-, city in Spain.
4. J-u-l-m-, city in Asia.
5. -n-on-, city in China.
6. -a-p-s-, city in Italy.
7. W-l-l-t-n-, county in Ontario.
8. -l-o-, city in South America.
9. D-l-g-, river in Australia. MAGGIE WILSON.

- 12—WORD SQUARE. My first is a kind of fur. My second is a weapon. My third is a kind of broth. My fourth is one who loses. My fifth is pitchers. NELLIE SCOTT.
13—RIVERS OF CANADA.
1. zomeicank 5. needhoair. 9. plolorvel.
2. frare. 6. gyaunsea. 10. bhilicouhrg.
3. kaseen 7. waahketssenc. 11. ooungbtuuu.
4. ybaani. 8. lihocouri. 12. asiococnalk. NELLIE SCOTT.

Answers to March 1st Puzzles.

- 1—Mediterranean Sea. 2—Sarnia.
3—Pirate—irate—rate—ate—tea. 4—Wm. Lyon McKenzie.
5—Adieu, dieu—calm, alm—awed, wed—knight, night—malice, Alice—faction, action—Operto, port—loathe, oath.
6—Mar—tin—gale. 7—Tasmania.
8—Crocks; milk; cream; churn; butter; pats; curd; press; cheese; whey. 9—Hypophosphites. 10—8—mile—s.
11—U S U R E R 12—Banan A
S A T I R E A die U
U T O P I A N ew S
R I P E N S Duclle T
E R I N G O I nfe R
R E A S O N C o o A
O b I
T opek A
13—P A R T S
A P A R T 14—Subtle - bustle.
R A T I O Shah - hash.
T R I C K Shearers - bearers.
S T O K E Sharper - harpers.
Resorted - restored.

Answers to March 1st Puzzles.

"Kit," Pearl Corrigan, "McGinty," B. N., Blanche MacMurray, Annie P. Hampton, T. McKim, "Hazel," Muriel E. Day, L. Moorhouse, Alice Gordon, Mary Hampton, Effie Stewart, Madge, Lulu, Margareta, A. Archie Bligh, Chris. McKenzie.

COUSINLY CHAT.

"Kit."—The parts of a puzzle which are most important should be printed so that the printer may know that they should be printed in capitals or otherwise distinguished from the rest. Rebuses may be drawn with pencil or pen, as desired. A. R. G. S., Chas. E. McK., Marion.—We are glad to hear from you, but please note the time for sending in work, so that names may appear in proper issue. A. R. G. S.—Oh, no, not a grandmother; but if you are a good boy you may call me cousin. Margareta.—Really cannot correspond, but do send that photo anyway. Why yes, I should like to get a letter written from your lofty perch. "McGinty."—Your rebus is not as good as some of the other puzzles you used to send. Yes, neatness counts in case of a tie, which often occurs. Arnprior.—I have again received solutions from this post office with no name attached. Will sender please sign name next time? "Annie Laurie."—Will be glad to get it when you find it. Yes, indeed, you were rather late. "Muriel."—As I understand rules, the winning of a pin does not deter from winning capital prize as well. Am thinking of trying myself.

Answers to Feb. 15th Puzzles.

Marion Sanderson, Allan E. G. Smith, Chas. E. McKenzie, Mary G. Hampton, Annie P. Hampton, Blanche MacMurray, Muggins, and A. Archie Bligh.

Rule Was Reversed.

There is an old saying that "The more you kick a dog the more he will love you," but there are exceptions to every rule. Some years ago I was stationed at Devonport. A friend of mine (whom I will call Bates) owned a handsome retriever dog. The animal received more kicks than caresses from his master, and I was continually remonstrating with my friend on his cruelty to his dog, but his only answer to my entreaties to be kind to the animal was the usual one, "The more you kick him the more he will love you."

I was very kind to this dog, and my kindness was well rewarded, as the sequel will show. One afternoon Bates and I engaged a boat for a row. Bates tried all he knew how to prevent his dog getting into the boat, but I eventually prevailed on him to let the dog accompany us.

On the return journey a fog came on and a passing steamer swamped us, with the result that our boat upset, and we were struggling in the water. We could not swim, and the steamer's crew could not see us, although they could hear our cries for help.

As I was sinking, the dog grabbed me and pulled me to the upturned boat; but I could not get him to save his master, who was drowned.—Cassell's Journal.

The Old School Exhibitions.

Oh, the old school exhibitions! Will they ever come again, With the good, old-fashioned speaking from the girls and boys so plain? Will we ever hear old "Iser," with its rapid roll and sweep, And "Pilot," 't is a fearful night; there's danger on the deep!"

Sweet Mary doesn't raise her lambs like Mary did of old; Their fleece is not "as white as snow"; they're wandering from the fold, The "boy upon the burning deck" is not one half as fine— He was not "born at Bingen, at Bingen on the Rhine!"

The girls don't speak in calico, the boys in cotton jeans; They've changed the old-time dresses long with the old-time scenes; They smile and speak in ancient Greek, in broadcloth and in lace, And you can't half see the speaker for the collar round the face!

O, the old school exhibition! It is gone for evermore! The old schoolhouse deserted, and the grass has choked the door, And the wind sweeps round the gables with a low and mournful whine For the old boys "born at Bingen—at Bingen on the Rhine."

Atlanta Constitution.

APRIL 1, 1898. DO Big OF C Everyb W If you want to get the send for our cheaper than write long S 577 CR. work to you use Pool good but is practi Wir it is "t very lit grocers W BUY THE BE No ot will g tion. is gua purch R. & RO FO Car lots or with order. TORON oe Import The Entire Southw shire hogs, auction on Ont., on Tu 10 a. m. —oe Chest Whit W. E. WRIGHT EGGS F Minoreas, S pigs. —oe

Mr. C. M. Simmons' Sale of Shorthorns.

A good sale was looked for at the dispersion of Mr. C. M. Simmons' noted and well-established Shorthorn herd, at Ivan, Ont., on March 18th, and it is encouraging to breeders of good animals that the most sanguine were not disappointed. It was an occasion alike honorable to the proprietor and a credit to the breed. The attendance was about 500 people. Capt. T. E. Robson was the presiding officer, and, as it were, dealt out the goods in a confident and engaging manner. The Captain knows Shorthorns and understands pedigree, and on this occasion had good subjects upon which to say the right thing at the right time. The merits of the herd were widely known, and brought breeders from Manitoba, Minnesota, Iowa, Kentucky, Ohio, Michigan and other States, besides a good representation of the leading Ontario breeders. True, there were no boom prices paid, but at the close of the afternoon it was generally conceded that neither Mr. Simmons nor the purchasers had secured any decided snags from a monetary point of view. Satisfaction all round was the verdict. The following is list of animals, prices and purchasers. The cows' names followed by (calf) were sold along with calf at foot.

- Daisy of Strathallan 15th (calf), calved Sept., 1895; price, \$325; sold to W. S. Carpenter, Simcoe, Ont.
Daisy of Strathallan 11th (calf), September, 1893; \$200; John Miller & Son, re-sold to W. D. Flatt, Hamilton, Ont.
Saxon Beauty (calf), January, 1895; \$280; Hornsby Bros., Eminence, Ky., U. S. A.
Daisy of Strathallan 13th (calf), September, 1891; \$210; John Miller & Son, re-sold to W. D. Flatt.
Daisy of Strathallan 9th (calf), February, 1892; \$210; W. S. Lister, Middlechurch, Man.
Ury Ann 2nd, April, 1893; \$180; W. D. Flatt.
Ury Ann 3rd, February, 1897; \$100; John McKenzie, Chatsworth, Ont.
Elvira 11th, April, 1885; \$90; Thos. Cudmore, Lumley, Ont.
Elvira 21st (calf), October, 1895; \$200; W. D. Flatt.
Elvira 22nd, September, 1896; \$180; Capt. D. Milloy, Paris.
Larkspur, November, 1894; \$175; Jas. Thompson, St. Mary's.
Daisy of Strathallan 3rd (calf), November, 1887; \$155; P. O'Hara, Lanesboro, Minn., U. S. A.
Daisy of Strathallan (calf), August, 1883; \$145; W. H. Taylor, Parkhill, Ont.
Broken Horn (calf), February, 1885; \$105; McGregor Bros., Tilbur, Ont.
Golden Drop, November, 1888; \$150; W. S. Carpenter.
Golden Drop 2nd, May, 1893; \$115; John T. Gibson, Denfield.
Golden Drop 3rd, December, 1896; \$100; W. S. Carpenter.
Mina, June, 1892; \$155; Alex. Smith, Maple Lodge, Ont.
Mina 2nd, May, 1896; \$205; W. D. Flatt.
Daisy of Strathallan 18th, March, 1897; \$120; W. G. Pettit, Freeman, Ont.
Daisy of Strathallan 14th, May, 1896; \$205; A. P. Cook Co., Brooklyn, Mich., U. S. A.
Daisy of Strathallan 16th, November, 1896; \$155; Capt. D. Milloy.
Cleopatra 1st, March, 1887; \$155; Jas. Tolton, Walkerton, Ont.
Cleopatra 5th, September, 1897; \$120; Capt. D. Milloy.
Mysie, January, 1895; \$90; F. W. Scott, Highgate, Ont.
Mistletoe 8th, May, 1890; \$115; McGregor Bros.
Buchan Lassie's Gem (calf), November, 1893; \$130; John McEwen, Ontario.
Roan Braeclot, March, 1897; \$75; W. G. Pettit.
Daisy of Strathallan 17th, October, 1896; \$100; Hornsby Bros.
Mistletoe 10th, April, 1892; \$90; F. W. Scott.

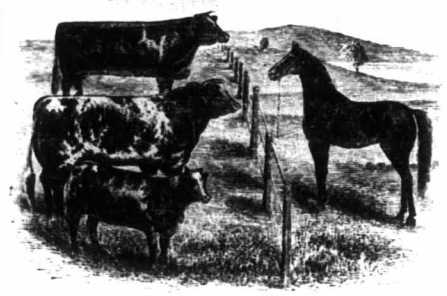
NOTICES.

We call attention to advertisement in this issue of Mount Royal herd of ponies of various breeds, viz. Shropshire, etc.; also Shropshire sheep; to be sold out low by private sale at Montreal.

SAWYER & MASSEY'S ROADMAKING MACHINES.

In this issue of FARMER'S ADVOCATE will be seen the advertisement of Messrs. Sawyer & Massey, Hamilton, a firm long and favorably known as manufacturers of high-class machinery. Their specialties have been confined to portable engines for general farm purposes, separators, clover hullers, horse powers, tread powers, saw mills and saw-milling machinery, and now they are giving special attention to the perfecting of a class of labor-saving roadmaking machinery. The Aultman stone crusher is the result of years of practical tests, and so reconstructed, with some added improvements of their own, as to insure a combination of points, with the result that they have a machine for which they claim points of simplicity, durability and effectiveness over all competitors in this class of machinery. By a peculiar motion given to the movable jaws the makers of this machine claim superiority over other crushers, and the best evidence of their superiority is that many testimonials are given by their users. Alongside of their crushers they are paying special attention to the Improved Western Reversible Road Grader, a machine which has made a magnificent record for itself in Ontario and Quebec the past year, and from the numerous influential testimonials from the company are able to produce, bearing the signatures of Reeves, mayors and members of councils in different parts of the Province, we see no reason for doubting any of the claims the Company make for it. The other machines, such as separators, clover mills, engines, etc., are all too well known to require further introduction, as they are fully abreast with the times and in advance of many competitors.

W. D. FLATT, HAMILTON P. O. and Telegraph Office.



5 FASHIONABLY-BRED YOUNG BULLS. 5

Also cows and heifers representing the leading popular families. A few good Roadster horses. Farm six miles from Hamilton. Visitors met at G.T.R. or C.P.R. if notified.

Spring Grove Stock Farm



Grove. Stock of all ages and both sexes for sale. Apply T. E. ROBSON, Ilderton, Ont.

Shorthorns and 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.

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

SHORE BROS., WHITE OAK, ONT.,

Have 4 very useful SHORTHORN BULLS FOR SALE. Prices very moderate. Write for particulars.

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.

8 Shorthorn Bulls 8

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

W. G. PETTIT & SON, Freeman P. O., Ont.

FOR SALE! The Mount Royal herd of prizewinning Shetland and Welsh ponies, Arabian-bred horses, and Shropshire Sheep. Also vehicles, harness, saddles, dumb jockeys, etc. The entire lot to be sold. Prices low. Address: R. T. MCGIBBON, Manager, Box 828, Montreal, Que.

2 BATES BULLS 2

FIFTEEN MONTHS OLD. Sire and g. sire are Dukes; dams, Princess.

W. COWAN, V. S., GALT, ONTARIO

FOR SALE 2 SHORTHORN BULLS 2

Color red. Write or call JAMES BROWN, (Box 249) Thorold, Ont.

Potash

is one of the three important ingredients of a complete fertilizer; the others are phosphoric acid and nitrogen. Too little Potash is sure to result in a partial crop failure.

Free

An illustrated book which tells what Potash is, how it should be used, and how much Potash a well-balanced fertilizer should contain, is sent free to all applicants. Send your address. GERTIAN KALI WORKS, 93 Nassau St., New York.

GOSSIP.

A time table will be found in the Grand Trunk ad. in this issue especially valuable to persons contemplating a western trip. The settlers' trains referred to are designed and run for comfort and despatch. Read their advertisement through and arrange yourself accordingly.

W. R. Knight, Bowmanville, Ont.: "I am well pleased so far the way the enquiries have come for stock and eggs. I have had three or four inquiries a day and have made some good sales already from the first insertion in the ADVOCATE. I would like to have advertisement changed for the next number."

W. D. Flatt, Hamilton, Ont., informs us that he has sold his young bull, Ambassador 26975, the yearling son of Anemone, Vol. XL., by imp. Vice-Consul, by Siltinton Stamp 1963, to Mr. W. S. Carpenter, Simcoe, and at the same time purchased, at an advance on the price at which she was knocked down at the sale of Strathallan 15th.

H. H. Shore, White Oak, reports a particularly successful sale season in breeding birds, and would further add a word regarding their 1898 matings. No. 1 pen of S. G. Dorkings are a magnificent lot of hens, mated to cockerel sired by an imported Crystal Palace winner that also won first at late Ontario show. No. 2 pen are an extra fine lot of pullets, mated with cockerel that won first at late Western Fair. No. 1 pen S. C. B. Leghorns are a select lot of hens, mated with cock that won first as cockerel at Western Fair, 1896. No. 2 pen are choice pullets, mated with grand cockerel with Black Minorcas are pullets and hens bred from stock of Rev. Mr. Butler, of Lincoln, England, mated with cock sired by New York winner of 1895. B. P. Rocks are a beautifully matched mating of Hawkins and Felch strains of breeding.

W. G. PETTIT'S SHORTHORNS.

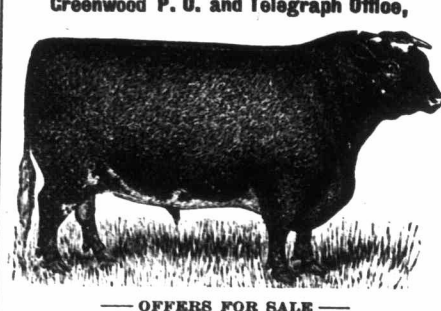
At the farm of Mr. W. G. Pettit, near Burlington Station, we were shown some eight very choice young Shorthorn bulls, most of which are fit for service and in grand form, all sired by Indian Statesman, by Indian Chief. The 15 months roan bull out of Belle 7th, with pedigree running to Lilly, by Warden, is a thick, growthy, good animal and a grand hauler, while the roan out of Lady Aberdeen, by Earl of Aberdeen, and out of Duchess of Gloster, is rising three years, and has developed into a big, handsome fellow. Although he has never been loaded with flesh for show purposes, he is making a grand record on the farm, and parties desirous of obtaining good sires, bred in the purple, cannot do better than visit this herd.

A RECORD-BREAKING SALE OF HEREFORDS. A remarkable sale of Hereford cattle was made on March 2nd and 3rd at Emporia, Kansas, when 141 head from the herd of Mr. C. S. Cross were disposed of for an aggregate of \$18,885 cash, or an average of \$134. The imported two-year-old bull, Salisbury, sold for \$3,000; the imported bull, March On, a yearling, for \$1,000; the imported two-year-old heifer, Luminous, for \$1,500, and the imported three-year-old cow, Loominster Daisy 2nd, for \$1,200. Only three animals brought less than \$200, and the lowest price was \$165. There were in the sale 23 imported bulls, which sold for \$11,170, an average of \$486; and 11 imported females, which brought \$7,880, an average of \$717, or an aggregate of \$22,050 for 37 imported animals and an average of \$595. Fifty-three home-bred bulls sold for an average of \$354; 51 females for an average of \$311. This great sale gives ample evidence of the high estimation in which the "white faces" are held in the great cattle feeding States of the West.

W. C. SHEARER'S PLYMOUTH ROCKS. Parties requiring choice Plymouth Rocks cannot do better than take advantage of Mr. W. C. Shearer's offerings in his change of ad. for this issue. We have upon different occasions visited Mr. Shearer's farm, and at each call have visited his poultry pen, and speak with confidence when we say that he has a strong, vigorous and healthy pen of hens, nice and evenly barred. For years Mr. Shearer has obtained male birds from breeders whose reputation stands high among the fanciers in this breed. No other breed is kept on the farm.

"THE BEST BUSTER I EVER USED." White Rock, Huron Co., Mich., Sept. 14, 97. I have used Gambault's Caustic Balsam for ringworms, sprays and curbs, and I think it is the best blister I ever used, as it doesn't destroy the hair, and is an excellent remedy for the above ailments. FRANK MEXFORD.

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



15 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.

EGGS FOR HATCHING Barred Plymouth Rocks.

Pen of 22 bred direct from imp. stock, and headed by a choice imported cock; all well barred, and large, robust, healthy birds. Price, \$1.50 for 13; \$2.25 for 20; or \$3 for 3 settings.

W. C. SHEARER, Bright, Ont.

BUTTONWOOD JERSEY HERD

OFFERS six richly bred young bulls from show-ring winning dams, and such sires as King of Highfield and Violet's Leo. Both sweepstakes bulls. Settings from B. P. Rocks, Black Minorcas, and 4 Grey Dorkings. Correspondence solicited.

S. WICKS & SON, MOUNT DENNIS, ONT.

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. 34 ozs. of butter in 7 days; dam of King of Highfield, Signal Rosa May (22 lbs. 4 ozs. of butter in 7 days, and 1st prize over all Canada 4 times), also dam of Unoma May (26 lbs. 4 ozs. of butter in 7 days, and 64 lbs. of milk a day).

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

DON JERSEY HERD

NOW OFFERS 3 Yearling Bulls. Fit for service (2 golden-fawn and 1 squirrel-grey), and 1 six months (golden-fawn), 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.

BRAMPTON JERSEY HERD

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

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

GLEN ROUGE JERSEYS.

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

A. J. C. C. JERSEYS FOR SALE.—Bulls fit for service. Bull calves, heifer calves, and young cows from tested dams. Baron Hugo heads the herd. Prices right. H. E. WILLIAMS, Sunny Lea Farm, KNOWLTON, P. Q.

1898 Model Bicycles ONLY \$29.50



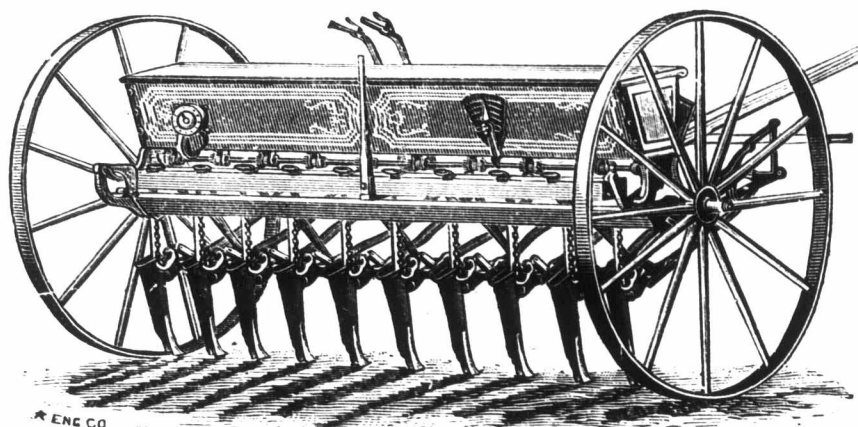
1898 Model Bicycles ONLY \$29.50

We Sell A first-class high-grade bicycle, 1898 model, for only \$29.50. Our terms are spot cash. Send us \$1.50 with your order as a guarantee that you mean business, and we will send you one of these wheels (either lady's or gent's) by express. You have the privilege of thoroughly examining the wheel in the express office, and if satisfactory to you then pay the Express Co. the balance of \$25.00 and take your wheel. If not exactly as we represent it, then send the wheel back to us, and we will refund the \$1.50, keeping back only the Express Co.'s charges. We have only one price no matter how many are purchased. The price for either lady's or gent's pattern is \$29.50. We have no agents, and do not want any. We only sell for cash. We do not guarantee our wheels in any way. The maker of these wheels is one of the best in the United States. This wheel of ours is sold on its merits. No name; no fancy profits; no credit; no expensive way of selling it, but on its own merits only. You examine it thoroughly before you take it. These wheels are 1898 models in every particular (not chainless). They have first-class rubber tires. Best nickel handle-bars. Natural wood rims. Frames beautifully enamelled and decorated, either black, green, blue, or maroon. In ordering mention your color preference if we have your color in stock we will send it, but if not then we reserve the right to send another color. Frames have two-inch drop. Cranks, 1898 pattern, two-piece. All ball bearings, with ball-retaining and dust-proof devices. Best rat-trap pedals for gent's, rubber tipped pedals on lady's wheels. Gent's frames, 24-inch; gears, 72. Lady's frames, 22-inch; gear, 68. Every wheel complete, with 1898 improved saddle, air pump, wrench, oil, and tool bag. Each is papered and crated. These wheels are high-grade wheels, sold at popular prices. If you want a wheel this year write at once, and mention the FARMER'S ADVOCATE. As to our responsibility we refer you to the proprietor of this paper. Address:

STANLEY MILLS & CO., HAMILTON, ONTARIO.

BUY A HOOSIER

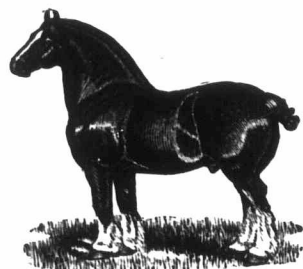
AND YOU WILL NEVER REGRET IT.



The only Drill which will sow absolutely correct and at a uniform depth in all kinds of soil.

NOXON BROS. MANUF'G CO'Y, LIMITED, INGERSOLL, ONTARIO.

CHAMPION CLYDESDALE STALLION "MCQUEEN"



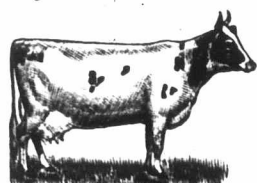
We have a number of first-class mares and fillies of this breed in foal to the above stallion.

We also have for sale a number of other choice stallions—Clydesdale, Standard-bred, Thoroughbred.

GRAHAM BROS.,

Claremont, Ontario. 25 miles east of Toronto, on C. P. R. 4-11-0m

Isaleigh Grange Stock Farm, DANVILLE, QUEBEC. Ayrshire AND Guernsey Cattle, Imp. Yorkshire Swine AND Shropshire Sheep.



Ayrshire herd headed by the noted bull, Matchless 7560; 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-0m T. D. M'CALLUM, Mgr.

GOSSIP.

Fitzgerald Bros. auction sale of Shorthorn cattle at Mount St. Louis, Ont., March 28th, was on the whole quite satisfactory, 40 head being sold for \$3,300. Cows brought from \$75 to \$107; yearling heifers, \$60 to \$70; heifer calves, \$40 to \$65; and bull calves, \$40 to \$75.

Snelgrove Poultry Yards, under the skillful management of the owner, Mr. W. J. Campbell, Snelgrove P.O., near Brampton, Ont., ranks high in the specialty of Barred Plymouth Rocks, from which eggs for hatching are now offered in an advertisement in this paper, which see and read.

Forty-three head of Shorthorns, property of J. R. Crawford & Sons, Newton, Iowa, were sold at auction on March 9th, at an average of \$182.55. The highest price was \$405 for the two-year-old heifer Nonpareil of Meadow Lawn 3rd, and the highest price for a bull was \$310 for Prince President 2nd 116890.

The delegations representing the Ontario and Quebec Ayrshire Herd Book Associations met recently at Ottawa, and agreed upon a basis of amalgamation subject to the approval of the Quebec Association, who will be called together for the consideration of this question, when, if the action of the committee is ratified, we shall have but one Ayrshire Herd Book for the Dominion.

At the dispersion sale of the herd of Herefords, property of H. M. Hill, La Fontaine, Kan., held at Kansas City, Mo., March 15th, thirty-four head of cattle sold for \$13,635, an average of \$401. The average for bulls was \$366, and for cows \$111. The highest price was \$755 for Lady Superior 46168, and the top price for a bull was \$550 for Enterprise 5897, of Mr. Sotham's breeding, sired by Conductor.

B. H. Bull & Son, Jersey breeders, Brampton, Ont., writes: "Enclosed please find my cheque for advertising space in the ADVOCATE, which I consider a good paying investment. I have been a subscriber for many years, and have always welcomed the monthly visitor, but in the last few years particularly so, its visits having been doubled and its articles so seasonable and up to date. I have always recommended it, and believe if every subscriber would put forth a little effort we could double the already wide circulation and consequently have a still better magazine and advertising medium. Wishing you every success."

A. & G. Rice, Currie's Crossing, Ont., Holstein breeders, order a change in their advertisement in this issue, in which they offer some choice young cows fresh, and others due to calve in October, including the winner of a first prize at the Western Fair at London. The demand for bulls has been so good that all their yearlings are sold, but a good crop of calves of both sexes are growing up. The records made by this herd, both in private and public tests, some of which are referred to in another column, are such as to stamp them as among the very best dairy workers on the continent.

J. W. Barnett, of the Pine Grove Stock Farm, manager for W. C. Edwards & Co., Rockland, Ont., writes: "We are finding the demand for Shorthorns this year the best we have ever known. Enquiries are coming from all quarters. Our sales have been good, but we have four yearling bulls on hand yet. They are just in nice working condition and are individually good. From present appearances they will not be on our hands long. We have one young imported bull just home, and unless we are mistaken he will be heard from in the future. He was bred by Mr. Marr, of Upper Mill, and thought to be his best calf of last year. He has landed home in very good shape."

From the Truro (N.S.) News we learn that a measure is before the Provincial Legislature entitled "An Act to Incorporate the Maritime Stock Improvement Company (limited)." The Company is organized for the purpose of improving and raising the standard of farm stock and poultry of the Maritime Provinces, to carry on the business of breeding, transporting, marketing, purchasing or otherwise dealing in all classes, kinds and breeds of cattle, sheep, swine and poultry. The capital stock of the Company is placed at \$50,000 on shares of \$25. Nearly half the stock has been subscribed, one of the provisional directors being interested to the extent of \$10,000. The bill has passed the lower House, and is being considered by the Legislative Council.

MR. OGILVIE'S IMPORTATION OF AYRSHIRES.

On Tuesday, March 15th, Mr. Robert Hunter, farm manager for Mr. W. W. Ogilvie, of Montreal, landed at St. John, N. B., with 25 head of high-class Ayrshires (24 females and 1 bull), selected from the leading herds in Scotland, to be added to Mr. Ogilvie's fine herd on his beautiful farm at Lachine Rapids, Que. They arrived in fine condition, and are now in quarantine at the port of entry. The bull, Comrade of Garlaiff 3551, won 1st prize at the Highland and Agricultural Society's show last year at Glasgow. He was bred by Messrs. R. & P. Wardrop, of Garlaiff, Cummock, Ayrshire. One of the cows, Georgina 2nd of Wyndholm, also took 1st prize at the Highland Society's show, being 1st at Lanark and 1st at Ayr. She was bred by Robert Osborne, Wyndholm, Lockerbie, Dumfriesshire, the breeder of the famous Nelly Osborne. White Rose 2nd of Tower won 1st prize and sweepstakes at Thornhill and Sanguhar shows, and was bred by Thomas L. Hyslop, of Tower, Sanguhar, Dumfries. Selections were also made from the herds of the following breeders: R. Montgomerie and Robert Wallace, Lessnessock; Wm. Mair, Carston; Mrs. Connor, Drumdown; John Murray, Carston, Ochiltree; William Winter, Drumblair; James Moffatt, Gateshire, Sanguhar; and J. McKean, Dunbarton. Mr. Ogilvie is to be congratulated on his enterprise in importing such a valuable collection of cattle, the benefit of which in improving the stock of the Dominion will no doubt be apparent in the near future and for many years hence.

THE HORSE SHOW.

The prize list of the Canadian Horse Show and great Military Tournament to be held in Toronto, May 4th to 7th, is now ready for distribution, and may be had by applying to Henry Wade, Secretary, Parliament Buildings, Toronto. See the advertisement in this issue.

MILLER & SIBLEY'S Jerseys

SPECIAL OFFERING OF 15 LOW-PRICED JERSEY COWS.

They are not

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

MILLER & SIBLEY,

NO TRADES. FRANKLIN, CASH ONLY. Venango Co., Pa.

Maple Hill Holstein-Friesians SPECIAL OFFERING.

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

11-y-0m G. W. CLEMONS, St. George, Ont.

"Gem Holstein Herd."

STOCK FOR SALE!

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

HILLIS BROTHERS, BEDFORD PARK P.O., ONT. Shipping Station, Toronto. 7-y-0m

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. HENRY STEVENS & SONS, LACONA, N. Y.

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

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA!

—ALSO—

TAMWORTH SWINE

Orders booked for spring pigs. Pairs not akin.

Address— H. D. SMITH, 17-y-0m Compton, Que.

Galloway Bulls

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

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

GUERNSEYS

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

Address: SYDNEY FISHER, Alva Farm, Knowlton, P. Q. 7-y-0

ADVERTISE IN THE ADVOCATE

BRITISH ADVERTISEMENTS.

Hampshire Down Sheep.

Splendid mutton, good wool, great weight. This highly valuable

ENGLISH BREED OF SHEEP

is unrivaled in its rapid and

WONDERFULLY EARLY MATURITY,

Possessing, too, a hardness of constitution adapted to all climates, whilst in the quality of

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

At the great Smithfield Club Show in London, December, 1896, Hampshire Downs exceeded any other breed in the number of entries. The live weight of the 22 pens of wether lambs exhibited (3 to a pen) averaged no less than 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 - Sheepcote, London.

SHROPSHIRE SHEEP

KNOWN THE WORLD OVER AS

THE FARMER'S SHEEP

LEAN, JUICY FLESH, best and heaviest fleeces of all DOWN SHEEP, very prolific, good nurses, robust constitutions, and noted for early maturity.

N. B. - The best GENERAL PURPOSE SHEEP in existence, and splendidly adapted for crossing on Merino, long-wool or cross-bred ewes when an IDEAL FREEZER is wanted.

FAT LAMBS - For breeding fat lambs the Shropshire ram is unrivaled, and for that purpose it is extensively used in all parts of the world.

THE SHROPSHIRE will thrive and do well where any other sheep can exist, and no breed has such a record for readily adapting itself to any Country and all Classes of Pasture.

A list of Shropshire sheep breeders entered in the last volume of the flock book may be obtained from

ALFRED MANSELL & CO., Secretaries of the Shropshire Breeders' Assn., SHREWSBURY, ENGLAND.

EXCELSIOR STOCK and DAIRY FARM

Guernsey Cattle, Duroc-Jersey and Chester White Swine.

Won 150 Prizes and Medals in 1897. We have for sale a few lengthy, deep-sided, strong-boned D. J. boars which are ready for service, the type in demand by pork-packers. A few choice sows bred, due to farrow soon.

WM. BUTLER & SON, DERHAM CENTRE, 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 get 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 to 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. Board's Station, G.T.R.

GLENGARRY STOCK FARM

JOHN A. McDONALD, Jr., Williamstown, Ontario, BREEDER OF

HIGH-CLASS AYRSHIRES.

My aged bull, Sir Donald, is now for sale, as I am through with him. He can be had at a bargain. Lancaster Station, G. T. R.

ADVERTISE IN ADVOCATE

GOSSIP.

A meeting of the Executive Committee of the Cheese and Butter Makers' Association of the Western Ontario was held at the Dairy School, O. A. C. Guelph, on the afternoon of March 23rd. Members present: T. B. Millar, O. A. C., President; George H. Barr, Sebringville, Vice-President; G. E. Goodhand, Milverton, Director; and W. W. Brown, Attercliffe Stn., Secretary-Treasurer. The business of the meeting was preparing a "prospectus" of the work which will be issued to the cheese and butter makers of Western Ontario.

While in Ontario, after attending the breeders' associations annual meetings, Mr. F. G. Boyver visited the Ayrshire herds of Ben McCormack, Rockton, and William Boldeck, Mount Charles, and secured for Wm. Miller, Esq., Marshfield, P. E. I., well-bred representatives from each of those herds, and at Greenwood purchased for himself, from Arthur Johnston, Esq., the Shorthorn cow Canadian Duchess of Gloster 23rd, a grand breeding cow and only three removes in descent from imported Duchess of Gloster 12th, that famous old cow being her great-granddam.

Mr. J. G. Snell, Snelgrove, Ont., in renewing his advertisement for another year, congratulates the Farmer's Advocate on the general excellence of its contents, and reports a gratifying demand for good Berkshires at fair prices. His sales in the last few months have been larger than for the corresponding months in many years, and the prices obtained much better. Among recent sales is that of the sweetstake sow, Saco's Charm, to R. McKenzie, High Bluff, Man., and the sweetstake boar Victor 12, to go far away Mississippi. Mr. Snell adds: "I have been fortunate enough to purchase the entire flock of Cotswold ewes of Mr. J. C. Snell, a very select lot with a grand crop of lambs at foot, and my forty yearling rams are the best I have had in many years."

W. R. Bowman, Mount Forest, Ont., breeder of Berkshire and Yorkshire swine, writes: "Since writing you my customers are increasing every month, and sales are good. Our sales for the last few months have been: Thos. Crawford, Camlachie, one Berkshire boar; A. Ferguson, Champlain, one Yorkshire boar; Thos. Dudgeon, Earlcliffe, one Yorkshire boar; G. Huyche, P. E. Co., one Yorkshire boar; George Smith, Brewer's Mills, one Yorkshire boar; Mimico Asylum, one Yorkshire boar; John E. Allen, Tarewell, one Yorkshire boar; Geo. Robb, Yeovil, one Yorkshire sow; H. A. Wilkes, Champlain, one Berkshire boar; Thos. Brooks, Mt. Albert, one Yorkshire boar; J. Burke, Mount Forest, one Yorkshire boar; Norman Cott, Jura, one Berkshire boar; T. R. Langull, Ostrander, one Berkshire boar; G. Bogart, Napanee, one Berkshire boar; J. McCrae, Galt, one Berkshire boar; Jacob Clum, one Yorkshire boar; E. W. Bradwin, Mt. Forest, one Berkshire sow; R. W. Burrell, Caledon East, one Berkshire sow; George Drewery, Connecticut, one Berkshire sow; J. Batty, Edmonton, one Shorthorn bull calf; John Cook, Maple Creek, N. W. T., one Shorthorn bull calf. Also a number of Shropshire ewes and rams, and nine Shorthorn cows and heifers. Stock are coming through the winter in good shape, and the young things are coming strong. At James Hunter's sale, Alma, I purchased a number of his handsome Shropshire ewes and his best span of Clyde mares."

H. D. Smith, "Ingleside Farm," Compton, Que., writes: "I visited my Herefords and calves by Sir Horace, who, by the way, I have sold to W. W. Black, Esq., Amherst, N. S., at a very satisfactory price. This past season has been much the best one since I have had anything to do with Herefords, and appearances indicate an even more prosperous one for '98-'99. The first of the large American spring sales of Herefords was a record-breaker. Mr. S. C. Cross, Emporia, Kansas, sold for cash, at public auction, 144 head at an average of \$107. A two-year-old bull brought \$3,000 and a heifer \$1,500. The best yearling cow females was \$200 for an eight-month-old calf. It looks very much as if those who have stood by the "white faces" are going to get a little of the much-talked-of "Klondyke gold," even if they do have to take it second-hand. It is over a month now since I have had anything to do with, and I'm getting enquiries nearly every day for stock - any age, males or females - shall have nothing for delivery before next fall, and I am now booking orders for delivery then for calves eight to nine months. My Hereford sales this past season have averaged over \$196.50 for males and females, eight months and over. I have recently purchased from W. S. Van Natta, Fowler, Ind., a fifteen-month-old bull. He is one of the most promising young bulls of the day; has lots of quality, and 1,260 pounds at fifteen months speaks well for his early maturity. Somebody will have to look out for this fellow in the yearling class next fall."

SALE OF JERSEY BULL, PRINCE FRANK. Bow Park Farm, Brantford, has placed at the head of its Jersey herd the well-known prize bull, Prince Frank 33972, purchased from Mr. J. W. Humpidge, London, Ont. Prince Frank is one of the very best show bulls in Canada, having twice won the sweepstakes as best bull of the breed at the Western Fair at London, and he has proved a very successful sire, his daughters showing true dairy form and superior udder development. He is richly bred, being a grandson of Stoke Pogis 5th, sire of 23 in the list of tested cows; full brother in blood to Stoke Pogis 3rd, sire of 27 cows averaging over 20 lbs. butter in seven days. We are pleased to know that Prince Frank has gone into such good hands, and we congratulate Mr. Shuttleworth, the able manager, upon his selection of a sire to mate with the many good cows at Bow Park.

The Farmer's Advocate as an Advertising Medium.

Gentlemen, - We have sold both bulls advertised, one to Mr. George Leak, of Woodlee, and the other to Motteuxor Bros., Tilbury, and that makes seven that we have sold this winter. We have nothing more to sell at present. Wishing your valuable paper every success, we remain, Yours truly,

A. & D. BROWN, Iona, Ont., March 22nd, 1898.

BOOKKEEPING

Short-hand; Mechanical and Architectural Drawing; Machine Design; Stationary Marine and Locomotive Engineering; Architecture; Railroad, Municipal, and Bridge Engineering; Surveying and Mapping; Sheet Metal Pattern Cutting; Plumb'g; Electricity; Mining; Metal Prospecting; English Branches. All with GUARANTEED SUCCESS. Fees Moderate, Advance or Installments. Circular Free. State subject you wish to study. International Correspondence Schools, Box 500, Scranton, Pa.

Choice AYRSHIRES.

R. REFORD, Breeder and Importer.

FOR SALE - Young cows in calf to imported Napoleon of Auchendrain. 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.

Maple Cliff DAIRY AND STOCK FARM

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

Ayrshire Bulls!

WE offer for sale 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.

IMPORTED AYRSHIRE BULLS

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

FAIRVIEW STOCK FARM.

Ayrshire Cattle and Berkshire Pigs. Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Bonning; are modern in type, and are of the choicest milking strains. Write for prices of young bulls and heifers. DAVID LEITCH, Grant's Corners, Ontario. Stations - Cornwall, G.T.R.; Apple Hill, C.P.R.

WM. WYLIE, 228 Beary St., MONTREAL, or Howick, P.Q.

Breeder of high-class AYRSHIRES. Young stock always for sale; bred from the choicest strains procurable. Breeding stock selected from the most fashionable strains and prize-winning stock of the day. Farm located at Howick, Que. 5-1-y-o.

AYRSHIRES AND RED TAMWORTH SWINE.

Still a few choice young bulls for sale, and a grand lot of Tamworth boars ready for service. Write us now and secure one. CALDWELL BROS., Briery Bank Farm, Orchard, Ont.

AYRSHIRE CATTLE, BERKSHIRE PIGS

The bull TOM BROWN and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester Sheep and Berkshire Swine. 5-1-y-o. D. BENNING & SON, Glenhurst Farm, WILLIAMSTOWN, ONT.

3 AYRSHIRE BULLS

5 and 8 months old. Also spring calves. All by Douglas of Loudoun 1384, a Morton-bred bull. F. W. TAYLOR, WELLMAN'S CORNERS, AILSA CRAIG, ONT.

Geo. Hindmarsh, Breeder of high-class SHROPSHIRE SHEEP

the blood of which was obtained from the noted flocks of both England and Canada. Ram lambs of the choicest breeding for sale.

Sheep Men

KILL THE TICKS AND RELIEVE YOUR SHEEP.

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

MILLER'S TICK DESTROYER

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

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



To Farmers, Stock Dealers and Wool Growers: FOR SHEEP, CATTLE AND HORSES.

Leicestershire Tick and Vermin Destroyer

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

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.

HERMANVILLE IMP. YORKSHIRES

Tamworths (red), Duroc-Jersey Pigs, AND NONE BETTER. SPRING PIGS. One to two months old, crated and expressed anywhere after 1st of May, \$4 to \$5. Necessary papers furnished for registration. Write now and have your order booked. Address: HERMANVILLE FARM, P.O. on the farm. om HERMANVILLE, P. E. I.

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 10 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 to H. J. DAVIS, Box 290, Woodstock, 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.

LARGE ENGLISH BERKSHIRES.

We now offer for sale stock boars, Bright Star; also Boars and Sows, 2 to 10 months old. B. P. ROCKS. Write for prices or call. H. BENNETT & SON, St. Williams, Ont.

ENGLISH



Come to head you want Bacon money. Write for Prices. -om

Farme

If you Bacon Engl bred the Prices The Bo

CHRIS. FA

Importe Barkshire, Che Duroc J Also high-class

DUROC

Our herd nine of the bred at Toronto and Ottawa. Justified in first Canada. First at all times.

MERTON L

Herd of Che and Tamwo are in full and are offered choice stock

JAM

Breeder of Ch pigs, the few which was found the greatest from only the breeders in C

AVON HE

Are in fine Orders are being book April litter notable str Henry Her o Avon P.

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Having wo Toronto, I Brantford Fa justified in st position to off ask for from ning stock. W

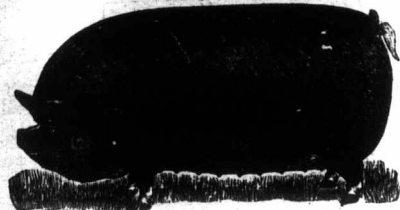
OXFORD CO.

aged boars. B. P. Rocks, at reasonable Parkhill.

Holsteins,

the noted Nin B. P. I. A. C. ADVERTIS

ENGLISH BERKSHIRES!!



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

Farmers and Breeders

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

The Bow Park Company, Limited, Brantford, Ont.

CHRIS. FAHNER, CREDITON, ONT.

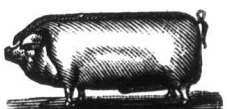
Importer, Breeder and Shipper of Berkshire, Chester White, Victoria, Tamworth, Duroc Jersey, Poland-China Hogs. Also high-class Poultry. Write for particulars to CHRIS. FAHNER, Crediton, Ont.

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 BROS., RIDGETOWN, 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.

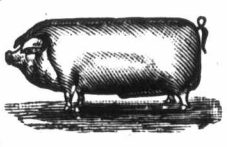
JAMES CHRISTIE, WINCHESTER, ONT.

Breeder of Chester White pigs, the foundation of which was selected with the greatest care and from only the most noted breeders in Canada.



THE AVON HERD of Chesters

Are in fine form. Orders are now being booked for April litters from notable strains. Henry Herron, Avon P. O., Ont.



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.



J. F. MCKAY, PARKHILL, ONT.

Poland-China Swine. I have a few nice sows and boars fit for service; also two aged boars. Bronze Turkey eggs, L. Brahmas, B. P. Rocks, and Rouen Ducks. Eggs for sale at reasonable prices. Farm 3 miles east of Parkhill.

Holsteins, Tamworths, Barred Rocks

Am offering two young bulls and a few females. My remaining Tamworth boars and young sows are ideals of the breed, by the noted Nimrod (imp.) and in grand, healthy form. B. P. Rock settings. A. C. HALLMAN, New Dundee.

ADVERTISE IN THE ADVOCATE

MILITARY TOURNAMENT

AND FOURTH ANNUAL CANADIAN HORSE SHOW

THE ARMOURIES, TORONTO, CANADA,

WEDNESDAY, THURSDAY, FRIDAY AND SATURDAY.

MAY 4th, 5th, 6th and 7th, 1898.

Prize lists can be obtained from the Secretary. Entries close on Wednesday, April 20th, 1898, and should be addressed to HENRY WADE, Parliament Buildings, Toronto.

P. R. Hoover & Sons, GREEN RIVER, ONT.

BREEDERS OF CHOICE TAMWORTHS. Young boars and sows ready for breeding purposes at prices which should sell them. St. Locust Hill, C. P. R.; Markham, G. T. R. Correspondence solicited. 9-1-y-om



are in good form this season, and offering young stock of superior quality and breeding of both sexes. H. REVELL, INGERSOLL, ONT.

WOODLAND HERD OF TAMWORTHS

Among the first admirers of the Tamworth in the country is the owner of the herd in consideration, Mr. H. Revell, Ingersoll, who has held the bright future for the breed must come sooner or later. Through thick and thin he has met the buffets of opponents of the breed, and to-day finds himself upon business relationship with breeders in all parts of the Dominion. The first purchases were made from the Importation of J. L. Grant, Ingersoll, seven years ago, when Woodland's Queen 144, by Gun Hill Prince (1891), and out of Dorrige Countess (2778), and a young boar were purchased. Although the old sow's pedigree shows her to have been dropped in 1890, she not only is in a vigorous, smart condition, but is producing a litter of seven strong, even pigs. She has bred two litters a year, and much of the stock are descended from her. Woodland's Heroine 484, by Nimrod 174 (imp.), and out of Canada's Queen 187, with pedigree tracing to Norman's boar, is now three past, and raised litters regularly. Her last litter, the last being six in number, and is due again in March to Roving Charlie 558. Woodland's May 757, by Amber Luther 245, and out of Woodland's Queen, was farrowed September 16th, 1896, and is a typical animal of the breed, being strongly and smoothly built and of quiet disposition, and from her a litter of six has just been weaned. The stock boar, Duke of Oxford 725, by Amber Luther 245, and out of Woodland's Heroine 484, was employed in the herd last season, and by him, Woodland's Tom and Amber Luther the young stock were sired. Four very choice young boars were shown us there not only true in conformation but the progeny of such sows as Woodland's Heroine and Woodland's Queen. Parties requiring young sires can make no mistake in the selection of such grandly bred young boars. We also saw a bunch of fine salable young sows out of Woodland's Queen, by Woodland's Tom, as well as a younger litter at the feet of the dam.

Indispensable to farmers, liverymen and threshermen. The only machine that can be operated with One Hand while holding goods with other. Best selling article ever introduced. Price, \$1.00. Send for sample. AGENTS WANTED. THE SHEEHAN MFG. COMPANY, Sole Manufacturers, -om SALEM, OHIO.

THE EXCELSIOR LIFE INS. CO. OF ONTARIO, LIMITED.

Head Office: Cor. Toronto and Adelaide Sts., TORONTO. Total Assets Exceed Half a Million Dollars. POLICIES LIBERAL AND ATTRACTIVE. Endowment Policies at life rates, Guarantee Dividend Bonds, Coupon Annuity Bonds, Ten-Year Renewable Term Policy, Limited Payment Investment Policies, and All Standard Policies Issued. SEMI-INDUSTRIAL DEPARTMENT. RELIABLE AGENTS WANTED for all parts of Ontario, Maritime Provinces, and Manitoba. F. J. HOLLAND & CO., Pror. Managers, - Winnipeg, Man. E. MARSHALL, E. F. CLARKE, M. P.; Secretary, Pres. and Man.-Dir.

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 LITHO. CO. (Limited).

LITHOGRAPHERS AND PRINTERS, London, Ont.

SPRING TERM BEGINS APRIL 4

CENTRAL Business College

STRATFORD, ONTARIO. RECOGNIZED throughout Canada as the leading commercial school in Ontario. ENTER NOW. Write for special circulars. W. J. ELLIOTT, Principal.

GOSSIP.

DAVID DUNCAN'S JERSEYS.

At the farm of Mr. David Duncan, Don, Ont., some nine miles from the Toronto market, may be seen some forty odd registered Jerseys, of which twenty-two are matrons, a dozen are young females, and the balance bulls of various ages. At the head of the herd is the handsome three-year-old, Costa Rica's Son, by Golden Bow, the dam, Costa Rica, being the mother of Merry Maiden, champion cow at the World's Fair, Chicago, in her five-year-old form, being headed only by her half-sister, Brown Bess. Costa Rica, on winter feed at thirteen years, gave 2 1/2 lbs. butter per week. Costa Rica's Son, a solid color, with very handsome head, is a well-built, strong young bull with deep body, standing on short legs. Among the cows we noticed Sunbeam, an eight-year-old cow, carrying a grand udder, and true in dairy conformation. She has been a regular producer, most of which have been females. On the farm to her credit is a handsome cow (the bull) that is safe in calf. She is also the mother of a grand young bull a year old, which leaves little to be desired in constitution, conformation, and richness of skin, of a beautiful golden-fawn color. Brenda also placed a promising young bull to her credit last year, which is now at a serviceable age, and is much the same color as his mate, and but a few weeks his junior, and as his dam is a heavy and persistent milker, from his rich breeding he should be an attraction for breeders requiring young sires. Effie, by One Hundred Per Cent, dropped the young fawn calf mentioned in the advertisement. She has proven herself a persistent milker of large capacity. Like the dam, he is true in dairy form, and has a rugged, strong appearance. He is now six months past. The herd generally is of pure St. Lambert breeding, and as Mr. Duncan is in the cream business, he keeps no animals about him but what are good producers, a point never overlooked in the herd, and taking the row of cows collectively we doubt if a better or more uniform lot of udders can be found in the country.

H. REVELL'S TAMWORTHS.

Among the first admirers of the Tamworth in the country is the owner of the herd in consideration, Mr. H. Revell, Ingersoll, who has held the bright future for the breed must come sooner or later. Through thick and thin he has met the buffets of opponents of the breed, and to-day finds himself upon business relationship with breeders in all parts of the Dominion. The first purchases were made from the Importation of J. L. Grant, Ingersoll, seven years ago, when Woodland's Queen 144, by Gun Hill Prince (1891), and out of Dorrige Countess (2778), and a young boar were purchased. Although the old sow's pedigree shows her to have been dropped in 1890, she not only is in a vigorous, smart condition, but is producing a litter of seven strong, even pigs. She has bred two litters a year, and much of the stock are descended from her. Woodland's Heroine 484, by Nimrod 174 (imp.), and out of Canada's Queen 187, with pedigree tracing to Norman's boar, is now three past, and raised litters regularly. Her last litter, the last being six in number, and is due again in March to Roving Charlie 558. Woodland's May 757, by Amber Luther 245, and out of Woodland's Queen, was farrowed September 16th, 1896, and is a typical animal of the breed, being strongly and smoothly built and of quiet disposition, and from her a litter of six has just been weaned. The stock boar, Duke of Oxford 725, by Amber Luther 245, and out of Woodland's Heroine 484, was employed in the herd last season, and by him, Woodland's Tom and Amber Luther the young stock were sired. Four very choice young boars were shown us there not only true in conformation but the progeny of such sows as Woodland's Heroine and Woodland's Queen. Parties requiring young sires can make no mistake in the selection of such grandly bred young boars. We also saw a bunch of fine salable young sows out of Woodland's Queen, by Woodland's Tom, as well as a younger litter at the feet of the dam.

HENRY HERRON'S (AVON, ONT.) CHESTER WHITES.

The Chester Whites have always been Mr. Herron's favorite pig, and consequently he has made a lifelong study of the breed. At present the herd numbers some twenty head, of which half a dozen are brood sows, and comprise such animals as Topsy 422, by Uncle Sam 105, and out of Jennie 216, by Royal. She was farrowed August 20th, 1892, and has been on the farm all her life, producing two litters annually, which have found their way into all parts of the country, both as show and stock animals. In conformation she is a large, roomy sow of superior length, having a great comb. She looks as fresh as a yearling, and is due to litter in April. Her two-year-old daughter, Queen 776, by U. S. King, also graces the straw yard (for in this they make their home) in all possible health and vigor. She carries her third litter, of which much is expected, resembling as she does her worthy dam. Her full sister, Susie 777, is also due to farrow in April, and is much the same in type, all possessing the requisite amount of bone. Pride of Avon 900, by Roger 741, and out of Clarissa 601, is due to farrow March 28th. She too shapes herself as a promising matron, possessing a different strain in her breeding from the balance of the herd. Bessie 1082, by Dominion King 764, and out of Susie 777, although but a year past, is suckling a very choice litter of eleven strong pigs. The two-year-old stock boar, J. I. C. 923, by Honest Tom 499, and out of Calton's Choice 611, was employed in the herd last fall. He has not only the choicest of breeding, but is qualified to head any herd from his excellent length, depth and constitution, standing on a grand set of legs and possessing a good disposition. The young boar, Chief 896, by the great sire, Combination Choice 710 (bred by Willis Whinery, Salem, Ohio), dam Hugh's Choice 898 (from same breed), was purchased to head the herd, and from his strong breeding and grand constitution and make-up much is expected of him, being well and evenly fleshed, and as he has his freedom in the straw yard is growing up strong and vigorous as all sires should. Orders are now being booked for young pigs by the two stock boars and out of the above mentioned sows.

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

SHOEMAKER'S STOCK WINS!

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

Dark Brahmas

Price-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 (2) 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 1896 Mammoth Poultry. Something entirely new, tells all about poultry, how to be a winner, how to MAKE BIG MONEY. Contains beautiful lithographs, plate of fowls in their natural colors. Sent 15 cts. for postage. Box 555, FREEPORT, ILL.

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.

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

Eggs for Hatching

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

Eggs for Hatching From my prize-winners.

Blue Andalusians, \$2 per 13; Black Javas, Black Hamburg, Houdans, Silver Grey Dorkings, Brown and Black Leghorns, \$1.00 per 13; Pekin Ducks, \$2 per 11. Also young stock for sale. W. R. KNIGHT, Bowmanville, Ont. -o-

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

SNELGROVE POULTRY YARD. -Barred Rocks exclusively. Eggs for hatching, \$1 per setting; 3 settings at once, \$2. My pens are all headed by birds bred from "Perfection," a bird costing \$25. -oo W. J. CAMPBELL, Snelgrove P. O., Ont.

ROSE BANK POULTRY YARD.

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

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

BARRED PLYMOUTH ROCKS.

Eggs for hatching from a grand pen of this popular breed at \$1 per setting of 13. Address -o J. ROW, Avon P. O., Ont.

Toronto Incubators

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

BEES

Italian and Hybrids - best Queens Wax All Bee Supplies - best quality Weed Patent Process Foundation. Cash or trade. Goold, Shapley & Muir Co. Limited, Brantford, Can.

If West's Fluid . . .

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

Price per gallon, \$1.50; 5-gallon can, \$8.50. Special price in barrel lots. Circulars containing all information as to use, etc., upon application to—

THE WEST CHEMICAL CO., TORONTO.

Live agents wanted in Manitoba.

GEO. KEITH'S SEED CATALOGUE

Mailed free on application. Note these prices, which include postage:

- Bangholm's Swede Turnips, - 12c. lb.
Skriving's Swede Turnips, - 12c. lb.
Keith's Scottish Champion Swede Turnips, - 20c. lb.
Voges Short Carrot, - 30c. lb.
Mammoth Long-Red Mangel, - 12c. lb.

GEORGE KEITH, 21 King Street E., TORONTO, ONT.

Jerry's SEEDS

grow paying crops because they're fresh and always the best. For sale everywhere. Refuse substitutes. Stick to Jerry's Seeds and prosper. 1898 Seed Annual free. Write for it. D. M. FERRY & CO., Windsor, Ont.

Ewing's Reliable Seeds.

Illustrated Seed Catalogue now ready and mailed free on application. Send us your address. Our stock is carefully selected and includes all the best varieties in

VEGETABLE, FIELD, FLOWER SEEDS and PLANTS, GRASSES, CLOVERS, and SEED GRAINS.

William Ewing & Co., 142 McGill St., MONTREAL.

OUR 18TH FREE PRICED CATALOGUE

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

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

TREES!

Our stock is as good as the Best.

Having an unusually large stock of trees, vines, bushes and plants, both FRUIT and ORNAMENTAL, of OUR OWN GROWING, we are compelled to extend our trade, which has hitherto been chiefly confined to the Niagara District. Having no agents, we have no fancy prices to protect, and so offer at very low rates in touch with the times. Price list free on application. Dealers and Jobbers' orders packed with care, and dispatched cheaper than elsewhere. Let us price your wants, we guarantee satisfaction. All Canadian-grown stock. Stock guaranteed free from San Jose Scale.

J. W. SMITH, WINONA NURSERY CO., Manager, WINONA, ONT.

CAMPBELL'S BANNER...

ROOT CUTTER

Turns all roots and vegetables into Fine Stock Food. Indispensable to dryfarm and sheep breeders and of greatest value to general farmers and poultrymen. Our fine-nochoking, Self-Feeding Shaking Grate takes out all dirt; saves the knives; fully warranted. Send for FREE CATALOGUE. THE M. CAMPBELL FANNING MILL CO., of Chatham (Limited).

All Spraying, Disinfecting, Whitewashing

SPRAMOTOR.

It is the result of most careful and exhaustive experiment. Each feature was thoroughly tested before being placed on the market.

Petrolia, Ont., Feb. 18th, 1898. To the Spramotor Co. London, Ont. Dear Sirs,—Replying to yours of the 16th, I beg to add my mite of praise to your spraying apparatus. The machine purchased from you last year did excellent service, both in my orchard and whitewashing cellars and inside of stables. I also painted all my oil plant buildings, barns, stables, etc. I found it a complete success in point of economy and despatch in using light-colored oxide of iron and crude petroleum oil as paint mixture.

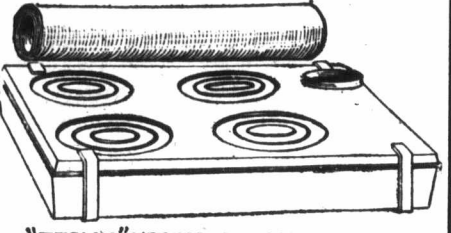
My men manipulating paint and machine were not experts, but with the above named inexpensive mixture they would paint over an ordinary-sized barn in an hour's time. Yours faithfully, H. COBBY.

CERTIFICATE OF OFFICIAL AWARD. This is to certify that at the contest of spraying apparatus, held at Grimby, on April 2nd and 3rd, 1898, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the SPRAMOTOR made by the Spramotor Co. of London, Ont., was awarded FIRST PLACE.

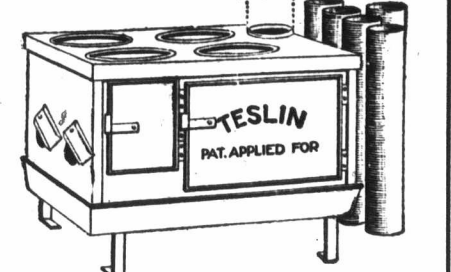
Send 3-cent stamp for 76-page copyrighted catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.

SPRAMOTOR CO'Y, 357 Richmond St., LONDON, ONT. Mention FARMER'S ADVOCATE.

KLONDIKE FOLDING STOVES



"TESLIN" NESTED FOR CARRYING



"TESLIN" READY FOR USE

SIZE Top—28 x 22 in. Oven—22 x 14 x 9 in. OF When Folded—28 x 22 x 4 in. STOVE: Five lengths of pipe, nested, 2 1/2 x 5 in.

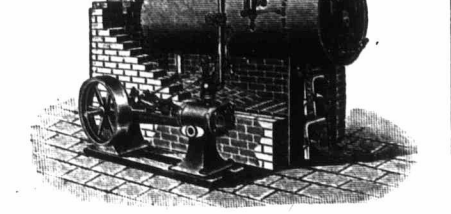
WE MAKE ALL KINDS OF Stoves, Tinware and Enamelled Ware, STEEL FRY PANS, GOLD PANS, ETC.

Catalogues can be obtained from our warehouses at London, Toronto, Montreal, Winnipeg, and Vancouver, and our goods from dealers in all parts of Canada.

The McClary Mfg. Co'y.

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.

NOTICES.

The advantage of creaming milk by an up-to-date, reliable separator over the gravity method has been shown so conclusively scores and scores of times that only prejudiced cream or butter dairymen having more than half a dozen cows will stick to the old style of doing the business. R. H. Lister, of Montreal, advertises in this issue machines for which no apology need be made. They are durable, simple, cheap, and skim to a trace. See their advertisement, showing price and capacity.

FARM LANDS.

The experimental stage of farming in Manitoba is past, farming is a success. The times of low prices and business depression are gone by, and everything points to prosperity. A more auspicious time for settling in Manitoba could not be than the present. While nearly every section of the Province is well adapted for farming, still, of course, there are degrees of excellence, varying soils, conditions, etc. It is safer to deal with responsible firms.

WILLIAM HARVEY, 210 Portage avenue (corner Main street), Winnipeg, Man., advertises a list of lands on inside front cover of this issue of FARMER'S ADVOCATE. There are seventy-seven parcels to choose from suitable for wheat farming, mixed farming or cattle raising. Further information as to any of the parcels will be furnished on application.

R. J. SHRIMPSON, 228 Portage avenue, Winnipeg, has handed us a new list of the farm lands his company are offering for sale. These lands are situated in good districts, a goodly proportion being in the noted Red River Valley, convenient to wood, good water, good markets, and near churches and schools. We are informed by Mr. Shrimpton that sales of farm lands this year are exceedingly good. Intending settlers should request a list at once, which will be supplied; also any other information upon request by letter or in person.

Messrs. OSLEB, HAMMOND & NANTON, 381 Main street, Winnipeg, Man., have farm lands for sale or rent in the best sections in Manitoba, Assiniboia, and Alberta. We have just been looking over one of their land lists, in which are given some marvellous instances where one good crop buys the farm. These lists contain valuable information, which will be sent to all who apply.

THOROLD CEMENT.

At no time in the history of the country has the problem of building received greater consideration than at present. We have passed through a period in which little has been done in this respect beyond actual necessity, and the time has arrived from various reasons (greater attention to stock requiring better facilities, etc.) when many of our leading stockmen are confronted with this question, and the permanency of a cement structure in comparison with timber is the deciding point in favor of the former with many. The Thorold Cement Works were established in 1841, by John Brown, who carried on the work as the son of the Weiland Canal, when it went into the hands of the late John Battle, whose sons now conduct the business under the title of Estate of the late John Battle. The quarries cover an area of 44 acres, in which steam drills are constantly kept at work, and all modern conveniences for carrying out the work are at hand. The mill is a three-story structure, 150 x 50 feet in extent, with storage capacity of 5,000 barrels. About the first introduction of this cement was its use in the great Victoria tubular bridge at Montreal. Both the old and new Weiland Canal contractors used it exclusively. In the early days of the construction of the St. Clair tunnel between Port Huron and Sarnia, of which Mr. Joseph Hobson was chief engineer, Thorold cement was extensively used. The fact of this cement having been employed in such important works is sufficient evidence of its reliability. The firm, if applied to, will forward a neat pamphlet giving full information upon this subject, dealing especially with how to build concrete wall, hog pen, stable floor, feed alley, a silo, etc., each profusely illustrated with diagrams, which will be of great assistance to intending builders. The firm have in their employ two practical men who in addition to being first-class builders and contractors in stone, brick and all kinds of mason work, are practical farmers. These men are sent out at the expense of the firm to give instructions to their patrons who may wish them to attend to their work, ensuring success if their instructions are properly and fully followed. We have read many strong testimonials written in favor of this cement, and feel content to herein use but one, as part of the buildings in which the cement was used have been illustrated and described in former issues of the FARMER'S ADVOCATE: Tilsonburg, October 21st, 1896.

Estate of John Battle, Thorold, Ontario. I herewith hand you a list of buildings and other works in which your Thorold Cement has been used, giving in every case the best of satisfaction: Foundations and basement floors for flouring mill; also walls for flume, four walls 24 ft. high, 5 feet thick, holding 21 ft. depth of water perfectly tight, with two large iron pipes put through near to bottom connecting with the water wheels; a wall 120 ft. long, 24 ft. high, 4 ft. thick, to hold up the bank at the flouring mill. I also used it for foundation and wheelpit walls and basement floors for oat-mill, 195 ft. x 40 ft., five stories high; also for foundation and floor for elevator storehouse, house 40 x 40, 110 ft. high, brick and stone basement; also for foundation walls of wheelpit and basement floor for pea and barley mill, 32 x 100 ft., four stories high; also a wall for a mill-dam 12 ft. thick, 24 ft. high, 30 ft. long, with 26-foot head of water against it; also for a building for power house for waterworks and tower, a stone and brick building 8 feet wheelpit below that being built in a gully and banked up forty feet on two sides of it, with a building adjoining 30 x 70 by three stories high, stone and brick foundation wall at one end 10 feet below the water level. I may say that the 12-foot thick wall for mill-dam was of concrete, filled with a timber crib with gravel and small stones, taking 1,200 barrels of cement. Besides the above, I have used cement in a great many other buildings: floors of them very large—for foundation and basement floors, twelve stores, a lot of dwelling houses and barn basements and floors; one brick barn and cow stable, with cement floor whole size, with five silos 40 feet deep, stone and brick walls two feet thick, all plastered with cement, some with Portland, some with Thorold and other cements. I have used nearly all of the different brands of cement sold in Canada, both Portland and water lime, having built a good many sidewalks for which I used both English and German Portland cement and some Canadian Portland; but in water-lime cement I have used mostly the Thorold cement made by your firm and am satisfied. With such a record, I think the Thorold cement is the best for general purposes. Yours truly, E. D. MILLSON.

BELLEVILLE BUSINESS COLLEGE

ESTABLISHED 1899. BELLEVILLE, ONTARIO.

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

- I. BOOKKEEPING—Double and Single Entry, Business Papers, Law and Practice.
II. SHORTHAND and TYPEWRITING—Office and Court Work.
III. CIVIL SERVICE QUALIFICATIONS—Indexing, Precise Writing, Statistics, English and French Options.

This College is OPEN THROUGHOUT THE YEAR. Students may enter at any time. Now is the Time.

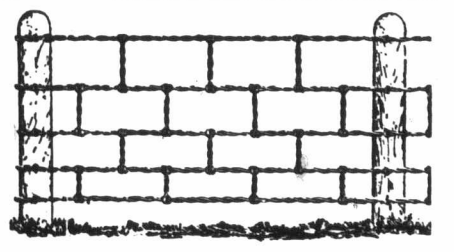
ROBERT BOGLE, J. FRITH JEFFERS, M. A., PRINCIPALS. WRITE FOR CALENDAR.



Metal Ceilings are now being recognized as the most desirable covering for Private Houses, Club Rooms, Public Buildings, etc. They are very handsome in appearance, will not crack and fall off, and compare favorably in price with any good ceiling.

Fully illustrated catalogues sent on request. Estimates furnished on receipt of plans.

The Pedlar Metal Roofing Co., OSHAWA, ONT.



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.



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.

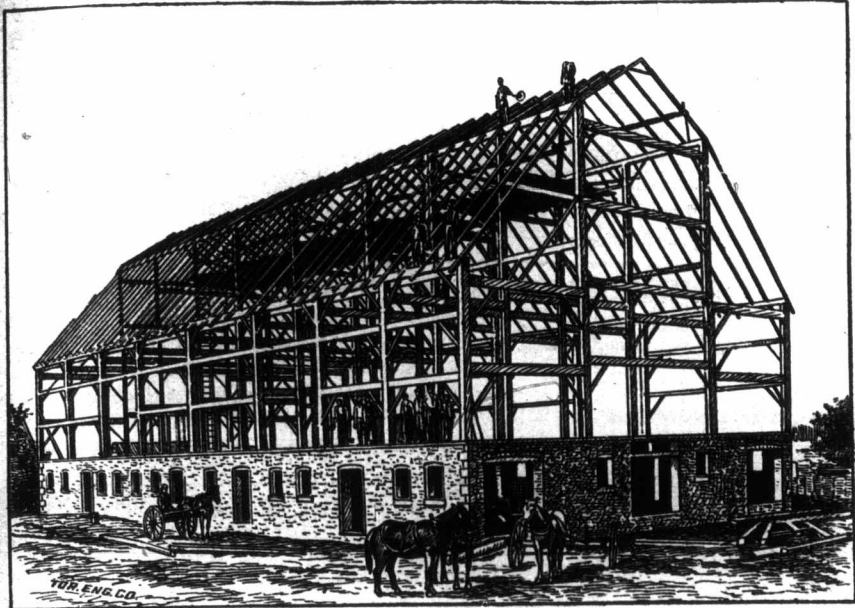
FAMILY KNITTER!

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.

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.

PART OF A MEADOW

in a good state of cultivation yielded
6,000 pounds of hay containing
450 pounds of flesh-forming constituents
and 150 pounds of fatty matter.

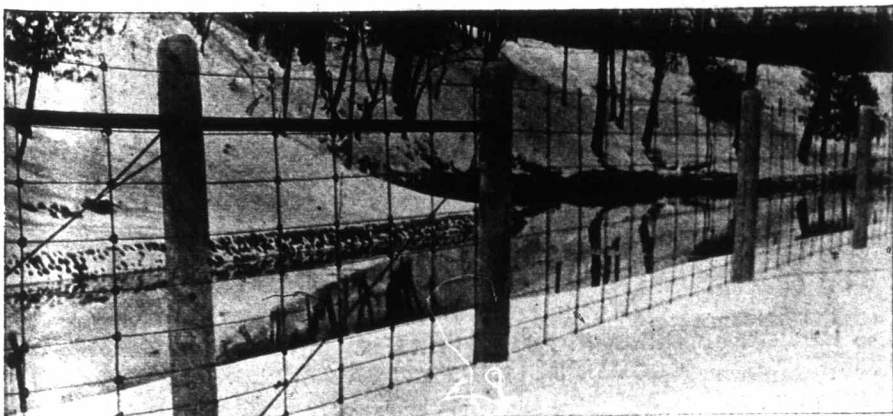
THE SAME AREA in the same field, and same season,
manured with ALBERTS' THOMAS-PHOSPHATE
POWDER, produced about 12,000 pounds of hay
containing 1,610 pounds of flesh-forming
constituents and 300 pounds fatty matter.

This is ample justification for advising farmers and growers
to use ALBERTS' THOMAS-PHOSPHATE POWDER
(Registered).

Address, WALLACE & FRASER,

St. John, N. B.

Toronto Office: Canada Life Building.



CITY WATERWORKS RESERVOIR, LONDON, ONT.

This reliable fence has been greatly reduced in price (from 22c per rod). The factory having been moved from Igersoll to London, and being under entirely new management, is determined to send out nothing but the best material at lowest possible prices. This Company also manufacture Metallic Shingles and Siding, which may be relied upon.

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

EDMUND WELD,

Chartered Surveyor, Notary Public, Etc.
Money loaned on real estate, at lowest rates.
Investments procured. Collections made.
Address, 87 Dundas Street, London, Ont.

SHEEP BREEDERS' ASSOCIATIONS.

American Shropshire Registry Association,
the largest live stock organization in the world.
Hon. John Dryden, President, Toronto, Canada.
Address correspondence to MORTIMER LEV-
ERING, Sec., Lafayette, Indiana. 3-17-08

GOSSIP.

Mr. Woods, of J. N. Woods & Sons, Gardner, Ill., recently came to Ontario for Short-horn cattle, and purchased thirteen animals: eight from Mr. James I. Davidson, four from Hon. John Dryden, and one from Mr. John Davidson. These animals are in age from six months to three years. Those bought from Mr. James I. Davidson were two three-year-olds, one two years old and one yearling; from Mr. John Davidson a red heifer calf. All of these are of the Duchess, Necklace and Gem families. These animals are of excellent quality—straight Crutchshanks. It is an encouraging feature to again see Americans visiting Ontario and taking away such animals as are contained in this carload. We are safe in saying that it is a long time since a carload of as good Crutchshank females left the Province. Mr. Woods attended Mr. Isaac's sale, and the impression left on his mind was that Short-horns in Ontario were certainly advancing in price. In his own State the prices asked and received are even higher than are asked and received in Ontario.

H. GEORGE & SONS' CHESTERS AND TAMWORTHS.

Among the forty Chesters we saw on our visit to the farm of Messrs. H. George & Sons, Crampton, are such sows as Sweet Marie 733, the three-year-old daughter of Cleveland 320, out of Minnie 485. A review of the prize-ring reports show her to have been credited with first each at Montreal and Ottawa, second at Toronto and London in strong classes, and in spite of her showing form she retains her activity and freshness to a remarkable degree, no doubt on account of the freedom to exercise to which she has access. She is due to farrow in April. Jessie 1051, by Dominion King 761, and out of Miss Columbus 431 (sire and dam imported), was placed first wherever shown, and is in the finest of form this spring and safely in pig. Mabel 893, by White Lord 338, and out of Dominion Belle 517, is a two-year-old sow which at the fall fair was suckling a litter, and won first in Montreal, second at Toronto. She too is safely in pig. The two-year-old stock boar, Dominion King 794, by Frank C. 309, and out of Charm 5790, was bred by Willis Whinery, Salem, Ohio, and purchased under a year, since which time he has done service in the herd. An imported yearling boar, by Coco 2223, and out of Lady Dunn 4772 (bred by Mr. Whinery), was the winner of the red honors both at Montreal and London, and second at Toronto and Ottawa, which speaks in the loudest terms of praise for him in consideration of the competition faced last fall. The firm, as they always have, offer any animal in their possession for sale, but are especially prepared to fill orders for spring pigs in condition to ship, and are also booking orders for arriving stock. Among the forty head of excellent Tamworths we saw the worthy sire, Duke of Avon 395, by Brownville Duke 101, and out of Countess 417. He is now four years old, and some idea of his immense size can be imagined when we state that in condition he tips the scales at 300 pounds, which he carries with apparent ease. In the showing he has always been an easy winner, which speaks for his quality. Whitacre Prince 184, by Gun Hill Reliance 175, and out of Lady Whitacre 145, is also a four-year-old animal, and is held in the smooth, deep-bodied animal of the bacon type. Among the fourteen matrons may be mentioned such sows as Countess 2nd 105, by Gun Hill Prince 1591 (imp.), and out of Dorridge Countess 2778 (imp.). As she has been previously mentioned in the FARMER'S ADVOCATE, all we desire to state further is that she retains her vigor and activity to a remarkable degree in spite of her 700 pounds of weight. She was a formidable competitor last fall, winning first at Montreal and Ottawa, second at Toronto. Rosy B 404, by Goldfinder 238, and out of Katy Bell 345, is two years old, and of sweet, even quality. She won the highest honors at her credit in stiff competition last fall. Dora M 788, by Rex 177, and out of Redakin 106, proved herself of superior quality wherever shown by landing all she was after. Abigail 160, by Ingersoll Duke 12, and out of Middleton Mimulus 1328, is directly descended from the first importations made into Canada. She has been a regular producer, and has lately farrowed. In conformation she fills the bill as a bacon type of animal, possessing sufficient length. In this breed the firm find themselves in a position to meet the large demand which their popularity has brought about, and which we believe is bound to increase.

SMITH EVANS' OXFORDS.

During our visit in the vicinity of Guelph, we drove out some five miles south-west to the farm of Mr. Smith Evans, near Gourcock, and as we found the genial proprietor at home we were pleasantly entertained among the Oxford. The flock now numbers some fifty head, thirty-four of which are breeding ewes due to lamb this spring, twenty-five being the direct importations made from such noted English breeders as Adams, Jeffery & Treadwell. The active demand has reduced the younger stock to eleven ewe lambs, two ram lambs, an aged ram, and the noted imported shearer that swept the field over all competitors last fall. He was bred by Mr. Adams, and imported as a lamb, most of the ewes being in lamb to him. A glance at the last year's fair reports shows the standing which this flock of Oxfords hold in relation to their most active competitors in the breed. At Toronto, on aged ram, Mr. Evans won second; on shearing, first, and third on ram lamb, while on aged ewes second, and second and third on shearings and ewe lambs. Pen of Canadian bred sheep, first; on open pen, second. At London he was credited with second on aged ram, first on shearing, third on ram lamb, second on aged ewes, first and third on shearings, first and third on ewe lambs, and first on pen, all competing. At Brantford Fat Stock Show representatives of the flock won first and fifth on shearing ewes; first, second and third on ewe lambs; first and third on pen of three ewe lambs. Therefore, with such a clean record, evenly distributed throughout the entire flock, it not only indicates individual quality, but uniformity as well, a point which is placing the flock in favor among fanciers of the breed.

Encouraging Results Follow Proper Feeding

There is a wide diversity of opinion about what constitutes a good cow but none about the beneficial effects resulting from the use of



Dick's Blood Purifier

as a tonic, appetizer, blood purifier and aid to thorough digestion for cows, sheep and horses when they are put on dry fodder in the Fall. It assists the organs of the stomach to extract all the nutriment from the food and puts them in good



strong healthy condition for the spring time.

50 cents a package.

LEEMING, MILES & CO. Agents, Montreal.

DICK & CO., Proprietors.



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

It cures any case of Lump Jaw that is worth curing. Does it quickly and for good. Hundreds of cases cured during the last year. Easily applied. Safe to use, and every bottle sold under this GUARANTEE: That if it fails your money is to be returned. Price, \$3 a bottle. Sent by mail upon receipt of amount. Illustrated treatise on Lump Jaw FREE.

TESTIMONIAL:

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

Yours truly, JOHN CLARK, JR.

Address: W. J. FLEMING, Prince Albert, N.W.T., or J. N. FLEMING, St. George, Ontario.

IMPORTANT TO BREEDERS AND HORSEMEN.

Eureka Veterinary Caustic Balm



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

Fire Production
has been practiced by all human races primitive methods and manual labor accompanied their efforts. The evolution of time has seen many improvements—but it has remained to the nineteenth century to witness perfect fire-production, which is accomplished by the use of

E. B. Eddy's Matches

A Great Sale of Shorthorns.
Mr. John Isaac's sale of Shorthorns at Kinellar Lodge, Markham, Ont., on March 16th, proved even a greater success than was anticipated, which is saying a good deal for large expectations were entertained. The fact that eleven imported bulls, selected by so good a judge as Mr. Isaac from the best herds in Scotland, were to be offered at public competition at a time when the demand for good bulls is so great, and so many of the leading breeders and so many ambitious young breeders were anxious to place good ones at the head of their herds, made the occasion exceedingly interesting and the sale the best on record on this continent in many years. Considerable anxiety was felt lest the bulls, several of which were under a year old, might not be in good enough condition, after ninety days' quarantine at Halifax and a six days' journey on the train, to sell to advantage, but thanks to the good management and skilful feeding and care of Mr. George Campbell, of Kinellar, Scotland, who had them in charge, all fears on that score were dispelled by the first glance at the animals as they stood in line in the comfortable stables at Kinellar Lodge. Their condition was all that could be desired. They were in capital flesh and hair, and were a low-set, level, well-proportioned lot, standing well on their legs, having good length and thickness, handsome heads and horns, and a breezy look about them which harmonized well with their excellent pedigrees and gained the favor at first sight of the critical company who had come from far and near to see them. And, what is better, they grew on you the longer you looked at them. There were bidders and buyers present from many parts of Ontario, from Manitoba, Michigan, Illinois, Ohio, Kentucky, Iowa and Minnesota. In the guesses at what prices they would bring it was conceded that the \$500 mark would be reached, and one or two sanguine men granted that it might be exceeded by a hundred; but when Golden Fame, who was the favorite and the first offered, struck \$400 at the second bid and went rapidly forward till he reached \$720, at which bid he fell to Mr. W. D. Platt, of Hamilton, Ont., it was felt that the keynote of a successful sale had been struck and that Mr. John Smith, who as auctioneer ably conducted the sale, would have a comparatively easy afternoon's work, which he had for the 30 animals catalogued were disposed of in just one hour and fifty minutes, the eleven imported bulls at an average of \$132, and the 30 head in all, including cows, heifers and calves, at an average of \$268. We congratulate Mr. Isaac on the outcome of his courageous venture, and the buyers on their purchases, and we shall watch with interest the future career of the animals, which we hope may be satisfactory to all concerned. The following is a tabulated list of the prices and buyers:

BULLS (IMPORTED).		
Animal	When calved.	Price.
Golden Fame	February, 1897.	\$720
Purchaser, W. D. Platt, Hamilton, Ont.		
Royal Prince	January, 1896.	405
John Miller & Sons, Brougham, Ont.		
Kintore Hero	March, 1896.	375
A. P. Cook Co., Brooklyn, Mich.		
Golden Measure	February, 1897.	350
James Russell, Richmond Hill, Ont.		
Invincible	March, 1897.	430
Green Bros., Indiana, Ill.		
Banker	March, 1897.	575
C. C. Norton, Corning, Iowa.		
Prince Odeic	April, 1897.	390
George Johnston, Balsam, Ont.		
British Prince	February, 1897.	430
C. L. Gerlaugh, Osborne, Ohio.		
Lancer	March, 1897.	360
Green Bros., Indiana, Ill.		
British Flag	February, 1897.	410
Hornsey Bros., Eminence, Ky.		
Scotland's Fame	April, 1897.	315
Wm. Wilson, Brampton, Ont.		
BULLS (CANADIAN-BRED).		
Golden Flash	March, 1897.	175
W. J. Biggins, Clinton, Ont.		
Lavender Archer	June, 1897.	200
E. N. Hieatt, Eminence, Ky.		
Klondyke	April, 1897.	200
Charles Rankin, Wybridge, Ont.		
COWS.		
Mina 4th	September, 1892.	350
J. P. Darling, Coshocton, Ohio.		
Rose Monrath 5th	April, 1892.	300
W. S. Lister, Middlechurch, Man.		
Selina 2nd	September, 1895.	200
J. G. Barrow, Carberry, Man.		
Merry Maid	June, 1896.	100
Peter Ohara, Glensboro, Minn.		
Clarissa's Fancy	February, 1891.	315
John Gardhouse, Highfield, Ont.		
Circ 2nd	December, 1896.	120
John Gardhouse, Highfield, Ont.		
Coral 2nd	March, 1897.	130
Wm. Chalmers, Hayfield, Man.		
Selina 3rd	November, 1896.	225
Green Bros., Indiana, Ill.		
Golden Belle 2nd	December, 1896.	225
J. P. Darling, Coshocton, Ohio.		
Ruby's Pearl 2nd	January, 1894.	100
John Srigley, Allendale, Ont.		
Nina 5th	March, 1897.	105
H. Cargill & Son, Cargill, Ont.		
Nina 6th	March, 1897.	130
H. Cargill & Son		
Florence	April, 1897.	85
H. Cargill & Son		
Duchess of Gloster B.	September, 1893.	115
John Miller & Sons, Brougham.		
Belle of Plainville	March, 1897.	90
Wm. Shier, Sunderland, Ont.		
Genevieve	June, 1897.	105
J. T. Mulholland, Baltimore, Ont.		
11 imported bulls brought \$4,760.00.		
11 imported bulls averaged \$432.00.		
3 Canadian-bred bulls brought \$375.00.		
3 Canadian-bred bulls averaged \$125.00.		
16 females brought \$2,225.00.		
16 females averaged \$139.06.		
30 animals brought \$8,060.00.		
30 animals averaged \$268.66.		

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AWARD—Chattahoochee Valley Exposition, Columbus, Ga., 1888.
HIGHEST AWARDS—St. Louis Agricultural and Mechanical Association, 1889.
GOLD MEDALS and 6 DIPLOMAS—World's Columbian Exposition, Chicago, 1893.
HIGHEST AWARDS—Western Fair Association, London, Canada, 1893.
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