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AND HOME MAGAZINE

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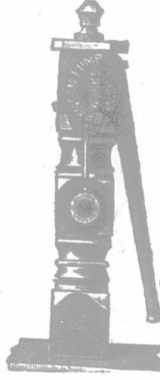
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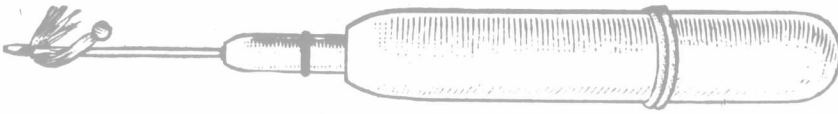
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* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

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VOL. XXXVII.

WINNIPEG, MANITOBA, MARCH 20, 1902.

No. 546

A Plea for Fair Play.

In our issue of March 5th was published a brief report of a meeting of breeders of Polled Angus cattle held in Guelph, Ontario. It was at this meeting decided to organize a Canadian branch of the American Aberdeen-Angus Breeders' Association, and a glance at the names of those present at the meeting and forming this branch of the American Association, which is to include all Canada in its beneficent embrace, shows that it is composed entirely of Ontario men. The fact that there are more pure-bred Angus cattle in Manitoba and the Territories than in Ontario is either unknown to these Ontario breeders or the right of western breeders to recognition in an association calculated to benefit the breed throughout Canada has been overlooked.

But this is quite in keeping with the general attitude of Ontario live-stock men toward the rest of the Dominion. They have several live-stock associations with names designating that their field of action is from ocean to ocean, but whose objects are entirely confined to catering to the interests of the Ontario breeder.

The Dominion Shorthorn Breeders' Association, whose mission is Dominion in character, having headquarters located at Ontario's capital, and being managed from its inception by Ontario breeders, is not free from a charge of provincialism in its dealings. Men living down on the concessions are apt to forget that there is a West growing up.

Smut Preventives.

Once again seedtime is at hand, and we would be remiss in our duty did we not remind our readers of the importance of taking preventive measures against smut in the three important cereals, wheat, oats and barley. The fact that there was practically no smut on the grain last year is no proof that the 1902 crop will escape, but it may have a tendency to make some people careless and neglect taking precautionary measures. For wheat, probably nothing is more effective than the common bluestone treatment, using one pound of bluestone dissolved in a pail of water for eight or ten bushels of wheat. The solution should be sprinkled over the seed and the grain shovelled over several times to insure that every kernel of grain is moistened with the solution. It is not always convenient to have boiling water to dissolve the bluestone, and it will not dissolve in cold water unless it be placed in a sack and suspended in the water just below the surface, when, it is claimed, it will dissolve in a few hours. The amount of bluestone necessary to make a barrel of pickle can thus be dissolved readily by suspending it in an old sack across the top of the barrel just so that all the bluestone is submerged under water. For oats, formalin of late years come into general use, being found more effective than bluestone. A good recipe is six ounces of formalin to ten gallons of water for ten bushels of seed, dipping the seed into solution for five minutes, or even sprinkling may answer.

Barley answers well with barley, but requires a stronger application, about nine ounces being recommended, or else it must be left to steep for ten or fifteen minutes in the solution.

It is well to treat the seed (with oats more particularly) a few days before seeding, and

shovel the grain over occasionally in the interval to facilitate its drying, in order that it may run through the seeder more readily. The ordinary force-feed seed drill will, however, sow it even when damp, but the feed should be set for about a peck more seed than required to ensure a sufficient amount.

A Disappointing Department.

About a year ago, under the auspices of the Canadian Forestry Association, a series of meetings were held throughout Manitoba and the Territories by Forestry Superintendent Stewart, with the ostensible object of disseminating information regarding the co-operative work proposed in the interests of the farmers of the West in the way of supplying trees and tree seeds free and furnishing expert advice regarding the laying out of plantations and growing of trees. At a number of these meetings, organizations called forestry circles were formed, for membership in which a fee of \$1 was charged, the dollar being forwarded, by instructions of the Forestry Superintendent, to Ottawa, to make the subscribers members of the Canadian Forestry Association. Every member of the central association was supplied with a copy of a monthly sporting magazine, the Rod and Gun, of which very excellent little paper the Forestry Superintendent is editor. It will thus be seen what an excellent scheme the formation of these little forestry circles proved to swell the circulation of the Rod and Gun. Apart from the very questionable value to the western farmer of this little sporting paper, we have yet to learn of any benefit accruing to the westerners, or for that matter to easterners, by their membership in this Ottawa association. The Governments of the eastern Provinces look after their own forestry regulations, and the Canadian Forestry Association is of no practical use located at Ottawa. The scheme of the Forestry Branch of the Department of the Interior, as we understand it, was intended to benefit the agricultural West, and to accomplish that object must have its headquarters in the West, where the conditions are understood and appreciated. It is a pity that the Department of the Interior, when inaugurating a scheme embracing possibilities for benefiting the West, should not have placed the carrying out of the project in the hands of thoroughly capable western men, and until that is done the work can never be made the practical success that it should be. Without any disparagement of the scientific qualifications of the Superintendent and his assistant, Mr. Ross, they, as easterners, can have little knowledge of western conditions and are out of touch with the people in whose interests they are supposed to be working. In evidence of the widespread interest taken in tree-planting, there were a very large number of applications last year, especially from Manitoba, for trees and for expert advice. The Department failed, however, to secure a sufficient supply of tree seeds of the most desirable varieties, such as the native maple, and were forced to supplement their stock with large quantities of ash seed, a slow-growing tree, scarcely suited to pioneer conditions, and made up their tree supply with a large stock of Dakota cottonwoods, a tree suitably only for certain localities, and condemned by most of the Prairie States, where it has been largely used, as short-lived and very subject to blight and other diseases. A practical department, such as this forestry branch should be, simply cannot be made a success by eastern men whose headquarters are at Ottawa.

What Shall We Sow?

THE RECORD OF STANDARD VARIETIES.

A study of Experimental Farm Bulletin No. 89 will prove interesting and instructive, as showing the results of tests of varieties running over a series of years. Copies may be had by writing the Experimental Farm, Ottawa. A glance at a few of the varieties that head the lists at our western farms will be of special interest at this time.

At Indian Head, in a six-years' average, our standard Red Fife wheat ranks second in the best 12 varieties, with an average of 44.12 bushels per acre, 2 bushels above the average of the 12, and only a few pounds below Huron, which heads the list. Preston, a hybrid from Red Fife and a favorite, standing at the head of the select 12 on all the five farms, stands sixth in both the Indian Head and Brandon Farm reports. At Brandon, Red Fife stands fourth on the list, with a bushel better average than the best 12, viz., 37.5. Goose wheat heads the list, with 40.48, with White Fife and Crown coming in ahead of Red Fife.

In oats, American Beauty heads the Brandon list of six-years' tests, with 95.32, with the Banner second, 92.24; the average for the best 12 being 84.27. At Indian Head the average for the 12 is 90.9 bushels, and the list is headed by Abundance, 95.15, American Beauty coming next with 95.9, and Banner ninth, with 88.30. The Banner ranks first of the best 12 on the five farms, with an average of 76.14; American Beauty second, with 75.33; while the average of the 12 best is 72.24.

Of the six-rowed barleys, the Mensury, the variety recommended by Mr. Bedford, heads the list at Brandon, with a 54-bushel average for six years, being nearly three bushels above the average of the best six. At Indian Head, Mensury stands third, with 59.41, a bushel above the average of the highest six. Odessa here heads the list, with a 61.19 average for six years, with Rennie's Improved next. Mensury also heads the list, with a good lead on the Odessa, on all five farms.

The Wheat Blockade Discussed in Parliament.

(Special)

Ottawa, March 15th.—Monday last witnessed by far the most interesting debate up to this time of the present session of Parliament. The wheat blockade was discussed for five hours by many of the leading members of the House, including the Premier and the leader of the Opposition. It is a hopeful sign that the Canadian Parliament should be thus seized of the vital importance of a question directly affecting agriculture and the needs of the Western farmer. His well-being is a mighty factor in the progress of the whole Dominion, and it augurs well for the future that statesmen from all sections of Canada recognize that sectional differences must be laid aside for the common weal. The chief grievances ventilated were the lack of elevator capacity and transportation power and the improper exactions of the elevator combine said to exist. Hon. Mr. Borden urged the Government to break the combine, and even consider Government ownership of elevators, and Hon. Mr. Laurier pledged the Government to do all in its power to remedy the existing evils. It was stated that doubling the capacity of the C. P. R. between Winnipeg and Fort William and the service of the Canadian Northern Railway would tend toward relief, but lack of accommodation east of Fort William seemed to be one great trouble. The announcement had been made, also, that a railway commission would be created. The

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10. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
11. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
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WINNIPEG, MANITOBA.

service of the Department of Justice is to be invoked in dealing with violations of the Grain Act.

DR. DOUGLAS STARTS THE DEBATE.

Dr. Jas. M. Douglas, M. P. for Assiniboia East, inaugurated the debate with his resolution for "all papers and correspondence relative to the present wheat blockade in Manitoba and the Northwest Territories, and the incapacity and inability of the Canadian Pacific Railway Co. to move the crop of last year in such a reasonable period of time as to prevent the grain-growers of the country being subjected to serious financial loss." Dr. Douglas said the congestion was confined to East Assiniboia, between Moosomin and Moose Jaw. He brought up the matter in order that the discussion might lead to such legislation as would effect the relief of the present difficulties. The crop of 1901 surpassed anything that had ever been produced in any country on the face of the earth. The tendency of the wheat-producing area was to recede northward; the farther north the limit was pushed the stronger the grain and the more profitable. In answer to Mr. Charlton, Dr. Douglas gave the following explanation of this phenomenon: "If you take a spikelet in Wisconsin or Illinois it would produce formerly three grains of perfect wheat, but now only two perfect and one imperfect grain. Two grains ceased to be profitable. In Manitoba we have always been able to produce three perfect grains, and this year has been exceptional, and we have produced four perfect grains on one spikelet. Whilst in Manitoba we have the three perfect grains almost every year, to the north, in Saskatchewan and Prince Albert, you have almost invariably four perfect grains on the spike. This has predominated this year, so that the yield has varied from 25 to 35 bushels per acre. Hence the immense yield which has caused difficulties to arise in moving the crop."

Up to January the C. P. R. moved some 40,000,000 bushels, while the Canadian Northern moved some 11,000,000. To-day there was 50,000,000 bushels more to be moved before navigation opens, still leaving 26,000,000 for bread and seed next year. He quoted from the report of Mr. Cassells, warehouse commissioner, who said that he was informed by Superintendent Leonard that the C. P. R. had in use on the western division 7,000 box cars and 256 engines. Of these cars 4,000 were for carriage of general merchandise and 3,000 for the removal of grain. Of the engines, 38 were used in the passenger service in ordinary season, and 20 in the grain season, and 236 in freight traffic during the grain season. Grain was hauled on the average of 700 miles on that division, and an engine ran 200 miles a day. The elevator capacity at Fort William and Port

Arthur was 5,850,000. With this equipment the largest weekly delivery was 1,335,414, and the total delivery in September, November and December 14,281,401. In addition to this there were delivered 289,642 bushels oats, 31,764 bushels barley, and flour the product of 3,000,000 bushels, and 1,000,000 bushels oats shipped to Montreal and eastern points, mostly from the Edmonton district, none of which appeared in the weekly elevator report. There were 187 points from which grain was shipped through elevators. If one and a half cars a day were supplied to each shipping point the amount so delivered to Fort William would be 1,430,550 bushels, nearly 100,000 bushels more than was actually delivered in Fort William and Port Arthur in any week. Provision should be made for at least 2,000,000 bushels a week.

It was evident from the report that the grain facilities of the C. P. R. were far short of what was required. He estimated the loss to the farmers through imperfect transportation at \$5,000,000. In Assiniboia, where the Canadian Northern did not exist, the congestion was worst, as cars were sent to competing points in Manitoba. At Wolseley, 64 flat warehouses had been built to store the grain. He estimated the loss to the farmers of Assiniboia at \$1,546,834 already, with the prospect of heavy loss on that now on hand. At Indian Head, 115 small warehouses had been built, and 35 more were in the course of erection. Farmers had been defrauded by the elevator companies, who said they were not buying No. 1 hard, as they had no bins for it, thus compelling farmers to sell at a lower grade. This was done systematically, and these elevators should have had their licenses withdrawn. As to the remedy, he approved of the double tracking of the C. P. R. from Winnipeg to Fort William. He did not approve of double tracking in the Territories, as this would not relieve those who had to haul grain long distances. The extension of the Great Northwest Central even for the 100 miles now proposed would be an advantage. There must also be increased storage capacity. The storage capacity at the lakes should be increased by at least 3,000,000 bushels, and the Government should even consider the advisability of assisting in that increase.

The dealers were enabled, by the refusal to supply proper bins, to rob the public by blending the grades. The remedy was in the legislation of 1900, which, if it had been strictly carried out, would have stopped the practice, but some amendments were required which would be put before the House before the session closed. What the people of the West wanted was perfect freedom of access to their market, independent of the elevator men; they wanted no legislation telling them that they must go along certain lines, but perfect freedom to present their products at the railway stations along the lines, and to have the facilities which the Dominion Railway Act has insured to all Canadians.

BETTER TRANSPORTATION FACILITIES NEEDED.

Mr. T. O. Davis, M. P. (Saskatchewan), fancied that the shortage of cars was not due so much to the neglect of the C. P. R. as it was to their not being equipped to move two crops in the one year, but it was high time the Government of the country did something towards the appointment of a railway commission to settle all these disputes. If the Act had not been carried out, it must be because the commissioner had neglected to enforce the provisions of the Act, or the parties having a grievance had not reported it to him. The great problem with which the people of this country had to deal was the fact that there were not enough railways in the Northwest to move the crop at the present time. Four hundred thousand people, all told, had produced 100,000,000 bushels of grain. The House would, he thought, agree that it was time something was done to improve the facilities for getting the crop to market. Up to this year there had been but one line of railway from Winnipeg to Port Arthur. Of course, later on the Canadian Northern had been opened, but by reason of their not having elevator facilities, the people could not avail themselves of their line to any great extent this year. Provision had been made that if a certain number of farmers petitioned for a flat warehouse they could get it, with proper sidings; but although the Act contained this excellent provision, Mr. Davis said he believed it could be amended with advantage. However, taking the Grain Act on the whole, if had, he believed, worked out satisfactorily. A quicker mode of transportation was required than the canals afforded. The difficulty was to get the crop out in the same season it was raised. The wheat depreciated six cents per bushel by being kept over the winter, and this, added to the insurance and the cost of storage, made the loss upon the products of the farmer, owing to the inability to ship it out the same year, something like ten cents per bushel. The grain commissioner could not deal with the shortage of cars, that was a matter that could only be dealt with by a railway commission.

REFORMS MUST BE MADE.

Mr. W. F. McCreary, M. P. (Selkirk), read a resolution passed by the Board of Trade of Winnipeg, pointing out that the loss to the farmers of the West by the shortage of cars had been estimated at \$7,000,000 this year, and suggested that if the farmers of the older Provinces had suffered to a similar extent the House would have heard from the members of those Provinces before. At the meeting at which that resolution was passed, Mr. McCreary said that Mr. White, of the C. P. R., stated his road had already hauled out 35 per cent more wheat and 125 per cent more oats than in 1899, when it was a comparatively good crop, and they had taken every reasonable precaution to meet the situation, but he asked whether the road should be expected to provide sufficient rolling stock to take out a crop of 100,000,000 bushels in the comparatively short space of time that elapses between threshing and the close of navigation. The crop begins to move about Sept. 1, and from that on till Dec. 1 it continues to move; but this year, owing to the wet weather, the time which the C. P. R. had to move the enormous crop was limited to 43 days. If it had been moved faster the grain would probably have been blocked farther east. Repeating to Mr. E. F. Clarke, Mr. McCreary said that it was true some vessels went away from Fort William without a cargo, because of the delay in threshing caused by the wet weather holding the grain back, but a couple of days after they had gone there was plenty of grain waiting shipment. Local conditions sometimes influenced prices, as shown in a case that came to his attention when in Lisgar recently. There the price of wheat was some 16 cents per bushel lower than in the market town just across the border. This was partly accounted for by the demand from Minneapolis and by the local demand, but as far as he could learn the difference could not be attributed to the difference in railway rates. He suggested that a competent commission of three or five men be appointed to go to Duluth and other United States points and work back along the line in order to ascertain where the difference in price arose. With reference to the Grain Act, Mr. McCreary was of the opinion that it had not been sufficiently considered before it was passed, and stated that the Minister of the Interior, when he returned, intended introducing some amendments to remedy the defects which had been detected in its operation. He suggested that the time given the farmer to load cars be extended, and that the time allowed for the construction of loading platforms by the railway companies be shortened considerably. Mr. McCreary pointed out the serious influence which the shortage of cars might have upon the prospects of the whole Northwest if it resulted in checking the stream of well-to-do settlers who were now flocking in there, and who might become alarmed if they found that the difficulty was likely to become chronic.

PLEA FOR A UNITED CANADA.

Hon. J. I. Tarte, the Minister of Public Works, followed, admitting that the C. P. R. had not been able to grapple with the extraordinary crop of the past year, and said they had been allowed to increase their stock by \$20,000,000 to provide more power. He believed the Northwest should have as cheap transportation as it was possible to give. Elevator and railway facilities must be increased and waterways developed. The different sections of Canada must stand solidly together, and while the East stood by the West in certain directions, the friends of the West must stand by the national interests and industries of the East.

Hon. Wm. Ross (Victoria) expressed his satisfaction with the present fiscal tariff, and W. R. Brock (Toronto Centre) asked that the representatives of all the Provinces unite in making Canada a great nation on broad and patriotic lines.

A COMBINE SKINNING THE FARMER.

Mr. Frank Oliver, M. P. (Alberta), replied that the people of the Northwest had taken a broad view upon questions that came before them. And was it not an important national question that members from the Northwest had brought before the House, involving some \$25,000,000? The crop this year had not come by chance, but by hard, struggling energy, and by everything that goes to make men and make them great. A large part of the wealth of last year's production was lying useless, and to-day if eastern men were receiving apologies from the Northwest instead of remittances, it was largely because of the conditions of which the Northwest asked to be relieved. The East was as much interested in this question as the West. Mr. Oliver emphasized the fact, referred to by other speakers, that the C. P. R. did well until navigation closed, but since the elevators became full there had been an absolute deadlock and not a wheel had rolled to carry grain to market. The company had increased the price of their lands by \$1 per acre, thus increasing their wealth \$10,000,000 by a stroke of the pen, and increased their stock by \$20,000,000, and they should have used the money to raise the blockade. Although the C. P. R. was moving grain now, they had acted like a dog on the

manger for months, thinking they were sure to get the grain to haul anyway, and would do it when they were ready. In order to break the combine it was absolutely necessary to have freedom of delivery of grain either in flat warehouses or railway cars. The combine was skinning the farmers to the extent of from 3 to 10 cents per bushel. The C. P. R. had set aside an Act of Parliament time and again this winter by instructing their officials to give cars only to the elevator men, and the law should be enforced against them. The Northwest was asking no favor, but claimed the elementary right of citizens of this country to get the best returns from the result of their year's labor.

GOVERNMENT CONTROL OF ELEVATORS.

Mr. R. L. Borden, M. P. (Halifax), leader of the Opposition, had been impressed with the necessity of some action being taken with regard to the combine said to exist among the men engaged in the business of warehousing in that country. He hoped the Government's action in this matter would be more rapid than on some other Western matters, as, for instance, taxation of railway lands. He thought also that it would be well for the Government to consider whether, under the circumstances, it would not be wise to take the warehouses in the West under Government control.

The question of freight rates in the Northwest was not, Mr. Borden thought, of so great importance as the provision of increased facilities of transportation, by means of which the grain of that country could be shipped over Canadian routes from the head of lake navigation to the Canadian seaports, and when the Minister of Public Works brought down a reasonable proposal for providing such facilities the proposal would have his hearty support.

THE PREMIER SPEAKS.

Sir Wilfrid Laurier admitted that the condition of things disclosed between Lake Superior and the Rocky Mountains was not at all satisfactory, though there was one redeeming feature, viz., that it was because of the enormous crop that our present facilities were not adequate to move it to the markets of the world. There was no objection to bringing down the papers in this matter. The Government had subsidized another line of railway (Canadian Northern), but this new road had, unfortunately, been completed too late to be of material value during the past season. But it is to be hoped it will be available for next year's crop, when there will be two competing roads from the West to Lake Superior. He reminded the western members that every portion of Canada was clamoring for more cars to move the products of the Canadian people. With two rival roads, and with the C. P. R. double-tracked, something material would have been done, though even this would perhaps be not enough. Some way should be found to keep the grain of the West moving towards the seaboard during twelve months of the year. To bring the grain to the lakes and store it for the winter could not afford adequate relief. The facilities must extend to Eastern Canada. The whole problem was of great importance, but he was not prepared at present to offer advice regarding it. The debate was the first indication the Government had received of the existence of a combine among warehouse men. If the men from the West would point out what was required, the Government would be only too glad to do what was required. The evil, he thought, arose from a deeper source than a simple violation of the Act by the companies, but the moment particulars of any violation of the letter of the Act were given, it would be the duty of the Government to have the facts investigated and to apply to the Department of Justice to see what remedy could be applied.

The motion was adopted, and the House adjourned at 10.35.

Test Vitality of Seeds.

There is not likely to be any lack of vitality in the seed grain from last year's crop, but it is a very short-sighted policy to run any risk in sowing seed regarding the vitality of which there can be the slightest possible doubt, when it can be so easily tested. The following simple plan for a homemade seed tester is described in the N. D. Farmers' Institute Annual:

The apparatus used consists of two ordinary sized dinner plates, a small sized plate and a piece of cotton flannel cloth about a foot square. Place the small plate bottom side up in one of the larger ones to form a bridge in it, lay the cloth across it—place the seeds to be tried for growing strength upon the highest portion of it—fold the cloth over the seeds, place water enough in the large plate for the outer ends of the cotton flannel cloth to reach into it, and place the other large plate bottom side up over the seeds for a lid or cover and your seed tester is complete.

The cloth will draw up moisture like a lamp wick and moisten the seeds so that they will sprout. That plan has the advantage of allowing you to look at the sprouting seeds as often as you like, and of breaking off the young stems or otherwise using them.

Importing American Scrub Horses.

In Parliament, at Ottawa, last week, on motion to go into supply, Mr. N. Boyd, M. P. (Macdonald), brought up the question of the low rate at which American horses can be brought into Canada. The minimum valuation was \$15, and for some years very inferior horses had been imported not only into the Northwest and Manitoba, but also into Ontario and eastern Canada. It was most unjust to the western horsemen, who had imported the best blood in England or Scotland to improve their stock. Nearly all the diseases in horses had been traced to these inferior animals. The view of the western horsemen was that the minimum should be placed at least at \$75 to \$100. Mr. John Charlton said there had been complaint in Western Ontario about the importation of these inferior ponies, which the farmers regarded as a calamity. He asked the Government to fully investigate the subject and put a stop to this importation.

Mr. Walter Scott, M. P. (Assiniboia West), read an extract from the last report of the Commissioner of Agriculture for the Territories, in which it was said that 6,000 horses were imported last year at an average valuation of \$20. The Commissioner suggested a minimum valuation of \$40 or \$50. Mr. Scott did not ask for such an increase from a protectionist standpoint, but for the purpose of preserving the quality of the horses. The principle was the same as that on which the prohibition of importing pernicious literature was based, and \$50 he thought a fair minimum. Mr. Gilmour and Mr. Osler endorsed the suggestion.

Abortion a Symptom of, Not the Disease.

Prof. MacFadyen, of the Royal Veterinary College, Eng., and probably the highest authority on

to be its frequently spontaneous origin. Preventive measures are, therefore, difficult to devise, and sometimes more difficult to carry out when devised. Prudence dictates, first of all, that every cow that shows symptoms of impending abortion, or has actually aborted, should be strictly isolated, and this includes the isolation of the attendant upon that cow. The extension of this principle when numbers are involved is easy. Next in importance to this isolation is the disinfection of the cow shed and everything that has been in any way connected with the aborting cow. It will also be well to sponge the root of the tail and the external genitals of each cow once daily with a strong disinfectant. What the Professor recommends is the following highly-poisonous compound: Corrosive sublimate, 2½ drams; hydrochloric acid, 2½ ozs.; and 2 gallons water. Lastly, the possibility of the abortion bacillus retaining its vitality for a considerable time in the manure should not be overlooked. Therefore, manure voided by aborting cows should not be spread on pasture to which cows will soon afterward have access.

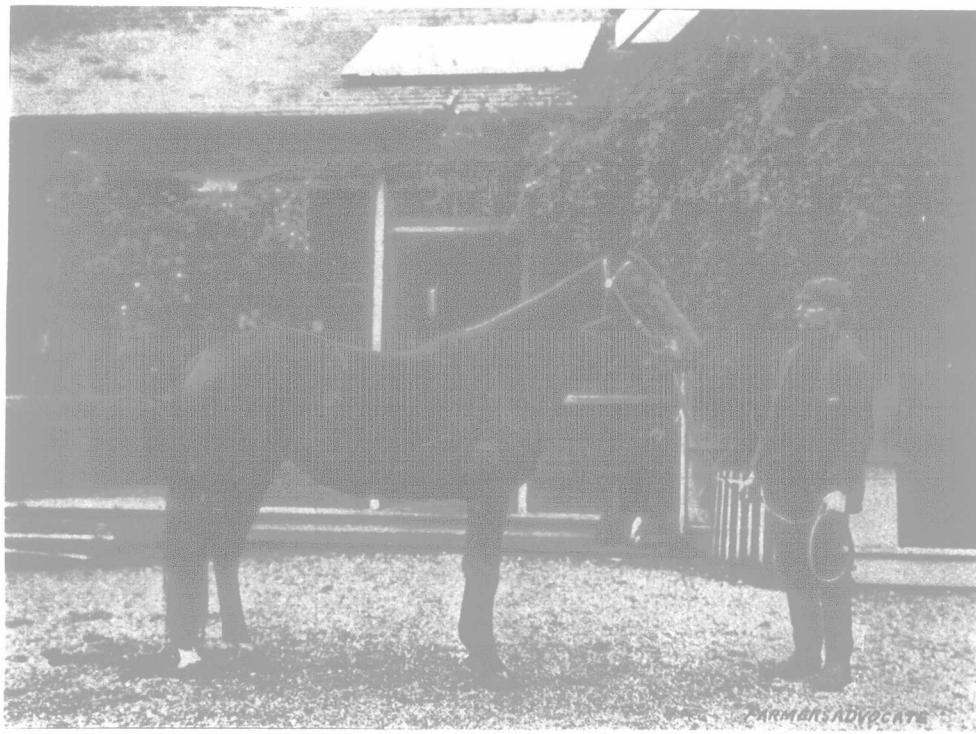
Benefits of the Horse Show.

The horse shows seem to offer the same stimulus to the harness race that has been given to the others. The horse show, as it is conducted, becomes an object lesson to the people of cities who use horses as to the proper appointments and the right type of a horse that should go with them.

Two or three successful horse shows in a city are usually sufficient to start the improvement. It leads some one who has a preference for horses of this kind to invest in an unusually attractive pair, which, in turn, stimulates the emulation of

other lovers of horses, and in the course of a year or so the character of the equipages of the city become markedly changed for the better. This has been noticed in a great many cases, and invariably follows properly-conducted shows.

While these results, at first consideration, do not seem to have direct application to the horse industry of our farmers, yet they materially stimulate the production of a high-class harness horse throughout the country. These horses which have come to the city as a result of the horse show have been secured by the dealers, who have spent some time in training and mannering them for city use. The dealers, in turn, have bought them from the farmers, and it seems reasonable to suppose that with the



DAISY.
Three-year-old ranch-bred filly, winner of sweepstakes as best mare any age at Provincial Exhibition, Victoria, B. C., 1901.
OWNED BY W. W. ZOUNG, SIDNEY, B. C.

contagious diseases of animals in the United Kingdom, states that he believes contagious abortion among cattle the most formidable plague affecting the bovine. The Professor states that "from bacteriological, experimental and chemical observation, there is no doubt that there is a contagious disease of cows with abortion for its only prominent symptom." Abortion is not the disease, but a symptom of the disease, consequently it is quite possible for the disease to exist without evincing any symptoms. Clinical and experimental evidence goes to show that a cow which has recently aborted is capable of infecting healthy pregnant cows so as to induce abortion in them.

A herd free from the disease can therefore be infected by the arrival of a new bull or cow. In all such cases, especially if the animal is a pure-bred, the buyer should endeavor to find out whether the disease has been in the herd or the neighborhood from whence he intended to get the bull or cow. In any case, wherever possible, the new purchase should be isolated for a time, if from a suspected neighborhood, and the bull be disinfected. A well-known swine breeder in Wisconsin, Theodore Louis, observed this principle in the importation of new swine, and always insisted on quarantine for a certain length of time, the result being that although hog cholera raged all around him, he never lost a pig with that disease.

The practical issue so far is to show that epizootic abortion is a contagious or infectious inflammation of the womb, caused by a bacillus with certain well-defined characteristics. A cow may be infected with the disease and yet carry her calf to full term. In this lies the danger of the disease, and an explanation of what appears

increasing demand for this type of horse there must follow a better price.

To raise the harness horse up to the point where he is ready to go into the dealer's hands will require the best knowledge of a horseman, and consequently it will never be produced too numerously. Owing to the obstacles in the way of producing such a horse, and the unusual difficulties in preparing it for the market, this production will never be the work of the general farmer; but there are a great many who are fond of horses and have the facilities to produce them of this type at a large profit.

If one situated in this way will observe some care in the selection of mares, seeing that they have the high and knee-folding action of the coach horse, together with the fulness of type which is desirable, and breed such a mare to a horse possessing the same characteristics, there is very little uncertainty about the colt developing into a horse suitable for harness work.

When ready for market such a horse may be sold quicker and often with more profit than one of any other type. With the general run of farmers' draft horses are without question the most profitable, but where mares of the kind mentioned have been secured and bred to stallions possessing the characteristics described, there certainly is a very large field for profitable production by those having inclinations in this direction—(The Homestead).

Rider and Driver, New York, says if the breeders of trotting horses do not abandon the phantom of trying to produce speed exclusively, the harness-horse field will be occupied by the Hackney men.

To Obtain Fertile Eggs.

To the Editor "Farmer's Advocate":

I have been spending a few months in N. D., and expect to spend several more, and have been very busy travelling to and fro. My next article was to be the care of males, as well as females, in the production of healthy chickens. I have read a good deal about keeping the hens from laying during the winter months, to produce fertile and healthy eggs. It is a good plan and works well, but that means a big loss to the keeper, feeding hens all winter for nothing; that is, if another way can be found to produce the desired result and at the same time have the hens continue to do their part in paying the grocer's bill. I think my plan will work all right; that is, if the manager of the hen farm will go to the trouble. That word is a sticker to a good many. With the majority of people the less trouble the better, and the excuse or reason for not doing a great many things is "too much trouble." My plan is this: Take the cocks and cockerels that you wish to keep over, put them in a pen by themselves. It is not necessary to shut them up in a different house, but put up a partition so they are kept by themselves and have got to stay there. The cockerels should be made to scratch for their living, just as much as the hens, and more so. They will not require the same kind of feed as the hens, as it is not necessary for them to produce the eggs. They want good, wholesome food, and are best to have a change now and again. Let the principal part of their food be wheat screenings or cheap wheat, and scatter it among straw or chaff. Keep them scratching from early morning till they go to bed. A little meat now and again will be a good thing for them. Give plenty of gravel and clean water. By keeping them scratching for their food they are kept vigorous and healthy, and it keeps them from brooding over their hard lot, besides keeping them out of possible mischief. Give them as much run as possible. There is very little danger of them quarreling, but if one of them is master and abuses the others, put him by himself for a time, and if he is still determined to fight the others, whether they will or no, put him by himself. Be sure to keep them healthy. A week before you want to use eggs for hatching, have your pens ready for each breed, if you have more than one kind, turn your males into their respective pens; do not give more than twelve or fifteen hens, especially the larger breeds. Give them plenty of feed, but let them scratch for most of it, as the exercise is good for their health.

The hens should be in good condition and healthy. I have heard and read a great deal about hens being too fat. I have never been able to get my hens too fat. I feed all they will eat; of course, I want them to scratch for most of it. I have found that there are more hens underfed than overfed, and underfed are than cared for too much. If poultry-raisers will try the above plan, I think they will be well satisfied with the results.

J. B. POWELL.

East Assiniboia.

The Cost of Improved Blood.

Very few farmers will dispute the advantage to be derived from the use of a male of one of the recognized pure breeds of cattle in preference to the bull of no known ancestry (usually termed a scrub), and yet comparatively few place a well-bred male at the head of their herds. Many excuses are advanced for not doing so: the trouble of keeping a bull, the liability of such an animal to be vicious, and the bother incident to the neighbors' visits with their breeding females, and lastly, and the one which weighs most with the man who keeps scrub stock — the cost of a pure-bred bull. At the present time hundreds of pure-bred bulls of serviceable age can be bought for \$100 to \$150, not of aristocratic lineage, perhaps, as pedigrees go nowadays, but still bulls that would do good service in improving the horned or polled stock of the farm. The get of the pure-bred are invariably worth more than the get of the scrub, in calves or stockers of like age the advantage ranging all the way from \$2 to \$10 a head, and in finished heaves, \$15 to \$20. In addition, the graded-up stock matures earlier, which means money saved. As this is a question on which there may be a difference of opinion, we should be pleased to hear from our readers as to "what price can a man afford to pay for a pure-bred bull to use on a herd of grades?"

Manitoba Flour for Africa.

Mr. E. W. Thompson, General Manager of the W. W. Ogilvie Milling Company, has closed what is said to be the largest sale of flour ever made in the Dominion of Canada, being an order for shipment to South Africa of 35,000 barrels of Ogilvie's Hungarian brand. The magnitude of this order can probably be better appreciated when it is stated that it will comprise a substantial equivalent of the entire output of the Ogilvie mills for the year.

The Long (4 years) Course vs. the Short (2 years) Course.

Believing as we do that the aim of agricultural educators should be the greatest good to the greatest number, we herewith give what the New York Produce Review and American Creamery has to say on the subject. We would especially draw the attention of our readers to the statement made by that journal in the fourth paragraph, regarding what the short course has done, which bears out what the "Advocate" has repeatedly stated and what statistics of the various agricultural colleges show. It may be of interest to note that the Illinois University has up to within the last year or two been among the most conspicuous failures as an agricultural college, and as a result of recent agitations has changed its methods and will now, we hope, take rank with the other colleges.

Mr. Edw. L. Worthen, of Illinois University, in an article criticising the agricultural papers which advise intending farmers rather to take two years' special course than to devote four years in order to "graduate," says: "The technical agriculture which the special student is prepared to take consists mainly of facts, which it is true are of great value, but still comparatively simple. It takes no great mental effort on the part of the student to master these facts. They do not give the mind the development that some of the non-technical work does. It requires no great mental effort to judge stock, to trim apple trees, or to plant successfully a field of corn. These operations can be mastered with little increase of mental ability, but when the student is required to work a problem in advanced mathematics, when he studies back into the theories and principles of physics and chemistry, these are the tasks which develop his mental ability, clear and broaden his mind, and give to him that most valuable of college trainings—the power to think. It is true that some agricultural studies give to the student this training, but before he is capable of taking up such studies he is required to have had college work outside of agriculture for preparation. The student with a common school education cannot master such studies as breeding, and, in fact, can derive little benefit from such studies without previous preparation."

"If Mr. Worthen had limited his recommendation to those young men who expect to become owners or managers of very large farms, or else agricultural professors, we should have found no fault whatever, but when he applies his advice to farmers' sons in general we must most emphatically agree with those agricultural papers even at the risk of having our arguments called false and being accused of misleading the farmers as to the education they should provide for their sons.

"The proof of the pudding is in the eating of it, and anyone who has studied conditions at our agricultural schools during the past sixteen years knows that only since the inauguration of short courses have these schools become of any practical value to the agricultural interest, because since then the students are being educated to the farm, instead of from the farm, which was the case when the long course reigned supreme.

"If some exceptionally bright short-course student should decide that he really wanted a four-year course it would not be impossible for him to get it if the faculty deemed him worthy, but to advise the average farmer's son to take a four-year course, is certainly not in the true interest of the improvement of our agricultural conditions.

"As to Mr. Worthen's claim that it requires no great mental effort to master facts pertaining to agriculture, that it does not develop the mind, and that it requires no great mental effort to judge stock, to trim apple trees, and we presume he would include to run a creamery or cheese factory, these very claims show that either Mr. Worthen is a wonderful phenomenon, who ought to be made secretary of agriculture at once, or he doesn't know what he is talking about.

"The writer has no knowledge of the Illinois short course or dairy students, but has followed for years the development of those in Wisconsin, and can testify that the teachings of Profs. Babcock, Russell, King, Henry, and others, even for one short three-months' course, has indeed had the effect of making the students think, which, we agree, is the main object of all education.

"The boy, old or young, who is not infused with enthusiasm in the short course will not attain it in a four-year course, and before the latter is recommended so highly it would be well if the advocates could show that a majority of the graduates have returned to the farm.

"But even if 90 per cent. did return, the fact remains that only the richest farmers can afford to give their sons a four-year course, and to advise them all to do so is pretty poor advice indeed. We cannot all become agricultural professors."

"Our contemporary looks at the matter from a common sense standpoint, and while we believe in high ideal, we cannot afford to ignore facts, and must not forget that any agricultural college is designed primarily to help the farmer. It is a professional or technical school, and not just an incubator to catch out professors."

Early Chicks.

BY JOHN B. PETTIT.

Too much importance cannot be attached to the necessity of having early chickens in order to have the greatest success and profit in the poultry industry. Those who are in the habit of getting out early chickens know this by experience, while those who are not should try it for once the coming season and see if they do not learn the truth of the statement.

No matter what one is in the poultry business for—whether for eggs, broilers, or fancy birds—the early chicken is the most profitable one. The majority of us are in it for what we make from the sale of eggs produced by the hens and the sale of surplus cockerels for table use. It has been found that it is much easier to start pullets to laying before winter than it is after very cold weather sets in. We, therefore, should try to get our pullets matured and into laying condition by the first of November, and, if possible, in the latter part of October. Taking the heavier breeds, such as Rocks, Brahmas, Cochins, and Wyandottes, the greater number of the pullets do not begin to lay before they are about seven months old. In order to get them at work by the time mentioned, the chicks should be hatched as early in April as possible. It is not necessary to get Leghorns and other light breeds out quite so early, as they come into maturity much more quickly. It is no uncommon thing for well-grown Leghorn pullets to begin laying before they are five months old. So we could hatch this breed out in early June and still have pullets into laying condition by the latter part of October or first part of November; but it would be better to get all chicks of even these lighter breeds out not later than in May. Leaving the egg problem, let us go to the birds that we have to dispose of for table use. We are all very well aware of the fact that all kinds of dressed poultry are much higher in price during early summer than on later in the fall. It stands in hand, then, for us to get our chicks out good and early, so that those that have to be marketed will be of good size when dressed poultry is at its highest price.

If we are so fortunate as to have fowls of such a quality as to be able to compete in the leading poultry exhibitions and carry off but a few of the highest awards, then we should see that we get our chicks out real early and get our exhibition birds fully developed. Often a cut of a point or two will be made for undersize or underweight, and often this—what seems at first thought but a slight cut—is the cause of some of our opponents carrying off the honors that we had hoped and worked so hard for. Other things being equal, the well-developed bird always wins in competition with one not properly matured.

Chickens make more rapid progress if hatched before the extremely hot summer days set in. Besides the heat affecting them physically, it also promotes a very rapid increase of lice, and there is nothing that retards the growth of chicks more than lice. Gapes are also more prevalent in hot weather than they are during the earlier part of the season. By getting our chicks out early, we will get them up to a good size and they will be in better condition to resist these drawbacks when they come to them. But we must exercise caution and not get our eggs hatched too early, if we want early winter layers. Pullets, if hatched out too early, will moult during the same fall, and that will put an end to their egg production until the following spring. They would then be but a bill of expense during the whole winter.

By exercising a little caution, we can manage our flocks in such a manner as to be much more profitable to us, and this by having early chicks, early broilers, and early winter layers.

Does Fumigation Injure Trees?

Regarding the alleged injury to nursery stock by fumigation, I may say that if trees have well-ripened wood and are in a dormant condition at time of treatment, there is no injury by the hydrocyanic-acid-gas treatment. Trees may be injured, though, if they are treated before growth has stopped in the fall or after they have budded out in the spring. Our experiments have proved that well-matured dormant trees will stand three times the prescribed dose without injury. My experience in this work during the past three years confirms me in the belief that much of the injury to trees said to be due to fumigation is the result of frost, and of exposure during handling in the nursery, and of delay in shipment.

W. N. HUTT.

There sheep bring as naturally a wide of the West distances and in vency to the other individual nents an favorable tivated a the East's sappiness Western.

Though opposite the East closely in The found Western range pure or as east over the distinctly could not tions and is by nat thrives we tances dai straight M business. consumptic considerab rino. The become rel quently fa has likewise America v product. the more ranks abc conceded t the produc considerabl tite, gross high flesh American c there are b why sheep strongly to may be sai by fanciers the best sl mutton is breeding in mation of mutton qua mation that breeder of males cann and these Ontario an eral practi West, in the these cond and suitabl

Special up Eastern particularly sheep busin prices of w the fellows to sell. The west as a them looki sult that s delivered to Territories. thirty and by one capi importance limited to e of rams. T bouilllets, w ing qualific are yet dist ever, some cass and so stand the These rams they can be was desired fleeces of weight to not too gr wool, and of wools in see how to be a the mutton Much adv ket is a care of ally into these mu It is use of re

Phases of Western Sheep Husbandry.

BY J. M'CAIG.

There are some reasons to think that the sheep breeders of Eastern Canada are not deriving as much profit from their business as they naturally should. Sheep-raising in the West offers a wide contrast to sheep-raising in the East. In the West, where animals have to range over long distances each day, often under hard conditions and in very large numbers, there is a plain tendency to deterioration in size. In the East, on the other hand, the number of animals kept by an individual breeder is small, the feeding arrangements and quality and variety of food are as favorable as the art of man and the fertile cultivated areas can make them. The result is that the Eastern sheep possesses much greater size, sappiness and rotundity of carcass than the Western.

Though there is this wide difference in these opposite ends of the Dominion, sheep-keeping in the East and sheep-keeping in the West are closely interdependent. They are complementary. The foundation stuff—that is, the she stuff—of the Western ranges is necessarily Merino. Sheep for range purposes could not be obtained as cheaply or as easily from the East as they could from over the line, and the heavy English breeds, so distinctly the product of intensive treatment, could not be safely set down into range conditions and thrive. The Merino, on the other hand, is by nature the best range sheep grown. It thrives well in large bands, can travel long distances daily, and can stand hard conditions. The straight Merino, however, is not suited to our business. Owing to the large increase in mutton consumption, the English breeds have made a considerable invasion on the territory of the Merino. The supply of medium and coarse wools has become relatively large and the price has consequently fallen. The price of wools of all grades has likewise fallen to such an extent that all over America wool can be regarded as only a by-product. It is especially the case, too, that in the more northerly latitudes meat production ranks above wool production. It is generally conceded that moderate warmth is favorable to the production of fine wool, while, contrariwise, a considerable degree of cold induces vigorous appetite, gross and heavy feeding, and, consequently, high flesh-forming properties. Besides this, the American duty lowers the price of our wool. So there are both circumstantial and natural reasons why sheep-husbandry in Canada should lean strongly to the mutton side. In spite of all that may be said by fanciers of the Merino, or indeed by fanciers of any other breed, about its being the best sheep for all purposes living, Merino mutton is not the best mutton; hence, sheep-breeding in the West is the process of transformation of the Merino ewe stock into stuff of better mutton qualities. It is this necessary transformation that opens up the profitable field for the breeder of males of the English breeds. Suitable males cannot be grown under range conditions, and these are imported to the Territories from Ontario and Manitoba. As this has been the general practice since sheep-ranching began in the West, it seems almost unnecessary to refer to these conditions or to emphasize their necessity and suitability.

Special circumstances make it desirable to stir up Eastern breeders. The wool market is not particularly bad over the line at present, and sheep business generally is prospering; but low prices of wool about shearing time made a lot of the fellows who banked mostly on wool anxious to sell. The attractions of the Canadian Northwest as a bountiful grazing country set some of them looking for markets over here, with the result that several bands were contracted for and delivered to Maple Creek and other parts of the Territories. In Southern Alberta itself between thirty and forty thousand sheep were brought in by one capitalist. The chief point of interest and importance is that these importations were not limited to ewe stuff, but included several bunches of rams. These rams were in most cases Rambouillet, which, of course, possess the best fleshing qualities of any of the Merino families, but are yet distinctly wool sheep. There were, however, some straight Delaines, quite small in carcass and so volky in fleece as to be unsuited to stand the occasional cold dips of our climate. These rams have been brought in partly because they can be bought cheap and partly because it was desired to increase the returns from the fleeces of the range sheep by giving additional weight to the fleece. As our market for wool is not too good, and it would be still only grade wool, and as there is practically no classification of wools in the Canadian market, it is difficult to see how the introduction of these rams is going to be a benefit even on the wool side, while on the mutton side they must be a distinct injury. Much advice, talking and writing has assisted in the introduction of these sheep. Our mutton market is as good as one to date and is worth taking care of. For this reason we should dip liberally into the Western flocks to maintain and improve these mutton qualities.

It is to be presumed, however, that the use of rams of the English breeds with simply a

beginning of Merino she stuff, with continuous weeding of the weakest, solves the problem of breeding for the rancher. The first cross with almost any two breeds of sheep is generally satisfactory. The product of the Oxford or Shrop. male with the Merino ewe gives a fine, strong sheep of good size and that yields a fleece bearing a good weight, from the influence of the Merino mother. The character of the fleece, however, is an external or framework feature of sheep econ-



AMERICAN TROTTER-BRED STALLION "CONVERTED" TO HEAVY HARNESS.

omy that is principally determined by the ram. Fleece properties are a matter of breeding, principally, and when the second pure-bred mutton ram is crossed with the half-bred ewe of the first cross, the weight and character of the fleece are assimilated to those of the ram—that is, the fleece becomes lighter from the smaller secretion of yolk of the English breeds, and it likewise becomes opener or less dense. While this assimilation of the flock to mutton standard is going on, it is found, too, that the weight of carcass is decreasing. It is quite to be expected that the moulding of the highly-cultured English sheep to range conditions leads to very rapid and distinct deterioration, and a third or fourth cross—that is, a seven-eighth of fifteen-sixteenth mutton grade—is not the same shearer or weigher that the sappy sire is. Besides this, the sheep that has become so closely approximate to the mutton type in a number of characteristics is not as good range sheep as the original she stuff or even as the first cross ewes. The valuable ranging habits of the Merino have been eliminated by frequent weakening and diluting of the Merino blood. There is no doubt but that the Merino is the best sheep in the world for running in large bunches. Its instincts are strongly gregarious from the beginning and its habits and character are fixed by two thousand years of breeding in a straight line. This property of being a good herd sheep was forcibly brought to the writer's notice while following a little drive of six hundred ewes. They were generally about a seven-eighths Merino grade, but there were a few well-marked individuals, on the other hand, that were perhaps three-quarters Shrop. or Oxford, and these were always trailing or straying wide of the bunch.

To sum up, the Merino has properties that the rancher needs, and the English breeds have other properties that are equally indispensable. We want the good herding qualities of the Merino and the capacity to stand scant and sometimes hard conditions, but we also want the fleshing qualities of the English breeds, so that it seems as though sheep-ranching means continuous cross-breeding. Now, crossing successfully is a rather limited game. The first cross is good; there



E. D. JORDAN'S HACKNEY, "LORD TOM NODDY."

seems to be an energy in the offspring, from the novelty, so to speak, of a somewhat contrasted coupling; but after the first cross, the good of cross-breeding is not so evident, and indiscriminate mixing generally leads to the perpetuation of bad rather than good qualities. It is a dangerous experiment in unskilled hands.

In connection with the discussion of the subject of the use of wool as against mutton rams, it is interesting to remember what is generally thought to be the respective influence of the male and female in determining the character of the

offspring. The external features and generally the size are thought to be contributed by the male, while the nervous organization and disposition are contributed by the female. In this view we have the strongest argument for the mutton ram as against the wool ram. The mutton ram gives to the offspring his size and weight, while the disposition, at least (we shall say, to be definite, the herding habit) in the first cross, is conferred by the mother, so the first cross for many reasons should be a good one. If, on the other hand, the Merino ram is used, he confers indeed by his prepotency his yolkly fleece and larger shearing surface, his flat, slabby sides and his want of rotundity and capacity to keep a nice fleshy top. These properties may be stated more boldly than probably the Rambouillet deserves, but the stronger contrast will make plain the essential differences in the two methods. It seems, then, that the range she stuff must be kept supplied at the bottom of the scale and that the Merino cannot be safely eliminated nor a range breed of mutton blood made to order in three or four years.

About the ram trade. It is safe to say that if the facilities were a little better, more Eastern rams would be bought at good or even high prices than are now bought in the Territories. The express companies could stand some interviewing too. There is absolutely no chance to send a sheep by express from Ontario to the N.-W. Territories. It costs about ten dollars a hundred from Ontario to Alberta, and even a ram lamb at six or eight months old would not ship under two hundred pounds, which would make the cost twenty dollars. The arrangements of the Live Stock Associations, by which cars are made up from individual shipments and the cost equitably divided, are good, but the shipments are not made at times that can possibly be suitable to everybody. Express is a good way to ship individual sheep of good type. It is safe and quick and can be used any time. It would be a good matter for the commissioners to take up or for the Sheep Breeders' Association to deal with.

Making Ready for the Breeding Season.

To the Editor "Farmer's Advocate":

A friend said to me, "There is a great deal said about not letting the hens get too fat, but I believe there is more danger of letting them get too poor." That has been my experience. I never have any trouble with my hens along that line, for I make them hustle for every bit of food. In real cold weather the fowls are kept close within doors, and if rather cold they are inclined to huddle together, but hunger is the best antidote, and if they are in good health they get a move on and their blood is kept in circulation with looking among the straw for their food. I never give a hen all she will eat up clean—that is, placing food so that they can stand to eat their fill—except on rare occasions, when I wish to give them a stimulant, and then it is fed at night. I feed the hens so that by the time they are ready to go to bed their crops are full. When morning comes they are ready for breakfast, and they are kept scratching for it till nearly noon. They are then given a little time to rest and wash and comb themselves for dinner. I try to keep my hens in good condition, but I find it a difficult matter when they are laying, as they seem to use up all surplus in egg business. When we have a fine day (and we have had a number this winter) I turn them all out and shut the door. They seek for themselves sunny nooks, sing and play, or find a nice warm dust bed and have a general good time. The door is opened, and they can go in or stay out, just as they like. Keep the birds healthy, keep them busy, find them plenty of such stuff as they require for egg production, and I do not think there will be much trouble with the hens laying on fat instead of laying eggs.

In conclusion, I would like to say, do not keep in too close quarters. Let your poultry be sociable. Let all the hens mix together if only eggs are wanted. Of course, if you wish to start hatching in early winter, the different kinds will have to be kept separate. We let all our different breeds run in same pen or yard the earlier part of winter. The cocks are just as well in a pen by themselves, and it is better for the hens.

Our hens associate together till nearly time for mating; then partitions are put up and each breed confined in its own place, and the males run with their respective wives; a dozen or fourteen to one male, and in some cases as high as twenty, but better results are obtained in most cases from one male to twelve females. J. B. POWELL.
Eastern Assa.

Hackney Action.

The two engravings of horses in harness on this page are from photos by Mr. A. H. Godfrey, Secretary of the American Hackney Horse Society, who writes us, by way of comment on Lord Tom Noddy, that "when the Hackney lifts the knee the hind leg is thrust forward under the body," and concerning the American trotting-bred stallion "converted" to heavy harness, "when the knee is elevated the hind leg is drawn up behind."

No Use for Hedges, but Favors Shelter Belts.

To the Editor "Farmer's Advocate":

I quite agree with what you and others have said in the press regarding the undesirable features of hedges for fences or for the protection of crops from winds.

I differ with Mr. Ross, of the Forestry Department, when he says the Balm of Gilead is not suited to light land.

The eastern tree pecker should not be allowed in this country, or only upon payment of a heavy license, as most of the stock offered for sale by them is no good.

Spontaneous Combustion from Shredded Corn.

Through rapid oxidation, heat may be generated with such rapidity in vegetable and other substances as to cause them to ignite.

There was not the slightest possibility of the fire starting in any other way than by spontaneous combustion. There were 33 acres of shredded corn in the center of the barn.

could start in that way. However, my wife had worried over it ever since it had been so hot.

The Value of the Babcock Test.

The discovery of the method of determining the amount of fat contained in milk, known as the Babcock test, was one of the most valuable ever made in connection with the dairy industry.

The Babcock test has done more to place the product of the cow in an intelligent light before the public mind than any other factor of the present day.

Before the advent of this test it was assumed that all milk was of equal value for cheesemaking, and the distribution of the proceeds of a factory was made upon the "pooling system."

Before the discovery of the Babcock test it was a difficult matter to detect these fraudulent practices, and those who wished to be honest were completely at the mercy of the dishonest patrons.

While this was a more just and equitable method than the pooling system, still it went somewhat too far in the other direction.

The principle of this system is that milk is valuable for cheesemaking in proportion to the fat and casein contained in it.

To illustrate: The tests for fat of patron's milk are 3.0, 3.5, 3.8, and 4.0. The percentage of fat and casein are 3 - 2 - 5.0; 3.5 - 2 - 5.5; 3.8 - 2 - 5.8, and 4 - 2 - 6.0.

Thus, if the first patron had 1,500 lbs. of milk, he would be credited with 1,500 x .5 = 750 lbs. of fat and casein.

The following table gives a summary of the results obtained during five years' experiments, in which 25 experiments were made with nearly 200,000 lbs. of milk, which contained percentages of fat varying from 2.7 to 5.2.

ONTARIO AGRICULTURAL COLLEGE DAIRY SCHOOL BULLETIN, 1901.

Table with 8 columns: Average per cent. of fat in milk, Pounds cheese made per 100 lbs. milk, Pounds cheese made per 1 lb. fat in milk, Pounds cheese made per lb. fat and casein or per cent. fat x 2, Lbs. loss of fat and casein in whey, Per 1,000 lbs. milk, Per 100 lbs. of cured cheese, Per cent. lost in curing in four weeks, Average score (Flavor, Total).

Amounts of money (cheese, Sc. per lb.) credited by the three systems, and also value of cheese:

Table with 5 columns: Average per cent. fat in milk, By weight of milk, 1,000 lbs. milk, By weight of fat in milk, 1,000 lbs. milk, By weight of fat and casein in milk, or fat + 2, Value of cheese made from 1,000 lbs. milk.

"Our five years' experiments prove that this system comes nearest to the actual value of the cheese produced, though it still places a slight premium on the milk fat."

If the fat alone were the correct basis, then the milk containing 5.21 per cent. of fat should have made 15.8 lbs. of cheese per 100 lbs. of milk.

Besides providing a more equitable and just basis for dividing the proceeds of cheese sales, the use of the Babcock test places the business on a higher plane and creates a better feeling among the patrons if they have the assurance that the test is properly made.

The care of the milk, however, often has a good deal to do with the erratic results often obtained from one month to another.

Milk that has been well cared for and arrives at the factory in first-class condition invariably gives a more satisfactory test than milk which has been neglected and carelessly handled.

To get the best results, care should be taken to prevent the cream from rising as much as possible, and to this end the milk must be cooled and agitated more or less.

I am well pleased with results obtained from advertising in your most excellent journal. I believe that I have been a subscriber to the "Advocate" nearly continuously for thirty years.

A. E. SHERRINGTON.

Supply

The p as that ago, deli milk or s used on a a condit out devel greatest that pur tory and ular. T governing milk :

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MAPLE HILL SUGAR-BUSH.
On the farm of Henry Field, Grassmere, Muskoka, Ont.

Supplying Milk to a Condensing Factory.

The patrons of a condensed milk factory, such as that established at Ingersoll, Ont., a few years ago, deliver the whole milk, there being no skim milk or whey returned. Condensed milk being used on shipboard and elsewhere, must be in such a condition as to keep a long time perfectly, without developing any unpleasant flavors. Hence, the greatest of care is needful in producing milk for that purpose, and it would be well if cheese-factory and creamery patrons were equally particular. The following describes the regulations governing the patron and the price paid for the milk:

- 1st.—In supplying milk for the condensing factory, we are not allowed to feed anything that will give the milk a disagreeable flavor or in any way take away the standard richness, such as turnips, ensilage, linseed meal or barley sprouts.
- 2nd.—There is no special rule of watering; only good pure water.
- 3rd.—As for handling the milk: it is supposed to be milked in as cleanly a manner as possible. We use a strainer of wire cloth, 100 meshes to the inch; the milk to be thoroughly cooled immediately after milking by continual stirring until the animal heat is all out and the temperature down to 58 or 60 degrees in a tank of fresh, pure water. We have a nice-sized milk-house, with a tank inside, where we cool our milk.
- 4th.—We always keep the milk over night, delivering it every morning. In warm weather all we do is to keep it as cool as possible with ice after it is cool and the milk-house well ventilated.
- 5th.—We buy our cans from the company, each can holding 68 pounds. The cans are washed at the factory by steam every morning.
- 6th.—The milk is supposed to contain at least a percentage of 3.50 per cent. butter-fat.
- 7th.—We receive as high as \$1.33 a hundred for December and January, and 85 cents for June.
- 8th.—We certainly consider we are paid for the extra work. The milk should be just as properly cared for if going to a cheese factory, to give the best satisfaction and produce good material. In the very hottest weather we put the morning milk in water and ice, and by the time we have our breakfast eaten the milk is cool and ready to start for the factory. As far as the work is concerned, it is only properly done. The only objection is we have a few miles further to draw the milk. Taken as a whole, we consider it very little more work, and we are amply compensated. We think a great deal of the condensing factory.

R. CLIFFORD.

"Hillcrest Farm," Middlesex Co.

Care of Harness.

The life of a set of harness may be very considerably prolonged by the exercise of a little care in its treatment. When from accident or neglect harness has been soiled, it can easily be cleaned by washing with castile soap. As a dressing for keeping leather or harness pliable there are many preparations upon the market. Cod-liver oil of the cheaper grades is now largely employed for this purpose instead of the neat's-foot oil which our forefathers used in such quantity for the preservation of their harness. One of the great advantages of using cod-liver oil is that rats and mice usually give a wide berth to any harness or other appliances dressed with this oil.—Ex.

Poultry Breeding.

Poultry, to be made profitable in any of its branches, must be thoroughly understood. To this end a large capital of common sense is required. It is a mistake to suppose that the keeping of poultry requires much outlay of time and money. The business, unless in very exceptional cases where it is managed on a large scale, can be easily carried on by anyone who is disposed to utilize the spare hours of each day without detriment to other matters of a more important nature. But usually the great mistake is made at the start. Too many breeds are selected. Begin with only one, and make yourself familiar with all the points relating to it, as well as the natural characteristics

of the breed. You may then venture with a second one, but it must be borne in mind that it requires five times as much caution to keep two breeds as one. If only a single breed is kept, there is no danger of any crossing or mixture, and the birds may run at large, providing not too near the neighbors; but the introduction of a second breed necessitates good, high, close fences, confinement, and great care in properly collecting and separating the eggs.

Our most successful poultrymen are those who make a specialty of one breed. They aim to keep the best, and can easily do so, as long familiarity and experience with a flock of fowls all of one kind permit the breeder to detect at a glance all the defects, owing to the constant impression of the characteristics on his mind by frequent observation, while if attention were turned to several breeds, the details essential to perfection in all the points would not be so easily noticed.

What breed we shall keep depends largely upon one's situation and the purpose he has in mind. The Plymouth Rock and the Wyandotte make the best poultry for the table and are excellent layers; but as to laying qualities alone, there is not the slightest doubt but that the families of the Spanish class, notably the Leghorn, will lay more eggs in a year than any of the Asiatics or the members of the American class. It is to be borne in mind, however, that if one wishes eggs in the winter he must select one of the heavier breeds, in preference to the Leghorns, as they are not disposed to lay in cold weather unless the coop is an exceptionally warm one.

Having decided upon the kind of bird, the next thing is selecting the breeding stock. Breeding stock requires to be so fed and cared for that its health and vigor may be maintained to be in condition to transmit the good qualities to its progeny. To secure this condition requires careful management, and careful management includes, first of all, freedom from vermin. Lice sap the vigor from fowls, and there are more lousy fowls in the yards of careful breeders than are suspected. Again, ample opportunity for exercise is required. Exercise promotes digestion, quickens circulation, causes the waste of the body to be quickly repaired and thus promotes the general health. If this exercise can be taken upon a grass plot where the fowls can supply themselves with green food, it is well; but the exercise should be had and the green food supplied in some form. Cleanly quarters and abundance of fresh air and water are required. The oxygen the air contains burns up the impurities in the blood, gives a bright red color and sends it through the proper channels to build up the strength of the fowl.

Finally, proper food, in proper quantities, must be supplied at proper times. This food

must be rich in protein rather than carbon, for muscle, not fat, is required. Oats, wheat, barley, and a very little corn, are good. Milk and an ounce of lean meat daily to each fowl are excellent. Granulated bone, cracked oyster shells and various forms of grit should be supplied freely. Only what the fowls will eat up clean should be fed at one time, and twice a day is frequent enough. All the wants of the system should be supplied, and with no forcing mixtures, the appetite should be kept clean and sharp at mealtimes. With stock cared for and selected in this way, the hen that lays the egg will be in a condition to make it vigorous, so that it will prove fertile, hatch well, produce a strong chicken, and prove her worthy of being the mother of a healthy brood.

"DRL."

The Canadian Hen Wins.

The naming of the Triggs baby and the coming of Prince Henry are important matters, to be sure, but they are really of small consequence compared to the industrial paralysis that has struck the great American hen. The egg famine that now seems imminent touches the poor man's breakfast table, while the entertainment of the visiting prince touches the few who can afford it and are falling over themselves to be touched.

With cold-storage eggs at 35 cents a dozen on Water street and the retail price soaring skyward, the outlook is distressing and gloomy the prospect for that Western luxury, "ham-and-eggs, country style."

The stringency in the egg crop is laid at the door of the American hen. She refuses to respond to the usual treatments that have been found efficacious. Feeding her red pepper has even failed to fill her with a burning desire to do her duty. And as for bone-dust, she will devour it with a glad cackle and in large quantities without showing the slightest disposition to drop anything in the egg basket.

With eggs soaring beyond our reach and Easter but four weeks away, it is a good time to reflect upon the statesmanship of the men who framed the Dingley law, and who put a tariff of five cents a dozen upon eggs in order to protect the American hen from the cheap pauper hens of Canada. Congressmen grew eloquent as they pictured the havoc and ruin that would be wrought in the egg industry, and how the American hen would be driven out of business by the poorly-paid hens across the Canadian border.

But has the American hen shown a proper appreciation of this "protection" accorded her in the Dingley tariff? We think not. The few eggs we can buy are of the vintage of 1901, and will not stand the candle test.—(Chicago Record-Herald.)

Poultry-raising is receiving largely-increased attention in Manitoba and the Northwest Territories, and is proving a fine field for the sale of the improved breeds and for eggs for hatching. With any amount of cheaply-grown wheat and other grain for feeding purposes and the possibility of securing the variety of foods necessary to successful egg production, poultry adds a healthful adjunct to the family bill of fare, while the towns of the West afford a ready market for both poultry and eggs.



From Country Life in America.

MODERN SUGARMAKING.

Our Scottish Letter.

PERTH AND ABERDEEN BULL SALES.

The bull-sale season is on, and already we have had several notable events of that nature. The trade in good bulls is better perhaps than it has been for several years, and indifferent ones are not wanted. At the same time, it is a clear lesson from what has transpired that many breeders have not yet learned that all male animals are not well designed to perpetuate their species. The trade for Shorthorns at Aberdeen, for Aberdeen-Angus bulls at Perth, and for Highland bulls at Oban, plainly taught this common lesson. There was a good demand for the better bulls, but those who had spent money in feeding the secondary animals were plainly taught that good bullocks were more profitable than secondary bulls. The ambition to be in the front rank of breeders not infrequently issues in being kept well in rear, and there is nothing more evident in this country than the great leeway requiring to be made up before the ordinary commercial stock of the country can be nearly like what it ought to be. In spite of all that has been done to improve stock and the great prices which foreign and colonial buyers are prepared to pay for breeding animals, there is as great need as ever there was for the distribution of high-class bulls throughout the country. A tour in the districts where small farms or crofts abound reveals many inferior animals. This is mainly due to the use of indifferent sires, but the scanty feeding of calves on small farms has also something to do with it. It cannot be too often urged that any male animal is not good enough to put to crofters' cows. If there was greater enthusiasm amongst the smaller farmers and a keener desire to learn the points of good animals, they would not be so easily satisfied as they are. Unfortunately, the smaller farmer has no money to spend on attending shows, so that he seldom sees what a really good animal of any breed is like, and when a good one comes across his path he fails to recognize it. The conclusion of the whole matter is that there is abundant room for levelling-up in all breeds, if the commercial stock of this country is to be like what it ought to be.

The great Shorthorn-bull sale of the season is due next week at Perth. Meantime a sale has been held at Aberdeen, at which several of the northern breeders had forward stock. The highest price recorded was £45 3s. Deeside Hero, bred by Mr. Adam Bands, Aboyne. The average price of 134 Shorthorn bulls sold that day was £22 7s. 5d. The most extensive exposé was Mr. Francis Simmers, Whiteside, Alford, who sold eleven got by the Duthie bull, Count St. Clair, at an average of £28 11s. 9d. Several of the best bulls from some of the lots were withdrawn unsold. This was distinctly a crossing-sire sale. The bulls exposed were nearly all bought for crossing purposes, and fancy animals were at a discount. The characteristic Cruickshank type was much in evidence, and the varied coloring could not but be remarked. What length of time may elapse before the preponderating color amongst Aberdeen Shorthorns will be roan does not appear. The fancy buyer likes roans, and the nearer the approach is to such the better will it be for commercial stock. White bulls, which are so popular in the Cumberland sales, are at quite a discount in Aberdeenshire. The reason of this, of course, is that they are not wanted to the same extent for crossing with blackskins to produce blue-grays. In Cumberland, a white bull is invaluable for this purpose. The blue-gray is in great demand, and nothing produces him with so great certainty as the mating of a Galloway cow with a white Shorthorn bull.

The great event this week has been the Perth sale of A-A. bulls. It has again been a signal triumph for Ballindalloch bulls and Erica blood. Sir George Macpherson Grant got an average of £154 7s. for eight young bulls. One of these, named Eviator, drew £378, his buyer being Colonel Smith Grant, of Auchrachen. Two years ago another Ballindalloch bull, named Echador, went at the same price to Mr. W. S. Ferguson, Pictstonhill. Three hundred and seven bulls were sold in the one day, at an average price of £27 1s. 11d. The second-best herd average was made by a tenant farmer, Mr. A. MacLaren, Auchnaguite, Ballinbrig, who got £63 14s. for three. Mr. Chalmers, of Aldbar, Buchin, who has one of the oldest herds in the country, came third, with an average of £58 9s. 8d. for five. One of his lot, named Elmslie, the winner of second prize, went to Sir George Macpherson Grant at £220 10s. Several of the best bulls in the breed to-day have been bred at Aldbar, notably Delamere, a rare-quality bull with a brilliant showyard record, which, after doing splendid service at Auchnaguite, last year went to Ballindalloch. The Earl of Strathmore, Glamis, who has an extra good herd, exposed no fewer than ten, for which he made the splendid average of £12 apiece. Why Ballindalloch should so completely overshadow all his competitors seems hard to understand. Rightly or wrongly, the public believe in Sir George Macpherson Grant's stock and back them all the time. On the following day the Aberdeen A-A. bull sale took place, and considering that no ani-

mal shown made more than the double figures, the average of £22 15s. 3d. for 229 bulls indicated a steady selling trade.

On the same day as the Aberdeen Show and sale, Mr. Corson was selling Highland bulls at Oban. Except that too many bull stirks (or yearlings) were offered, with the result that not more than one-half of them found purchasers, the sale was a pretty fair one, and good prices were obtained for the better-class animals. The highest price was £122, paid by Mr. Bullough, of Pasmacloich, for the third-prize two-year-old bull. The leader in the same class, also brindled, made £110, and the one that divided them, which, curiously enough, was also brindled, made £70. These three are ideal specimens of the best type of beef-producing cattle. Mr. Blair, of Melfort, owned the bull which made £110, but the one which made £122 pleased fully as well amongst breeders. He has a wonderful amount of breed character, and being well haired—always an important consideration when looking at Highlanders—he was thought to be worth the money. The average price of the Highland bulls of all ages at Oban this year was £26 4s. 6d. Twenty-two aged bulls made £28 15s. 2d.; 32 two-year-old bulls made £28 1s. 10d.; and 20 bull stirks went at £20 9s. Highland cattle are a little longer in coming to maturity than the finer breeds, and most men prefer a two-year-old when purchasing.

"SCOTLAND YET."

The Mare and Her Foal.

As the season in which the majority of mares give birth to their young is approaching, a few words regarding this important function may not be out of place. As the period of gestation nears its termination, the prospective dam should be carefully looked after. She should be liberally fed on good clean, wholesome food, it being remembered that she has not only herself to nourish, but also an almost fully-developed fetus; and while it is not well that breeding mares be very fat, they should be in good condition; hence, the amount of food given should be greater than for an unpregnant mare doing the same amount of work. As regards working the breeding mares, experience teaches us that the mare that has done regular work or got regular exercise during pregnancy produces a stronger foal than the one that has been pampered and has spent the months of gestation in idleness. The work should be regular, and light; work that requires excessive muscular or respiratory exertion should be avoided. If she be of the lighter breeds, and we expect to produce a foal that will be fast at any gait, I think it is good practice to allow her to go short pieces, say one-eighth of a mile or less, at top speed occasionally, as there is little doubt that the habits of the dam during pregnancy are to a certain extent inherited by the progeny, and short spurts of speed have no evil effect on the dam until the advanced stages of gestation. It may be asked then, if breeding draft mares, why not ask them to occasionally move very heavy loads during pregnancy? This is dangerous, as the excessive muscular exertion has a tendency to produce abortion. In addition to good food in proper quantities, and regular exercise, the mare should have free access to water of first-class quality. As the period of parturition approaches, the work or exercise should be decreased, but not entirely suspended. I have known brood mares on farms to be worked on the plow or other farm implement until symptoms of immediate parturition were shown, and then to be unhitched and give birth to a foal in the field, and in an hour or two the little thing follow its dam to the stable. Still, I do not consider this good practice. For at least a few days before parturition, she should not be asked to perform steady work, but should have regular exercise in the yard or lot. She should be carefully watched. There is a somewhat popular opinion (I might say superstition) that it is unlucky to watch a mare when about to foal, but, fortunately, this idea is gradually becoming unpopular, and there are many reasons why it is wise to keep careful watch. This is the most critical period in the life of the offspring, and often also of the dam, and a little carelessness on the part of the owner or attendant may be followed by the loss of one or both. If the act (which is essentially a physiological act) be performed in a normal manner, no extraneous interference is needed, but, unfortunately, it is not seldom that conditions are such that human aid is required. Obstacles which are removable, or misrepresentations which may be rectified, may prevent themselves to retard or totally prevent delivery. The fetus may be born in unruptured membranes, and if not relieved will suffocate; the umbilical cord may not become disconnected; the dam may be lying so close to the wall or other obstruction that delivery cannot take place, or she may be vicious and lack maternal instinct, and, if not prevented, injure or destroy her foal. In fact, there are many reasons why she should be

watched. For at least a few weeks before she is expected to foal she should have a nice clean, roomy box stall, in which there are no mangers or boxes. The stall should be regularly cleaned and a little slacked lime scattered on the floor every day and clean litter given. As the symptoms of approaching parturition (such as the abdomen becoming more pendulous, and as a consequence a falling down of the muscles of the croup and back; often the appearance of a little inspissated colostrum, generally called wax, on the teats; a swelling of the vulva, and particularly an uneasiness and a more or less excited and anxious expression) appear she should be carefully watched. The person to whom she is intrusted should be one of good judgment, and the greater his knowledge of the function about to take place the better. Certain preparation should be made. He should have at hand a knife and a piece of strong soft cord, in case he might be required to ligature and sever the umbilical cord, and he should also have a small bottle of a solution of corrosive sublimate 1 part, water 500 parts. If the mare be nervous, as is sometimes noticed in primipara (mares producing their first foal), and the presence of an attendant appears to irritate or increase the nervousness, he should keep well out of sight, but at the same time be able to see what is going on. He should not be too quick to interfere, should allow nature a reasonable chance, but if the labor pains be well marked and severe for some time and still no visible progress is being made towards delivery, he must ascertain what the obstacle is. If she lie too close to the wall, he must move her or force her to rise. If the birth be easy and the foal be born inclosed in the membranes, he must open them with his knife and relieve it. In this case and often when the membranes are ruptured, the umbilical cord will still be intact, and he should tie it tightly with a strong soft cord, about an inch below the abdomen, and cut it off about an inch below that. If the mare be exhausted she will probably lie for some time after delivery, and in such cases the attendant should remove all mucus from the nostrils and mouth of the little animal and rub his body well with cloths or wisps of straw, and continue rubbing until it is dry or the dam rises and performs the maternal functions of licking it. If it be weakly and not able to rise and take nourishment in the course of an hour at most, he should assist it. In a case where delivery is not taking place he should endeavor to ascertain the cause, and if his skill be such that he can remove the obstacle or rectify the malpresentation, he should do so as soon as possible; but if he cannot do this, he should go or send for an obstetrician without delay, for a little delay or unskillful interference may produce complications that will prove fatal to offspring or dam, or perhaps to both; while prompt and skillful interference may result in saving both and in most cases at least the dam. If the mare be vicious with her colt, it is good practice to dust a little chop or salt on it; and where this has failed, I have found that in many cases a little brandy sprinkled over the colt and rubbed on the lips and nostrils of the dam has had the desired effect. But if all devices fail, she should be tied or held by an assistant, a twitch applied to her nose and forced to allow the colt to suck; she must be carefully watched and prevented from injuring the colt, and forced to nurse it frequently, say every half hour, for a few times, when she will generally get over her viciousness; if not, the foal will have to be removed and raised by hand. Shortly after a foal is born it is good practice to dress the navel string and opening with the solution of corrosive sublimate, already referred to, and this should be done four or five times daily until the parts are healed. This treatment is to prevent the entrance into the circulation of the germ that produces that fatal disease known as joint or navel ill. The colt should also be watched in order to see whether the excretions are normal. If urine be not passed in a reasonable time, a small catheter should be passed, as there is sometimes a false membrane occluding the entrance to the bladder, and this must be broken down. If feces be not passed, the finger should be oiled and carefully inserted into the rectum and the lumps of mœcium removed, then a little oil or warm soap-suds should be injected. This should be done every few hours until the feces become yellow. Many colts are lost from retention of the mœcium (the contents of the intestines at birth), which exists in lumps of a black, somewhat tarry substance, often so large that they cannot be forced out of the rectum. The administration of oil or any purgative in these cases is very dangerous, for while purgatives liquify the contents of the anterior intestines, they have practically no effect upon those of the rectum, and hence are very hurtful in these cases, and often cause death. The administration of purgatives should, if possible, be avoided in young animals, and the mœcium (when not spontaneously expelled) be removed by the finger and injections. The attention to the dam will depend upon complications arising as the result of parturition. As a rule, all she will require is a warm feed of bran or chop, and exclusion from drafts for a few days, in addition to ordinary care.

"WHIP."



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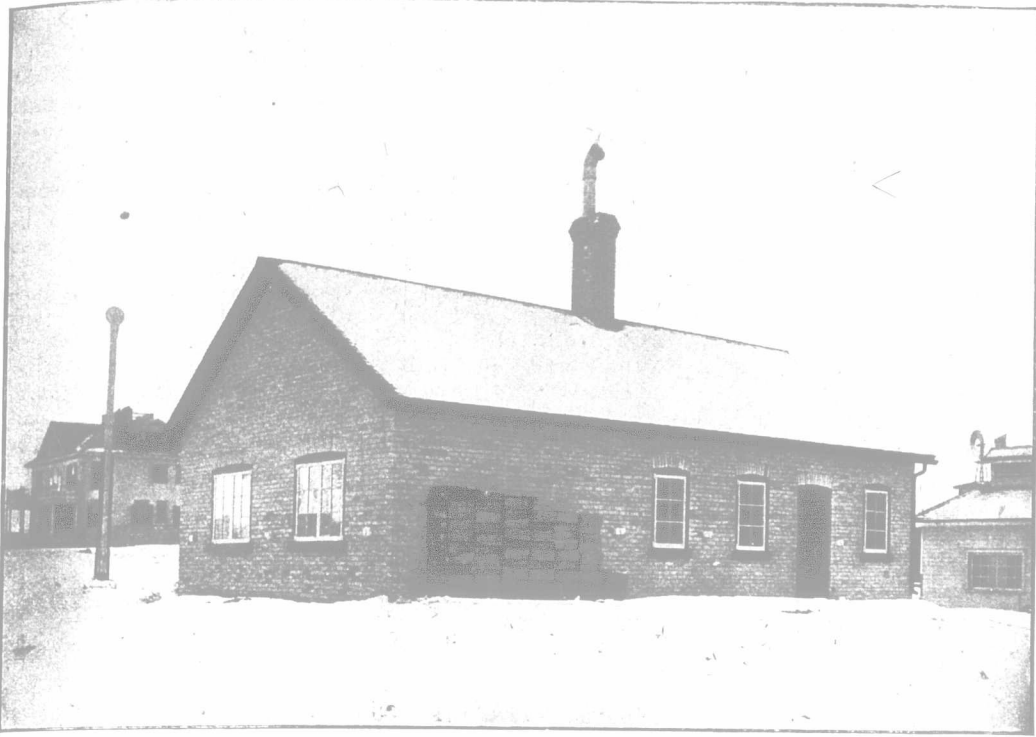
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EXTERIOR VIEW OF CELLAR.

A Model Bee Cellar.

BY R. F. HOLTERMANN.

In cellar wintering, one says, "Use a sub-earth ventilator"; another one says, "Use a ventilator"; the third says, "No ventilation is required." Again, one says, "Have a temperature of 60"; another, 52; another, 42; while another says that just above freezing (32) is best. One says outside wintering is better; another, cellar. Let us suppose that conditions are quite alike, and one man says his bees come out all right with a temperature of 52; the other says his bees will not winter well at that temperature, but he wants 42. Under these circumstances both can not be correct. The trouble simply is, that one man is satisfied with poorer results than the other.

The proper wintering of bees, and bringing every colony out strong in spring, not only in bees, but vitality, is necessary to success, and the very foundation of successful beekeeping. The sooner we recognize this the better, the more the cost of producing honey will decrease, and the less frequent will be the seasons when we do not obtain surplus honey.

A man asked me, "Are any of your bees dead yet?" Having charge of something like 200 colonies, I answered, "Yes, if you mean bees. There are bees dying continually." He said, "Oh! I mean colonies." I answered no, and I should consider it a very serious matter if any colonies were dead.

What I want to bring out is this: Many are satisfied if they bring the hives out with live bees in every one. No good beekeeper should be content with this. What every one should aim at is to bring them out of winter quarters with the least consumption of honey, and the least possible loss of bees and loss of vitality in the bees. Nothing less should satisfy.

We read grave discussions as to whether bees require the cellar in which they are wintered to be ventilated. When we understand the nature of the honey-bee, its delicate breathing-cells, its abhorrence of impurities, it seems to me a waste of time to discuss such a question. We know how restless we become and how injuriously we are affected when the air becomes foul in the room we are in. Again, the bees consume honey. This turns the saccharine matter in the honey into heat and energy. It expels the water, and if the atmosphere is not changed it must become damp and abnormal. Moisture about the bees, we know to be injurious.

Again, as to the temperature, if a floor has been scrubbed in the kitchen, and we sit down in the kitchen at a temperature of 70, those liable to catch cold run great risk; but raise the temperature and the evil from the dampness is largely overcome. Again, I can be comfortable with an overcoat on when I would catch cold without it. When the temperature of a cellar is discussed, would it not be well to know whether the wooden covers or cushions are on the hive or not? A lower temperature will answer if the cushions are on the hives to prevent heat from passing off. Again, where the humidity is great the temperature must be higher.

I can understand that the more perfect the conditions, the less movement and activity of the bees and the less atmosphere is consumed, and the less stores are consumed. But if there is no supply of fresh air, in time the air must become damp and vitiated, and then the bees become restless and active, and rapidly consume more stores, use more air, and wear themselves out.

Again, weak colonies can stand a higher temperature. The strong generate more heat. These are all questions that require consideration. If the cellar is poorly constructed the air gets in and out here and there, and an uncertain quantity is supplied in this way.

At Brantford, or within two miles and a half of it, there is a wealthy stock company — The Bow Park Company, Limited. They have over 1,000 acres of land, often over 1,000 hogs, several hundred head of fattening steers, sheep,

etc. They also make pickles, having about 45 acres in cucumbers alone. The blossoms of these, last year, were much appreciated by the bees. They have about 150 acres in alfalfa, and will have a large area in alsike clover. These people having the capital, I proposed going extensively into the bee business, they to furnish the capital, and I to manage, and share in the proceeds. They consented.

Our first step was to plan a bee-cellar — one in which a large number of colonies could be wintered, and wintered well. With the best cellar wintering, and the best outside wintering, the beekeeper can save 7 lbs. of honey by cellar wintering. The bees do not require to generate as much heat, and the temperature does not vary as greatly. Variations of temperature disturb the bees; increased consumption of stores causes increased loss of vitality. The loss in this direction can be estimated only very broadly. Again, an outer case suitable for this climate costs 50 cents, or more. It is our intention to establish out-apiaries until at least 500 colonies are run. A saving of 7 lbs. per colony on 500 colonies would be 3,500 lbs. In wintering, cases would cost at least \$250. During prolonged and steady cold, wintering becomes uncertain, and we considered, in view of this fact, that a honey house, workshop and storeroom were required—that is, it would pay us to build a first-class cellar, and the house above. The cellar is intended to hold the 500 colonies.

The size is 40x24, and 7 feet in height in the clear. The entire cellar is below the level of the ground. It is built in a sand-bank, is double walled, with a 9-inch wall outside, a 3½-inch wall inside, and a 2-inch space between. The ceiling above is a double floor. The first floor is matched lumber, then a heavy felt paper, then ¾-inch strips and a tongue-and-grooved floor above. The cellar floor is cement; and, laid in the cement, is a board floor. There is one stairway coming from outside. This is for summer use, and is the stairway down which the bees are carried for winter, and out of which they are taken for spring. Another stairway goes down from the shop above, and is for winter use. The object of this

construction was to secure thorough isolation and no ventilation through the wall. If ventilation comes here, there and everywhere through the walls, the beekeeper has no control over it, and it may come in when he least requires it. By having a proper ventilator, one which can be regulated, he has something like a businesslike arrangement.

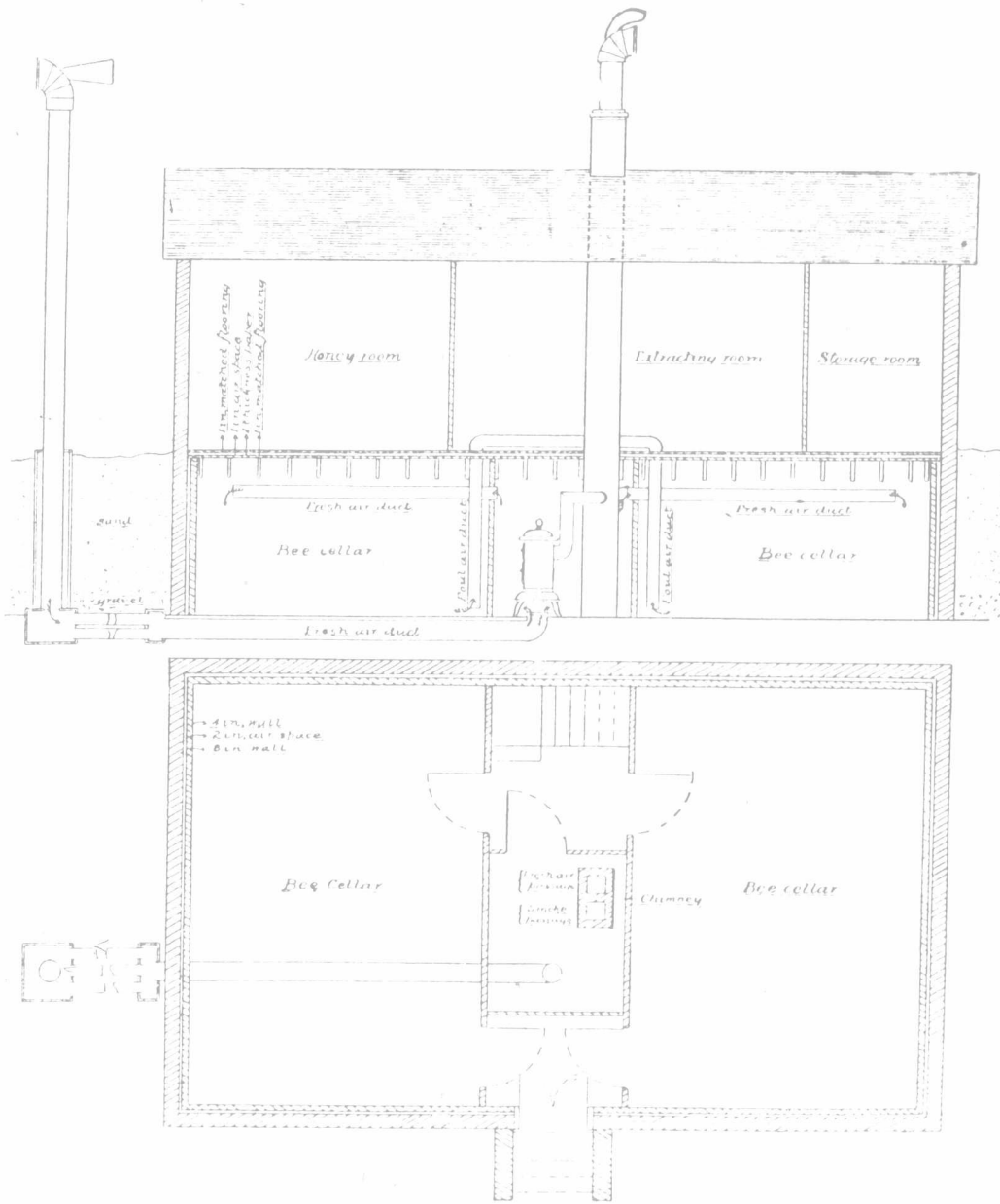
The air comes in at the center of the cellar floor. It is connected with a sub-earth ventilator of three 30-foot lengths of 8-inch glazed tile joined with cement, making it water-tight. It is laid eight feet below the ground, and connects with an upright pipe 25 feet high, and on top of it is a cowl always facing the breeze. The air passes through the sub-earth ducts, and they, being water-tight, can not get any moisture from them — a defect that many sub-earth ducts have. But the temperature is raised by passing through the warm earth, as the temperature of the air entering it rises and becomes more capable of taking up moisture.

In the plan two partitions run crosswise of the cellar, and two, again, join these. In this center compartment stands a self-feeding coal stove, and it stands right over (but two feet from) the floor where the cold air comes in. This stove regulates the temperature, and, after being warmed to the required temperature, it passes into the bee cellars through wooden pipes at the top, which discharge in the far upper and outer corners of the cellars. The stovepipe enters a double chimney, one part for the stove, the other for a foul-air vent. At the opposite side (but nearest to the two wooden partitions) is a foul-air pipe which, by means of vents and stops, can be made to draw the air from either the top or bottom of the cellar. These pipes draw off the foul air, and at the top of the chimney is another cowl, just the opposite of the previous one, which has its back always to the wind, and thus becomes a suction cowl.

In this way temperature and current of air can be controlled. The cellar is new, and 70 of these colonies never had a flight after being two days closed up on the cars, yet all appear to be wintering well — certainly a very severe strain on its qualities for wintering. I find that when cold walls are exposed to the atmosphere, the moisture condenses there; but here not a particle of moisture is apparent anywhere. It is carried to its proper place — outside. A candle (I never take an oil lamp) held close to the cluster shows it dry. The bees just lie there quiet as in sleep. Occasionally a cluster appears slightly active, but the next time this is quiet.

The hives stand on benches 20 inches high in front, 22 at the back. Four hives can rest on each bench, side by side, and four hives can rest one on top of the other.

It will be seen from the bench (p. 209) that the



ELEVATION AND GROUND PLAN OF THE CELLAR.

back of hive is 2 inches higher than the front. I like the back of the brood chamber raised by means of two blocks $\frac{3}{4}$ inch from the bottom board, giving a current of air through the hive. A warm cushion should be placed on top of each hive, especially the top and bottom row. Strong colonies so placed I like to winter at a cellar temperature of 42—perhaps even a lower temperature will answer. If no cushions are used, if the colonies are weak or the bank a clay bank with more moisture, I would raise the temperature some. Note, I keep a thermometer in each cellar, suspended about midway from ceiling to floor, and midway between the fresh-air and foul-air pipe. All these points are important for comparison, but to discuss the question with profit we must get the condition and then compare, and let us not be content with what we should not be content with, and delude ourselves with believing we are doing the best when we are not.

When a man loses in winter a colony with a queen and plenty of good stores, there is something wrong. Many a man gets no honey-flow, because the bees wintered so poorly they could not take advantage of the flow that came, especially early clover or a blossom which stands in a relative position.

In the house above the cellar I have a comb-honey room, a room for extracted honey, and a room for store combs and hives. The first and last are almost air-tight, and can be fumigated. Then there is the workshop.

There are, of course, other conditions, such as good stores, the strain of bees, size of brood-chamber in proportion to the number of bees, etc., which influence wintering, but I have not time to enter into those questions now.—Gleanings in Bee Culture.

More Army Horses Should Have Been Purchased in Canada.

In view of the fact that the British War Office has purchased 446,000 horses for South Africa, it surely gives Canadian farmers food for thought when Canada has sold only 11,300 out of this enormous total, while the United States has sold 77,000. I maintain that we have the horses in Canada, and that if the purchasing had been carried out in a proper businesslike manner we should have sold at least double the number of horses. I have been a horse-breeder for twenty years. I have shipped Ontario horses to England and sold them there, and also western horses to Montreal and marketed them there; therefore, I have a good knowledge of Canadian horses. I know the horses of the United States well, and also those of the Argentine Republic. I maintain that we have a better class of horse in Canada than they have in the U. S. A. or the Argentine, taking them all 'round. I submit that we have been shamefully treated by the War Office.

To watch the representatives of the War Office purchasing horses in Canada, one would think they were judging in a show-ring; instead of which, they are buying them for "the front." Does any practical man think that because a horse is a trifle short in the neck or an inch too long in the back or a trifle heavy in his shoulders that, providing he has a good set of legs under him and is otherwise suitable, he will not be just as useful on active service as an animal perfect in symmetry? Now, farmers, my advice to you is, raise your voices and protest against such treatment. Now is the time the British Government will listen to you. Appeal through your societies, appeal to your M. P.'s, and to Mr. Rutherford, the Chief Veterinary; also to the Hon. Sydney Fisher, the Minister of Agriculture. Get these gentlemen to represent the true state of affairs to the Secretary for War. Remember, we want a share in supplying remounts for the British Army in the future, and if we do not assert our rights now, we will get the go-by in the future as we have had it in the past. Beyond a doubt, our Canadian horses have proved themselves among the very best that have gone to South Africa. We all know the record of the Canadian contingents mounted on Canadian horses and purchased by Canadians. All I can say is that it speaks very poorly for the British representatives' business capacity that they have only been able to procure the miserable total of about 12,000 horses in two years' time. I venture to say, take any Canadian dealer gifted with common sense, he could place at the ship's side as many horses in six months as the British representatives have done in two years, and, taking the horses all 'round, they would be quite as good looking a lot and thoroughly suited for the work on hand.

Are we going to submit tamely to the treatment we have received from the War Office? Are we going to let it go on record without a protest that the whole of great horse-breeding Canada could only supply about 12,000 horses in two years' time? I say most emphatically, No!

Without a doubt incompetency has been markedly displayed in the purchase, or, rather, non-purchase, of remounts in Canada, and the blame should be brought home to those responsible. I submit that not only have the Canadian farmers suffered, but also the British taxpayers, for

thousands more of good horses might have been obtained from Canada at reasonable prices, whereas they have paid out millions for trash from foreign countries.

High River, Alta.

Note.—Many people who witnessed the purchasing of army horses by the British officer must have been amused, as horses refused one day for some fault, either imaginary or real, would be presented again in a few days to that gentleman, when they would be purchased and branded with the broad arrow. This occurred again and again in Ontario and in the West, and is evidence that the buyer either did not know what he wanted or suffered with a bad liver.—Ed. F. A.

Fruit Growing in Colorado and the Canadian Northwest.

The object of these few notes is to draw attention to the experiences of horticulturists in Colorado, as having a bearing on the prospects before our Canadian Northwest.

Regarding the topography and climate of Colorado, it may be stated briefly that out of the 66 million acres which it contains, 27 millions are mountainous and 39 millions valleys or plains. The latter are available for cultivation only when irrigation can be had. The average annual precipitation is only 14.32 inches, and with very high temperature from May to September, the mean being 60 degrees to 72 degrees. This is quite insufficient for either fruit or crops. The mean temperature for the year is 49.5 degrees.

The first fruit trees brought into the State were hauled from Iowa in wagons in 1863. They were planted in a river bottom, near a creek; were washed out in the spring freshet next year, recovered, and planted on a hill, where they are still growing—the oldest orchard in the State. Other settlers planted trees the same year, but, owing to their exhausted vitality after the long haul, few survived. Ten years later there were only few orchards. Not until 1878 was it demonstrated that apples and other fruits could be grown to profit. Now there are many orchards with from 1,000 to 12,000 trees, producing fruit worth from \$300 to \$800 per acre.

Regarding the climate, it may be added that the springs are very late, much more so than with us. The fear that apple bloom would be damaged by snow and ice has not been realized. Stone fruits started by extra warmth in February have suffered somewhat more.

Such is the history in brief of fruit-growing in Colorado. It is now well-established as one of the great industries of that rich State. From the last summarized statistics available, viz., those for the year 1898, I quote the following figures: Areas under fruits—Small fruits, 8,230 acres; pear trees, 6,250 acres; stone fruits, 22,920 acres; apple orchards, 81,250 acres; or a total of 118,754 acres of fruit and fruit trees. The area in bearing for the year 1898 was thus only 42,000 acres, and the total value of fruit produced was \$6,000,000. So far as can be learned, the value of the fruit products of the State for 1900 was considerably more.

It is worthy of note that all this has been accomplished since 1863. The earliest adventurers in this line had most discouraging experiences. An enterprising tree peddler struck the State and secured several orders. One customer had, as the result of an expenditure of \$83.25, two cherry and three apple trees and one strawberry plant. Some others spent more and had nothing to show. One could easily match these experiences in Manitoba and the Northwest. The exhibits gotten together by the Horticultural Society in Winnipeg during the fall is surely an indication of future success for our fruit-growers such as has met those of Colorado. The point to be noted by us in the Canadian West is that what has proved possible in Colorado is to a considerable degree possible for us. For instance, in the matter of small fruits, we can grow them as well as our neighbors of Colorado. The strawberry, raspberry, currant and gooseberry are found wild for a long way north, and so, naturally, do splendidly under cultivation. Plums also are indigenous and there will yet be raised hardy varieties quite valuable for market. As for apples, their success under proper conditions has now been proved. Peaches, pears, etc., we may not, perhaps, have success with; but with the rest I am fully persuaded the West will yet make a brave showing. Thus the resources of the West will be still further increased, and a new industry added to the list. With the development of the West and the corresponding growth of Winnipeg and other places, large and small markets will be opened for any quantity of fruit.

It would seem to be the wisdom of those in authority, upon whom has fallen the duty of assisting the development of our new country, to make an early beginning in the direction of fruit-raising. Investigation will certainly prove that much can be done in this direction, and most valuable lessons may be learnt, and thus time and money saved by a careful study of the conditions under which the industry has been developed in regions so nearly alike as those of Colorado and Wyoming and Northwestern Canada. W. A. B.

Territorial Institute Meetings.

BROADVIEW TO BALGONIE.

The section of Territorial Institute workers on the main line of C. P. R. from Broadview to Balgonie and the country north, commenced their work at Wolseley on the 24th of February. Two of the speakers, C. W. Peterson, Deputy-Commissioner of Agriculture, and Geo. Harcourt, Winnipeg, being unable to be present at the first meetings, Mr. M. Snow, of Wolseley, took Mr. Peterson's place to explain the Hail Insurance Ordinance, which comes in force this year. The working of this ordinance is very simple, and a maximum insurance of \$4 per acre guaranteed by the Government, at a cost of 10 cents per acre, or, if the losses are very large, an extra call can be made, not to exceed a further 10 cents per acre. Mr. Snow gave a very clear explanation of the ordinance, and by a comparison with the working of the Manitoba Mutual Hail Insurance Company showed how unlikely it was that the extra call would be made. Geo. Lang, Indian Head, took up the Forestry Branch of the Department of the Interior's scheme of co-operative tree-planting and explained it, and had specimens of the trees best suited to the districts visited, the preparation of the soil, planting, and cultivation after planting, also some suggestions on the line of improving and protecting the existing natural timber.

There was a fair meeting at Wolseley, but the grain blockade was partially raised the day of the meeting and farmers were too busy getting out wheat to think of anything else. Three cars a day were being loaded at the loading platform there, and the wheat once on the cars was sold at an advance of 8 cents over what buyers were paying. There are about 125 granaries put up by farmers in the town and all were full, and every warehouse is also full; in fact, bags of wheat are piled up all over. From Wolseley to Ellsboro the road runs through a fine grain-growing district; from Ellsboro to Pheasant Forks (35 miles), for the first ten miles from the Valley the land is of the very best and a large quantity of grain is grown; then you get into a more bluff country, where is located a large German settlement showing every indication of prosperity. Their houses and outbuildings, while inexpensive, are comfortable and tidy, with good supply of feed for stock and all the stock were looking well. One thing I noticed was that every farm had a shelter of some kind for implements, and the implements were in it. Another thing that was very noticeable, the Germans must be strict observers of the game laws, for the prairie chickens were in large flocks right in the farmyards and very tame.

There was a very good meeting at the Forks. This district is more suited to growing oats, and large crops are grown here. From Pheasant Forks to Abernethy, about 16 miles, the first part is a little rolling and only sparsely settled, although fine land; then you get into one of the most prosperous districts in the Northwest, Abernethy and Kenlis. Here the evidence of prosperity is very plain, splendid houses and barns of the most substantial kind, the number of straw-stacks and granaries showing that despite their 20- and 25-mile haul to market, and through the Qu'Appelle Valley at that, the indomitable pluck of these pioneers is securing its reward. They now see relief in the near future, as it is almost certain the C. P. R. will run a railway in there next summer. Here Mr. Motherwell shows an object lesson on systematic tree-planting worth a dozen lectures. In front of his buildings there was a large shallow slough that used to dry out early in the season. A large basin ten feet deep was scraped out of the center of this and a wide belt of willow, maple and poplar planted 'round it. At one side a garden plot of over an acre was laid out, and wind-break of poplar, maple, saskatoon and cottonwood planted 'round it. Inside the wind-break a deep trench was dug, connecting with the pond, which keeps the garden always moist. At one side of the pond a well was dug, which gives all the water required for the stock the whole season, which is all due to the large quantity of snow collected by the trees in winter. All 'round the other sides of his buildings were planted thousands of young maple and cottonwood last summer, and in very few years he will have a most beautiful and sheltered place. From here to Kenlis every acre of land is in the highest state of cultivation, and the crops are always above the average. At Kenlis there was a concert and ball held and we had no meeting. Three miles from this you come to the Qu'Appelle Valley; the distance across it is about two miles, then eleven miles to Indian Head, with its elevations all full and nearly two hundred thousand bushels of wheat in small granaries built by the farmers all 'round the town. Here the party was joined by Mr. Geo. Harcourt, who spoke on the subjects of soil cultivation for preservation of moisture and the beef steer from the butcher's standpoint. An evening meeting here brought out about 50 people and a good deal of discussion. Fort Qu'Appelle was the next place, with 37 in attendance, and a drive of 20 miles to Qu'Appelle Station, where the next day the largest meeting of the series was held, there being over 90, with

a good interest in the way they 'round h did crops try. Ma there is the way German Hawkes, Lester K

A writ which has of the "tralizing Center in For the ship main with an the year were emp tence ture for a per month has this graded school with a sch much less punctual, 290, and boys in school would be payers would the expenses But when lowers the estate, the large number been left advantage creased v schools here more read intended often been ing was b

Hackness in St The harn is, perhaps visitors, a fested who Committee spent a do matters in those who now feel t meeting of subsidies t not go by qualified lution is good Har order to exhibit if also try t tions at es Plation for it will be on classte er.



GENERAL ROUND-UP AT THE BIG BOW RIVER, SOUTHERN ALBERTA, JUNE 6th, 1901.

a good percentage of ladies present, and great interest was shown in all the subjects. At Ridgeway there was a good meeting. The country round here is more rolling and bluff, but splendid crops are raised and it is a fine cattle country. Maclean is of much the same character, but there is more timber and more stock is kept. On the way to Balgonie you pass through a thriving German settlement and the large farm of J. B. Hawkes, M. L. A., which was one of the Sir Lester Kay farms.

G. L.

Rural School Centralization.

A writer in the Forum, referring to a subject which has been discussed recently in several issues of the "Farmer's Advocate," cites a case of centralizing rural schools in the township of Buffalo Center in Iowa. The system was changed in 1895. For the year ending September, 1894, the township maintained six district schools for six months, with an average daily attendance of 90; "for the year ending September, 1900, eight teachers were employed nine months; average daily attendance was 290." In 1894 the total expenditure for all school purposes was \$5.03 per pupil per month; in 1900 it was but \$2.31. Not only has this centralization given rural children a graded school in charge of well-qualified teachers, with a school year increased fifty per cent., and at much less cost, but it has made the pupils more punctual, has brought the attendance from 90 to 290, and has had a tendency to hold the larger boys in school. Speaking generally of the benefits of consolidation, the writer says: "Though they would be unwilling to admit it, many rural taxpayers would more readily adopt a plan to lessen the expense of schools than one to improve them. But when the same plan improves the schools, lowers the tax rate, and raises the value of real estate, the taxpayer ought to support it. In a large number of cases, outlying farms that had been left because parents wanted better school advantages, have been re-occupied—at an increased valuation—since the consolidation of schools has been accomplished. Land has sold more readily and at higher prices. Parents who intended to leave the country for the city have often been retained because the city's best blessing was brought within their reach."

The Hackney in Scotland.

Hackney breeding has made considerable progress in Scotland during the past twelve years. The harness department at the principal shows is, perhaps, the most attractive of all to the visitors, and much enthusiasm is always manifested when the driving begins. The Scottish Committee of the Hackney Horse Society has spent a deal of money in bringing this state of matters into being, and it is not surprising that those who have been so long nursing the business now feel that it might walk alone. At a recent meeting of the executive it was decided that the subsidies this year at the principal shows would not go beyond the payment of the expenses of a qualified judge from the South. This resolution is taken not because there are no good Hackney judges in Scotland, but in order to leave each one of them free to exhibit if he is so minded. The committee will also try to give some prizes on certain conditions at county shows. This has been in contemplation for some time, and it is a wise step, as it will bring the objects of the committee to bear on classification at these shows.—(Scottish Farmer.

Yorkton Farmers' Institute.

The Farmers' Institute meeting held at Yorkton, Assa., on March 4th, was well attended. Mr. Bulyea and Mr. Angus McKay were, unfortunately, unable to be present, but their places were filled by efficient speakers.

Mr. Eakens, Speaker of the Legislature, in his remarks briefly mentioned the nature of the Hail Insurance Bill. He stated that the cost of insuring the crop under the Act was ten cents per acre and four dollars per acre the amount of insurance received should the crops be destroyed by hail. One hundred and sixty acres is the limit of crop insurance for each member.

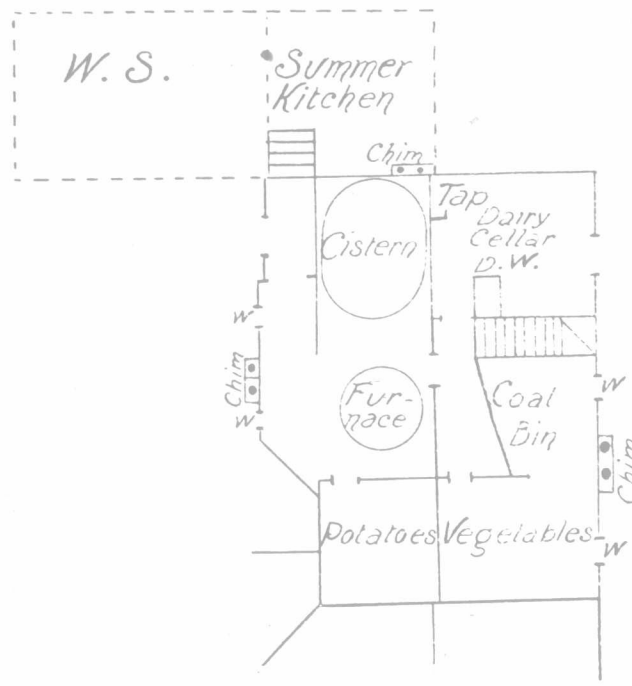
Mr. Brennan, of Blackwood, Assa., was the next speaker. His subject was hogs and hog-feeding. Mr. Brennan said that every man had a fancy regarding the breeds of animals, and his own fancy on hogs was the offspring from the Tamworth sire and the Berkshire dam, his own experience, as well as that of others, having shown that this cross is profitable to the producer as well as to the butcher and the consumer. The pure-bred Berkshire is too fat for the British market. With the exception of the Japanese consumer in British Columbia, heavy pork is now nowhere in demand. He said it was poor policy to keep a hog until he reached two hundred and fifty pounds, as the same price per pound could not be obtained then as when he went only two hundred pounds. Mr. Brennan also stated that far too much unfinished pork is now being marketed. The last twenty or twenty-five pounds is not put on. The producer is the looser thereby. Again, other farmers keep their hogs until they are too thick. The speaker went on to

demonstrate how profitable it was, with wheat and hogs at their present market prices, to convert the wheat into pork. Pigs coming about April 1st, and kept for seven months, can easily be made go 215 pounds. That is on an average one pound per day. Five pounds of well-ground wheat properly fed, he claimed, is more than sufficient to produce one pound of pork. Therefore, the animal during the time specified consumes 1,070 pounds of wheat or about 18 bushels. This, if sold at present market price of wheat, would only realize \$9. On the other hand, the 214 pounds of pork, at 8 cents, will bring \$17.12. Thus, the 18 bushels of wheat, if used in finishing the hogs, can be made realize 95 cents per bushel approximately. Two litters a year, Mr. Brennan said, can be profitably raised from one sow, providing a warm place and plenty of new milk is obtainable for the fall litter. Otherwise, they will become stunted. The young pigs should be taken from the sow when from seven to nine weeks old. Before this, however, there should be an apartment made in the pen where the dam cannot enter, and a little warm sweet milk given to them. Afterwards, skim milk, with a little bran or shorts in it, will answer. Thus the resources of the mother will not be drawn upon too heavily. Upon being questioned, the speaker made a few remarks regarding the feeding of growing pigs. Roots, especially mangels, may be fed with good results. He also approved of the self-feeding system of ground grain, as it prevented the hog from bolting his food. He also recommended giving the hogs access to ashes in which there is a percentage of salt and charcoal. There is no danger, he said, of the hogs using too much of the salt.

Mr. Andrew Graham, of Pomeroy, Manitoba, was the last speaker. In making his opening remarks he said that in his estimation the farmers of Manitoba and the Northwest Territories did not receive nearly the benefit they should receive by way of agricultural knowledge in accordance with the amount of money spent for that purpose. He pointed out that a large sum was annually expended indirectly by the farmers themselves on their own education. Mr. Graham, who, by the way, is a great admirer of the "Advocate," pointed out the necessity of taking a good farm paper. "Go into almost any kind of a business house," he said, "and you will find the Commercial lying on the counter. It is no more essential that the merchant should read a commercial paper than it is for the farmer to read an up-to-date agricultural journal." He also remarked that the farmer, above all men, should be observant, note results from year to year, and govern himself accordingly. The speaker also remarked that too many districts in the West are at present making a mistake by going exclusively into wheat-growing. This will, undoubtedly, through time, wear out the soil. It has happened in Ontario and other places, and will also do so here. Dairying and mixed farming, while not nearly so risky as wheat-growing, is also more profitable, and does not rob the soil of its native productivity. The speaker said that he knew of land in Ontario that by continual grain-growing had been rendered almost worthless, yet by careful



INTERIOR VIEW OF ONE OF THE COMPARTMENTS IN BEE CELLAR—SEE ARTICLE, PAGE 207.



BASEMENT PLAN OF MR. ROME'S HOUSE.

mixed farming during the last number of years this same land has been recuperated and the owners made money off it at the same time.

Mr. Graham spoke for a short time on hogs, taking up some points not touched upon by Mr. Brennan. He told his hearers that it was a mistake to breed the sows too young. In selecting a sow for breeding purposes, other things being equal, always select the heaviest and strongest. The speaker stated that his experience in hog-raising had also taught him to choose for breeding purposes a sow of a contented disposition. The restless, roaming animal never makes a first-class brood sow. On the other hand, the female of a kind, contented nature invariably makes a good mother, produces large litters, is kind to the young ones and is generally a good milker. The speaker dwelt briefly on Shorthorn cattle. Too great care cannot be used in selecting a male to head the herd, the bull being half the herd. Do not think that because an animal is registered he is to be entirely relied upon. There are plenty of registered scrubs. But he said he did not despise breeding by any means. He told his hearers that if they were choosing between two young bulls which to outward appearance seemed equal, but one had a better pedigree than the other, not to hesitate for a moment in choosing the best bred one. In using a bull, himself, the speaker said that he has always found one with a good masculine head to be the most desirable. This led to a discussion between Mr. Graham and a gentleman in the audience, who is now using a bull which has an effeminate head, with good results. Mr. Graham replied that this might do for awhile, but the continued use of a male of this sort would eventually be detrimental to the herd, as the tendency in Shorthorns was to become finer in the bone.

After a short discussion on grasses, the meeting adjourned.

Lansdowne Agricultural Society.

The above Society held a successful session on March 5th, and took part in a live-stock judging institute held by Dr. A. G. Hopkins, associate editor of this paper. Beef types of cattle formed the material for discussion, two pure-bred Shorthorns and a grade cow being used for the purpose. The cattle were good individuals, and were contributed by Messrs. Albert Hood and R. K. Smith. The crowd of farmers was large and interested, and after the judging was through adjourned to Cameron's Hall, where a lively discussion on inbreeding, use of immature sires, contagious abortion and other topics of interest to stock breeders was held. The Oak Lake district contributed the winners of the medal offered for judging of beef types of cattle by the Brandon Fair Board in 1901, and it looks as if the young men will again be heard from in the rings the coming summer. We are advised that there is a strong probability of a great impetus being given to such competitions at the Brandon and Winnipeg fairs of 1902.

How the Americans Encourage Agricultural Education.

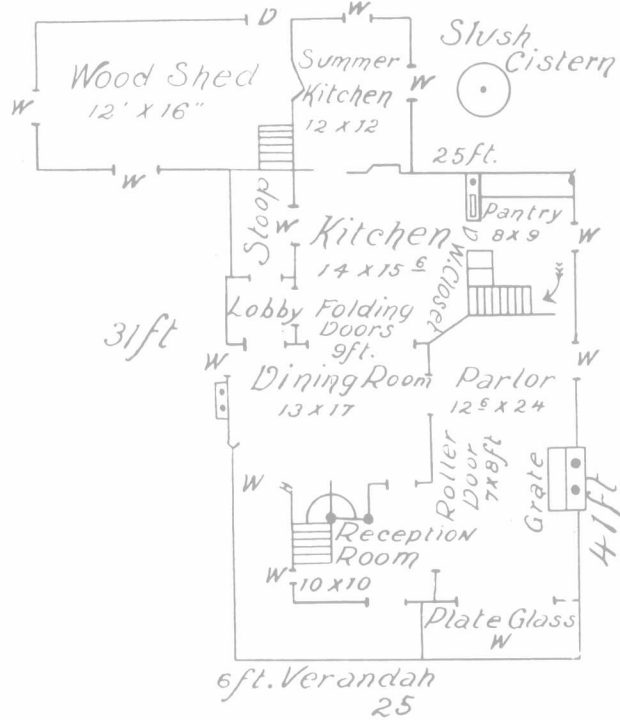
That the value of agricultural education has taken deep root in the minds of the legislators of the leading agricultural States is demonstrated by the fact that Iowa is making an appropriation of \$10,000 a year for five years, to be used for building purposes.

Mrs. Anna M. Archibald, Laconia, Alta., February 24th, 1902. "I received the beautiful bracelet, and am more than pleased with it."

Aunty Betty's New Kirn.

(All rights reserved)

Uncle Sandy has a gran' ferm on the banks o' the big River: Wakapa Dousa, I think the Indians ca' the river, but, ca' it what ye like, it's a great river an' a bonnie ane; an' the bonniest place on a' its banks is Uncle's ferm "Saugh Brae." Everything there, frae the big sleek Clydesdale horses an' the sony kye to the chickens, is gentle an' tame as pussy that disna think it worth while to get oot o' yer road, but rubs roon' yer legs by way o' welcome whenever ye come near. If ye kenned Uncle ye wa'na wonder at this. He is a kindly, cheerie man, an' the blink o' his ee draws a' the bairns about him whenever he comes in sight. Ilka body likes Uncle Sandy, for the douce man wadna hurt the feelin's o' the meanest craitur. He's verra fond o' his joke too, but there was ae thing he didna daur ti joke about when it happent, though he thocht it ane o' the best jokes he ever kenn'd or heard o'. It was this way: His gudewife, Aunty Betty, is verra like Uncle, only a kennin different in temper. She's just as nice an' kindly, but rather easier put about, or nettled, if I maun say it, an' she's verra parteecular about her hoose-keepin: maun hae everything clean and shinin like a new preek. (Just here let me tell ye, forbye, that she fairly doats on Uncle.) Besides bein' noted for haein' the tidiest hoose for miles aroon', her butter is considered the best in the market, an' the customers come tae her, she never has tae rin aefter them. They ca' the butter "gilt edge," whatever that may be, and folks say it is far better than the new-fangled creamery kin'.



GROUND FLOOR PLAN OF MR. ROME'S HOUSE.

Weel, the kye were increasing and sae were the customers for the butter, an' the auld kirn wasna big enuch for the extra wark. Aunty didna ken what tae dae, for she hated changes, and she didna like the thocht o' pairtin' wi' the auld dash kirn that had been hers since Uncle an' her began to keep hoose together. But she didna want to neglect aither her kye or her customers, sae ae day aefter tea she spoke tae Uncle about the matter, an' the upshot was that neist time Uncle gae'd tae market he brocht haem a fine barrel kirn set in a frame wi' rollers and ball bearin's, an' a lever to turn the crank sae that roon' bairled the barrel without the kirners haem to bend their backs till 't. Aunty exenmint it cairfully, shook her head, an' said, "Wae's me, but what irr they comin' to. Hoovever, we'll gae the eerie thing a fair trial an' hope we mayna hae to fa' back on my auld dash kirn yet. There's cream ready for kirnin' and we'll just set about it. That's the only way to fin' oot whether the barrel thing is ony guid or no." Sae aefter cairfu scaldin' o' the kirn, Aunty read over the directions an' seem'd pleased wi' ae pairt o' them, for she said, whatever made the thing had sense enuch ony way to tell ye no to kirn ower quick": an' aefter the cream was in an' the thing workin, a mair pleased look cam ower her face as she said "it turns verra easy, far easier than workin' the dash up an' doon." In about twinty neenits the bit glass in the lid began tae clear off, an' she lifted the lid an' keekit in. When she saw the butter grains inside floatin' she fairly smiled wi' pleesur: an' I tell ye Aunty's smile is sweet to see. Nae winner Uncle fell in love wi' her, but that's another story. The buttermilk was drawn off, the butter washed an' gaethered: an Aunty declared if she didna tak as mony prizes an' red tickets at the fairs as she used to, it wadna be the fault o' the kirn. Then she said tae Uncle, "I'm rael proud o't. I see we only hae tae be cairfu an' follow the directions.

I'll set the auld kirn awa to min' me o' auld times, but I tell ye I mistrusted that lid when the barrel began tae whurl." The rest o' the story, an' that's whar the joke comes in, I got frae Aunty Betty hersel. Ye should hear her tell it: I maun een do the best I can.

Ae day, some weeks aefter the new kirn came haem, an Aunty had got sae proud o't that the auld kirn was quite forgotten, there was little left o' hoose wark, an' everything was even mair tidy an' orderly than usual, if that were possible. Uncle had a lang job about the stable wi harness or something, an Aunty thocht she wad just wile awa the time kirnin. Sae the kirn was brocht oot an' the cream strained intil't, than everything was clear'd awa for the buttermakin. The kirn this time was near the middle o' the braw kitchen, an' Aunty was a' her lane. When she cam back frae puttin' awa the cream crocks she took hand o' the lever as usual an' began to kirn, as she thocht, whan roond gae'd the barrel, awa flew the lid, an' the rich yellow cream was nearly a' ower the floor an' splashin' agen the wa afore ye could hae clapped yer han's. She had forgotten to fasten doon the lid.

"I just stood an' gaipit," said Aunty, "wunnerin what tae dae, whan I saw the auld Tammas Cat quaitly lickin' at the cream, an' I fairly lost my head. I gae'd a yell at the cat, an' as I made a dash at him in my fury I slippit an' fell—just sat doon in the deepest o't—an if I hadna lost a my senses afore, I lost them than, an' was a perfid madwoman for the time bein'. The cat, wi' its tail in the air, cleart oot o' the hoose to save its life, an' I deliberately pu'ed the plug oot o' the kirn an' loot the rest o' the cream rin to the floor tae join the flood that was there already. Sume aefter that the gudeman was comin in, an' had scarcely got to the outside door, but had just said 'Dear' (for, mind ye, laddie, yer Uncle aye ca's me 'Dear' whan he thinks there's naebody else aroond tae hear 'im). I yell't at him, 'Gae wa oot o' this, dinna show yer face here,' and he clear'd as the cat had done. Eh! My! but I maun hae been in an awfu' temper! Yer Uncle didna show his face again for an hour an' mair. By that time I had things rid up again, an' began to be ashamed o' mysel. He said something relleekin on the kirn, the kirn's a' richt. Blame yer old fule o' a wife for no faestenin' doon the lid, but I se warrant she'll no forget it again." Aunty haes na forgotten it again, an' mair even better butter than she ever did afore. Uncle disna ken whether he wad hae likit to hae been there or no, whan the cream was on the floor.

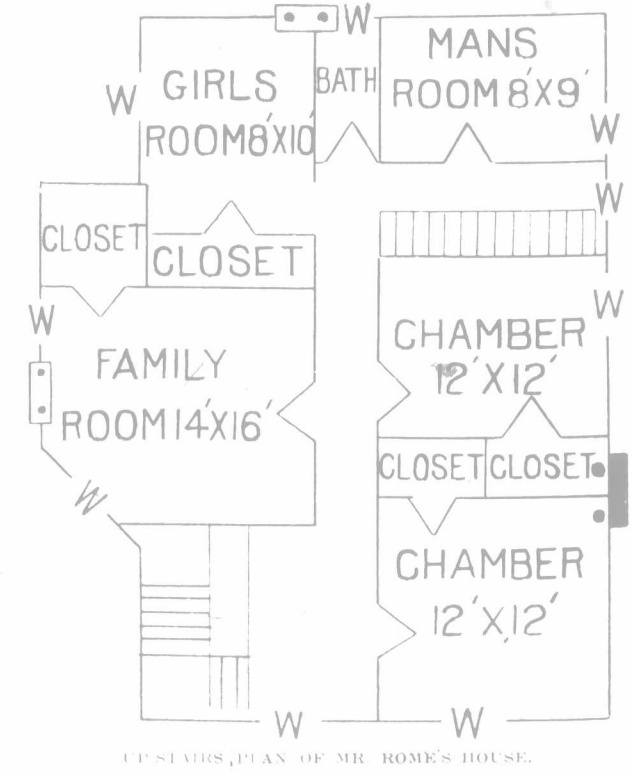
N. W. T.

T. B. C.

The Forestry Department.

ALL APPLICATIONS FOR TREES TO BE IN EARLY.

The Forestry Branch of the Department of the Interior, of which Mr. E. Stewart is Superintendent, is prepared to give assistance to any farmer desirous of planting trees. The Department furnishes the expert advice as to the proper laying out of the plantation, etc., as well as the tree cuttings and seeds for a given quantity of land, the farmer undertaking to properly prepare the ground, plant the cuttings, or seeds, as the case may be, and give sufficient after-cultivation to ensure the keeping down of weeds and grass, and the growth of trees. Last year applications were received throughout the summer, but this season, owing to the rapidly increased demands for supplies, all applications for planting in 1903 must be in before May 1st, 1902. The application may be addressed to the Superintendent at Ottawa, or to Norman Ross, Assistant Superintendent of Forestry, Indian Head.



UP STAIRS PLAN OF MR. ROME'S HOUSE.



Photo by Frank Cooper, London.

THE LATE THOMAS A. BROWNE.

For years secretary of the Western Fair, London, Ontario.

A Well-Planned Farmhouse.

I enclose diagrams of the different flats of my house, with measurements roughly given. It is designed from the plan of Mr. Justin's farmhouse as published in the "Advocate" in December, 1899, with some important changes, among which are the folding doors between dining-room and kitchen, doing away with the back stair landing in the man's room, by having a hallway, enlarging the parlor, putting in large plate glass in front, and extending the veranda across the front of the house. The basement, too, is much more convenient by not having the stairway enter the dairy cellar, and by having the furnace almost in the center of the cellar makes it easier to heat the house throughout. We have transoms over all the doors, both up and down stairs, which adds greatly to the appearance, as well as furnishing ventilation. The transom over the door of the summer kitchen affords plenty of light to strain milk, etc., and over the lobby door plenty of light to hang up clothes when you come in without leaving a door open or without taking in a lamp. We have above the bathroom a seven-barrel cistern supplied from eavestrough. Any overflowing is carried into main cistern in the cellar; the waste water from bath is carried down under the foundation into a slush well outside, which can be pumped out in an hour. The waste water from the cistern pump runs from sink into pipe from bath. The bathroom is fitted up into a closet-cremator odorless stove, and after it has been used by family for about two weeks, we burn out with a few shavings and chips. After it has been burned out there is about two quarts of ashes; the urine is carried to a pail on the outside of stove, which is emptied regularly. I think this closet could be improved by having the urine pipe lined with enamel, to prevent rusting, and should be half inch larger.

The pantry is fitted with cupboards, with doors top and bottom, and sufficient drawers for two kinds of sugar, salt, oatmeal, etc. There is a dumb waiter from kitchen and two closets, one for children's wraps and shoes, and the other for school books, etc.

The frame of house is 2x6 studding, boarded on the outside and bricked with the best white-Winnipeg brick one inch from siding, and that inch is well filled in with mortar. On the inside, lathed and plastered on the studs, and then stripped and lathed and plastered with a three-coat finish. The kitchen has 3-ft. wainscotting, finished with British Columbia fir, with maple flooring. The rest of the house is finished throughout with cedar, oiled, except parlor and dining-room, which are grained. The house outside is painted with three coats, the best lead being used. The summer kitchen and woodshed is built of Winnipeg brick also.

The barn is 60x30 feet, and with 9-ft. foundation of concrete, with 7-ft. posts. There is a 14-ft. shed on north and south ends; the one on the north is used for chaff house, with root cellar underneath; the one to the south is a buggy house and workshop.

The granary is 20x30, one and one-half stories high, with capacity for 5,000 bushels of wheat. The lower story is used for oats and barley, and on the roof of granary is an implement shed 20x

36 ft., with shanty roof, 9.6 side; sixteen feet front, which holds all machinery and implements.

The piggery and henery, which is not shown in photograph, is built of concrete, one and one-half stories high, divided into four pens, with passage in the center and plenty feed room above.

The following is an exact statement of cost of materials used in the house, and the labor:

Lumber	\$1450.00
27 M. brick, Winnipeg white	254.00
Hardware	125.00
Eavestrough and deck	69.00
65-barrel cistern	40.00
8-barrel cistern in bathroom	15.00
Galvanized iron	40.00
Lime	100.00
Plate glass and 6 leaded lights	65.00
Extra glass	20.00
Mantel and grate in parlor	125.00
Extra material	80.00
Cresting on deck	30.00
Cement and plaster of Paris	45.00
Carpenter's work	365.00
Brickwork	175.00
Stonework	135.00
Plastering	125.00
Lathing	40.00
Painting	220.00
Odorless cremator closet stove	30.00
Furnace	235.00
	\$3871.00
Board of men at \$3.50 per week	271.00
	\$4142.00

I have not allowed for excavating or drawing the material, as this was done in connection with our farm work, without any extra outlay.
Oakland Municipality, Man. A. E. ROME.

An Amendment to Threshers' Lien Act.

The clause below constitutes the amendment passed during the last session of the House:

"Every person owning or operating a threshing machine in this Province shall furnish to each of his workmen or employees, immediately on his entering upon the employment, a copy of said Act and all amendments thereof, furnished by the King's printer, and every such person who shall fail so to deliver such copy to any such workmen or employee shall be liable on summary conviction thereof before a justice of the peace to a penalty of \$5 for every day during which any such employee works at such threshing without having received such copy, and costs of prosecution, and he shall also be liable in default of payment of any such penalty to imprisonment for a term not exceeding one month."

A Significant Move.

The following quotation is from the report of the meeting of the Moosomin Agricultural Society:

"There will be more and better prizes for beef breeds of cattle, while dairy are almost entirely dropped."

W. J. Higgins, Hartney, Man., Feb. 6th, 1902:
"The Christmas number of the 'Advocate' is worth the subscription alone. In fact, all the numbers are first-class, and no farmer should be without the 'Advocate.'"

Changing Seed Wheat.

That the changing of seed wheat is a foolish custom (when the change is simply for change sake and not an attempt to secure a better-bred strain) seems clearly proven by a number of trials by experiment stations, says Prof. J. H. Shepherd in the Sanitary Home.

The most convincing and thorough trial made upon the point is that of the North Dakota Station, as in the trials made by it the seed came originally from the same bag. It had simply had a vacation period at the Minnesota Station, where the conditions, so far as handling was concerned, were practically the same.

The following statement from Bulletin 39, of the North Dakota Station, seems conclusive: "In every case except one, a change of seed has given a diminished yield of from one to eight bushels per acre. This decrease is very marked in both the first and second crops grown from the new seed. The average decrease in yield for the two years in the four cases given varies from one to five bushels per acre. * * *

	Bus. per acre.
Average yield of wheat from seed home-grown continuously	22.67
Average yield of wheat from seed which had taken a vacation in Minnesota, first and second crops	18.55
Difference in favor of old seed	4.12
Average yield of wheat from Minnesota seed grown in North Dakota one year	21.88
Average yield of wheat from Minnesota seed direct from Minnesota	20.64
Difference in favor of older seed	1.24

* * * There appears to be no marked difference in the grade or weight per bushel. * * * In the spring of 1898, according to a local paper, one elevator company in the city of Fargo shipped in 1,000 bushels of wheat from Minnesota, to exchange and sell at a high price to the farmers of North Dakota."

The risk of getting mixed seed or grain of poor yielding or milling value should alone cause the wheat-grower to hesitate to exchange seed, but the securing of poorer-yielding seed by reason of the change leaves only loss and risk as a result of the practice.

In Favor of the Small Farmer.

One of the sources of irritation to some ranchers is the incoming of the small farmer. How to deal with the newcomer has been a cause of worry to the individual rancher and a bone of controversy in many an organization made up of ranchers. The Denver Record-Stockman states that President Roosevelt, speaking to W. L. Grubb, President of the Colorado Cattle and Horse Growers' Association, of the range-leasing bills now before Congress, stated most emphatically that any measure that did not make ample provisions for the herds of small farmers would never receive his approval. Mr. Grubb talked with a number of members of both Houses, and is confident that none of the leasing bills will be passed during the present session of Congress.



MR. A. E. ROME'S FARMHOUSE, OAKLAND MUNICIPALITY, MANITOBA.



OCTAGON BARN.

On the farm of Mr. John Logan, Murchison, Manitoba.

Kindness versus Cruelty to Animals.

In this age, happily, cruelty to dumb animals is vastly less common than was the case half a century ago, though there is yet room for much improvement in some lines in this connection. Clara Morris, in the March number of McClure's Magazine, gives a vivid sketch of the life-history of Henry Bergh, of New York, the originator of the Society for the Prevention of Cruelty to Animals in America, and who was made the butt of much ridicule, abuse and persecution in the early days of his campaign in contending for the rights of the lower animals, in which purpose he persevered with zeal, tempered with wisdom, until the righteousness of his cause was recognized and the best of the community came to his assistance and he was finally clothed with the power and invested with the badge of an officer of the law. Among many interesting incidents in connection with the prosecution of his work, cited by the writer of the article referred to, is the following, which will appeal to the sympathy of all who understand the nature of the case:

It was in a certain incident occurring on Fourth Avenue and Twenty-second Street one morning that Mr. Bergh's conduct was the most like the conduct of the gentle and dignified Don from la Mancha, whom he so resembled in face and figure. Gloved, caned, perfectly gotten up, with flowering button-hole and all, he was walking briskly to his office, when from behind him he heard such frantic mooring from a cow as told plainly of suffering and wild excitement, and now and then the weaker sound of the half bleat, half bawl of a very young calf.

He stopped, faced about, and saw a thick-set, sturdy man who, with the aid of a rope, resounding blows, and many oaths, dragged a struggling, protesting cow down the avenue, while, hunger-crazed and thirsty, a weak-kneed little calf stumbled along trying to keep up with the frantic mother. Nor was the cow's misery merely maternal excitement—she was suffering cruelly. She was fevered, overweighted, her udder so swollen, so distended that the milk dripped and trickled to the pavement as she moved, a condition, according to those who understand cattle, of excruciating pain. Hence Mr. Bergh to the rescue.

He halted the man and asked "Why he did not allow the cow relief?"

The man glowered stupidly, then sullenly repeated, "Relafe? Relafe? Relafe from what? I've driv' no finer cow thin that these five year!"

"You know she suffers," went on Mr. Bergh, "and so does that calf—it's weak with hunger."

The sulky drover was all the time keeping the small creature away from the tempting milk. "Hungry, is it?" he grunted. "Well, what of it? Sure, it's nothin' but a calf—it's no good!"

"Well, the cow's some good, isn't she?" went on the interfering gentleman. "Why don't you ease her pain? Just look at those dripping udders. It's shameful. Let the calf go to her!"

But fairly dancing with rage the man refused, crying out that that condition would bring him a better bargain in selling the animal. Then Mr. Bergh declared officially, "This calf is going to—"

Perhaps he did not know the technical term, or perhaps its sound was offensive—at all events, what he said was, "This calf is going to breakfast right here and now! Tie the cow to this hydrant! You won't? Do you wish, then, to be arrested?" and he showed his badge, and taking at the same moment the rope from the ugly, but now stupefied man, he himself led the cow to the corner and tied her with his own neatly-gloved hands; and as the frantic moos had brought the neighbors to their windows, there were many laughing lookers-on at the unusual picture of an elegant and stately gentleman standing guard over a red cow with brass buttons on her horns, while her spotted baby calf began the milk-storage business with suck reckless haste that the white fluid drizzled from either side of its soft, pink mouth, and the mother meantime, not to waste the blessed opportunity, hastily but tenderly made its toilet. And though to the human eye she licked the hairs mostly the

wrong way, the two most interested seemed to be satisfied with the result.

And there the tall man stood in patient, dignified waiting, while the enraged owner, with a few sympathizing male and female compatriots, made the air blue about them—stood, until at last baby-bossy let go and faced about, when two long, contented sighs, and the calmed glances of two pairs of big soft eyes told their protector his work was done and to their complete satisfaction. Then he loosed the rope, gave it into the owner's hand, and having in a public avenue superintended a young calf's breakfast and toilet, he calmly resumed his way, and all unrumpled entered his office, the whole thing being like a page torn from Don Quixote.

Rural Education in the Northwest.

This is a subject which has engaged the attention of some of our best-informed men, but which is still looked upon as more a matter of theory instead of practical illustration.

We have our system of education—our well grounded and laid-out programme of studies—our country schools with their finishing "public-school leaving examination," and our town high schools with their efficient staff of teachers. So far, so good; and these are a great improvement on no schools at all, and, of course, no educational system. But the question arises, "Are we keeping pace in our educational work with the country in other lines?"

We are a progressive people of almost all nationalities. Every one, from the would-be aristocrat of the "Lordly Isles" to the Gallician and Doukhobor, aims to be the most forward in his business, to have the latest improved machinery, the best breeds of horses, cattle and swine, and the best and largest stables for their stock, and, of late years, even the best houses for their families; this latter acquisition, by the bye, being usually the last consideration.

Meanwhile the children are growing up—oh, how fast!—and the country schools are no nearer together than they were 10 years ago. The "wee" girls and boys of five years old were too small to walk the lonely two to four miles across the prairies. First of all, the early spring was cold and the prairie trails over and around sloughs not safe for the little ones; then came the terror of mosquitoes, and, later, the cold mornings in the fall and dread of an early blizzard. So year after year passed, and Willie and Susie stayed with mother at home, learning to save many steps and becoming very useful little bodies, happy and contented in their ignorance of books and all worry connected with their learning. At about ten years of age they are able for the walk, or perhaps they have a pony, which most of prairie-raised youngsters take to as naturally as ducks take to water.

Now they will go to school. Once there, the first thing they discover is that "they are not in it" with the newly-imported girl and boy from some old-peopled land. Then they find it very irksome to sit in a schoolroom all day, when they know all the freedom of outdoor life there is around them; and it is too hard to be expected to fix attention on such uninteresting things as books, slates and blackboards. However, by dint of unlimited patience on the teacher's part, and just as much, though generally unappreciated, patience and perseverance on the part of the boy and girl, the first rubicon is crossed and they are fairly launched on the sea of learning; really beginning to feel somewhat enthusiastic over their newly-acquired knowledge. We have got them as far as the beginning of July (vacation time) without any interruptions to speak of; only an occasional day off on account of toothache or bad weather. Well, they did stay home the best part of one week to pick strawberries, but what did that matter?

Vacation over at last, but how short! Only two weeks, and now he is obliged to be shut in again just when the saskatoons are so delicious and mother wants them so much! It is really out of the question. They must go to the valley and get some, and then the discovery is made that there will be lots of other fruits, perhaps raspberries or cranberries, and certainly currants, cherries and haws, and (in whispers) lots and lots of hazelnuts! What is the use! Mother cannot be so hard-hearted as to send them from all this fascinating and useful outdoor industry to that poor little schoolroom, even if the teacher does take pains to walk all the miles from her boarding place to see why Bessie and Willie are not there. Why, when the berries are done, it is about time to pick the potatoes which father has plowed out, and they must not be touched by the early frost. After this is over there is perhaps a whole month of school again. The children once more are interested and catch up to their first stopping place when winter sets in, and no more school till next April.

This goes on, it may be, three seasons. If the children are unusually clever and they have a look at their books now and then during winter, they will get into the third standard. Half a dozen in the average school will advance in as many years as far as to write for the public leaving

exam. The others, both boys and girls, are found to be of so much use at home that they are kept there.

I am writing now of the common state of things; of the rule, not the exceptions. We have had schools in the country now from fifteen years ago, more or less, and it is a matter of regret that among the farming communities it is the usual thing to find young men and women who have been brought up entirely in this Northwest unable to write a good business or friendship letter, and utterly unable to understand references to anything of a scientific or literary character.

These young people are clever and intelligent, wear good clothes, know the latest styles of hair-dressing, and plenty of small talk; will perhaps make good housekeepers and farmers, as far as manual labor extends, but I ask what improvement will they be as heads of families upon their ancestors of three generations back of themselves. Instead of improving and keeping pace with the world of knowledge, they are retrograding, and from no fault of their own.

We should have some system formulated whereby the schools will be accessible to children from five years upwards, and for all the year round, giving them the usual summer holidays, when the heat is almost unbearable in a schoolroom, all unsheltered as these are on the prairies from the blazing sun and the hot winds. Cannot some of our educationists give immediate and feasible suggestions along this line, then act upon them without longer delay, and give the boys and girls of our broad, live country a fair chance?

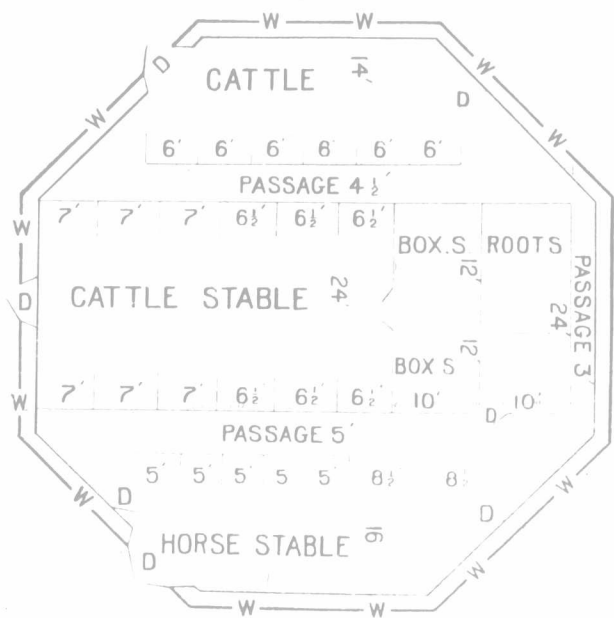
RESIDENT.

Have Horses' Mouths Examined at Regular Intervals.

To the ordinary person, it probably has not yet occurred that horses need an examination of their teeth at certain intervals.

Many a time has the horse-owner noticed the presence of unmasticated grain in the dung, and probably has dismissed the affair with the statement that the horse bolts his food, and to remedy the matter mixes bran with the grain, a very useful adjunct, or else gets a few pebbles and puts into the feed box. The trouble is not remedied, however.

If the teeth are examined they will be found to have one of the following irregularities: long points of the outer edge of the upper row of grinders, or on the inner edge of the lower row, a hollow, decaying grinder or a broken one, or one longer than its fellows. A horse with the above irregularities will pass his grain feed through him unchewed, will fall away in condition, will drop quids of hay out of his mouth, or let water fall out when drinking, and if a road horse, may turn out a side puller or go up on the bit in a bad manner. With any of the above troubles the veterinarian is needed, and needed badly, so that food may be saved, the animal's strength and health be improved and bad driving habits avoided. In this connection we do not advise any farmer to undertake the filing of his horse's teeth. Such work requires the services of a man who knows more than the mere fact that the teeth need filing (floating, as it is termed in the profession). Probably one of the worst fakers now extant is the travelling so-called horse dentist, who, in nine cases out of ten, leaves the mouths in rather worse shape than they were previously. The horse-owner's responsibility in the matter ends when, on recognizing the symptoms already mentioned, he takes the suffering brute to the qualified veterinarian. The wise horse-owner will contract with his veterinarian to keep his horse's teeth in shape by the year, and thus provide for at least a yearly examination. Such an examination is a money-making procedure for the man who keeps horses for either work or pleasure. It is important that the teeth of farm horses be examined, and, if necessary, be treated before spring work begins.



BASEMENT PLAN OF MR. JOHN LOGAN'S OCTAGON BARN.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free. 2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest, or which appear to be asked out of mere curiosity.

Veterinary.

MELANOTIC TUMORS.

Wish to ask your advice re two heifers, each two years old, and in calf. They have what appears to be a wart or growth on the vulva, about the circumference of the top of the finger, and appears to be about one inch in length.

Ans.—From the symptoms submitted, these growths are of a warty nature, and may be what are known as melanotic tumors. Nothing can be gained by using caustics or other irritants; the best method would be to have a surgeon remove them.

CAPPED HOCKS—TONGUE-LOLLER.

About a month ago a two-year-old colt hurt the caps of its hocks. They are swollen, but she is not lame. What will make a horse keep his tongue in his mouth while driving?

Ans.—If the swellings mentioned contain any considerable quantities of fluid, an operation by a veterinarian will be necessary. If little or no fluid be present, blister the parts once every month in the ordinary way until they regain their normal size.

COLT WITH ENLARGED HOCK.

A yearling colt got kicked on the hock six weeks ago. Our veterinarian gave a bottle of dressing and said it would heal, but a permanent blemish would remain. The wound is healed, but a swelling remains. It is not lame, but rather stiff.

Ans.—It is probable your veterinarian was quite right in saying there would be a permanent blemish. Enlargements of this nature are very hard to reduce. You may get benefit by using the following: Iodine crystals, 4 drs.; iodide of potassium, 2 drs.; glycerine, 4 ozs.; alcohol, 4 ozs.

A SUSPICIOUS CASE.

I have a nine-year-old mare with a sore in left nostril about the size of a twenty-five cent piece. It is about one inch in from lower edge, and has been there for about seven months, and is getting bigger. Kindly tell me, in your next issue, how to heal sore?

Ans.—We wish our correspondent had told us whether there was any discharge from nostril, and in the meantime would recommend taking the animal to a veterinarian for examination. One of the symptoms of glanders is an ulcerated condition of the nostril lining, and although we do not diagnose the case as such, would advise the careful examination. In the meantime, apply, with a small swab, a saturated solution of boracic acid daily, alternated with a saturated solution of alum.

GROWTH ON MARE'S LEG.

A two-year old mare had a raw spot about the size of a five-cent piece on one of her hind legs, just where the tongue or tug would rub her. She has been idle all winter. The raw surface has been gradually increasing in size and is now about as large as a silver dollar.

Ans.—The growth is an epithelial tumor. Apply a little butter of antimony once daily with a feather. When it is reduced to the level of the skin and all diseased tissue has disappeared, dress three times daily with carbolic acid 1 part, sweet oil 60 parts.

IRREGULAR STRANGLES.

I had a year-old colt, which took strangles about 12th of January. He gathered under the jaws, which I poulticed and afterwards lanced. It soon healed up and he regained his appetite, but did not recover his spirits. About 12th of February his appetite again failed and on 17th he refused to eat. I gave him a dose of physic.

Ans.—1. The abscess was the result of strangles. This disease is of two forms: 1st, regular strangles; 2nd, irregular strangles.

2. In irregular strangles an abscess or abscesses may form in any part, and if they involve an important internal organ, death will be the result.

3. Treatment for strangles consists in good care, steaming the nostrils, poulticing or blistering abscesses that are forming and opening when pus has formed. Antiseptics, as hyposulphite of soda, in 2- or 3-dram doses, should be given three times daily, and, of course, all complications must be treated according to symptoms.

CHRONIC LAMINITIS IN MARE.

I bought a nice year-old mare about two years ago. She went tender in off fore foot. My veterinarian said she was a short stepper, but an examination revealed a corn, which has since disappeared. She is still lame, the leg does not swell; the hoof is dry and hard.

Ans.—Your mare has chronic laminitis (founder) and a cure cannot be effected.

Kindly tell me what is the best treatment for "swamp fever," or "malarial," as it is sometimes called? I have lost three horses from it. First one sickened and died in about three weeks. Other sickened soon after, and recovered, apparently, but seemed to get sick again very soon, from which he never recovered, but lingered on for three months.

MAMMITS IN COW.

I have a Jersey heifer, two years old last February, came in about a week before she was two years old, milked splendidly. Early in June she came from pasture with the left forward quarter of her udder badly caked clear down into teat.

A NUMBER OF LEGAL QUERIES.

1. Who has to cut and clear off timber on the section road allowances in a well-timbered settlement settled mostly by homesteaders, and to whom belongs the timber?

2. What is the law in Manitoba about drainage of low hay lands on homestead lands?

3. Has the Dominion Lands Office to send a surveyor on application, and free of charge, to put up section posts, as well as quarter-section posts, on a homesteader's claim when such posts and mounts can not be found nor the lines traced?

4. There was notice given in the Gazette, Ottawa, October 25, 1901, that an application will be made next session for an act to incorporate the Manitoba & Keewatin Railway Co. to build and operate a railway commencing at a point in or adjacent to the City of Winnipeg or near East Selkirk, thence north-easterly through the Province of Manitoba to the eastern boundary, thence easterly through the district of Keewatin to the tide water, touching the same at the mouth of the Severn River, or south-easterly therefrom, etc., etc.

DISLOCATION OF THE PATELLA.

Last August I bought a four-year-old mare, apparently sound. No one has noticed anything wrong. The seller told me that she stood in hind legs; this continued until the weather got cold, and then disappeared. I noticed from the first that when moving in the stall in the morning her hind ankles would crack, and she also had difficulty in lifting her feet off the floor.

Ans.—The cracking sound mentioned is not in the ankle, but in the stifle joint. If, when she has this trouble, you place your hand upon the stifle of the affected leg and force her to move, you will feel the bone slip into its place and hear the click at the same time.

Ans.—A portion of my land is badly infested with wild artichokes. This plant is increasing with me, and completely chokes out the wheat. Can you suggest a plan for its eradication?

Miscellaneous.

TO ERADICATE WILD ARTICHOKE.

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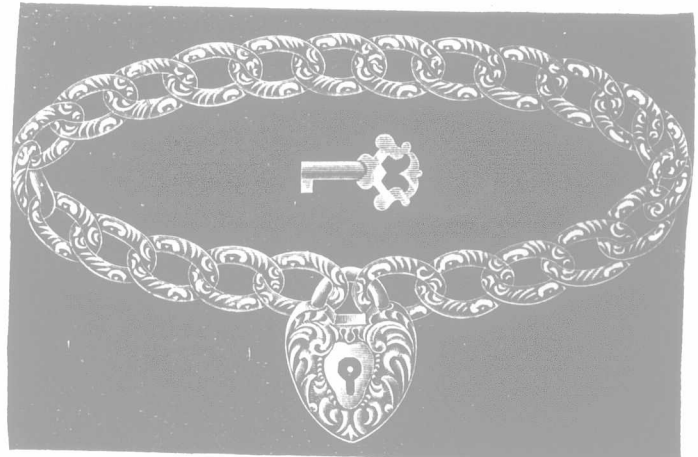
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"We rise by the things that are under our feet,
By what we have mastered of good and of gain,
By the pride deposed and the passions slain,
And the vanquished ills that we hourly meet."

On Some Practical Topics.

NO. III.

THE PARENTS' OPPORTUNITY.

Whilst truly thankful to know that fairer and more enlightened methods are in process of completion, consequent upon a clearer and wider understanding of the true significance of education, not only to the individual but as a factor in our national prosperity, we recognize that the awakening should not be all on one side. No education can be perfect which begins and ends at school, and no parents can claim exemption from the duty nature has assigned them, simply because the State has stepped in and, with wisdom and forethought, is preparing to make ample provision for the fullest development of the capacities of their children. In this onward march, home and school must go hand-in-hand. The need of home influence and home training is felt by all workers, whether for the reformation of morals, the repression of existing evils, or for the furtherance of all efforts for good. "It lies at the very root of national life, for out of families, nations are spun," whilst outside efforts, if unaided and unsupported by the home-rulers, whose influence should always be on the side of good, become paralyzed and checkmated. The standard of excellence, mental, moral and spiritual, which both school and home should set before the sons and daughters of our nation cannot well be too high, and this standard is more likely to be reached if co-operation between parents and teachers be assured. It is to the former we look first of all for the firm foundation, without which the structure of the future may be but as a house of cards. There must be careful training of the sapling if the sturdy oak is to become its crowning glory.

The destinies of a country are very largely in the hands of the fathers and mothers of that country. If they are as loyal and patriotic as they ought to be, they would think no effort, no self-sacrifice, too large a price to pay for the uplifting of its home life, which is the channel through which the national life can rise to higher levels. So let them dig the foundation wide and deep upon which others may build by and bye, not forgetting that to precept should be added example, for, after all, "it is what we are, rather than what we say, which influences our children. A lax Eli will not be likely to train up devout sons." Personal influence is a responsibility which cannot be overlooked or ignored, for it tends to good or to evil, to progress or to down-grade, within the walls of school or home alike. The teacher plays too great a part in the lives of those entrusted to her care for her to think lightly of her holy office, and to the influence of the mother, where is there any limit? Her little ones receive from her their very first impressions, their first ideas, their first habits. She stamps "herself" upon her children, therefore she should not be without some knowledge of the principles of education, as apart from instruction, nor be without a keen sense of the God-given honor of having entrusted to her the early training of human souls. The mother's influence has been called "a great reserve force," and it is one upon which many calls are made throughout the whole life of her child, but never more so than during school life. There are some parents who consider that if they feed and clothe their families, give them a home to live in, and send them off daily to the district school, they have done all that should be required of them, not recognizing how helpful to teacher and taught alike would be the mother's ready entering into the daily records of what has been learnt in the class-room, riveting the lessons upon the impressionable mind by an intelligent and understanding comment upon them. Who can invite a child's confidence so readily as a loving mother, and through its means safeguard that child from much which may influence it wrongly? Let the mother know all about the little playground differences, as well as the schoolroom ambitions; let her know all about her children's friendships, choice of story books, and so help to form tastes which may be of inestimable value and of far-reaching results to themselves and others whom they in turn may influence hereafter. Both parents should study the individuality of their children, for knowing it, they can help the teachers to understand it too, the teachers on their side gladly availing themselves of the kindly hint which may lessen some hitherto unexplained difficulties. There are, we

hope, many homes in our favored land where parents strive to develop all that is best in the nature of each child, realizing that parental authority has the sanction of the Father of all, and is established for the child's own safety; homes where the social and generous virtues are nourished, where joy and sympathy flourish, and where "good manners" are not a mere veneer, but are become a part of the child's habit of life. Children sent out from such homes into the "larger room" of the school are already fortified by noble example, by earnest and tender sympathy, by the loving and close parental watchfulness which can alone foresee the pitfalls into which they may stumble, or the daily recurring temptations which beset even the most guarded school life. And who can estimate the value to the teachers of finding that home influence following their pupils into their new surroundings, pervading with its sanctity every corner of the schoolroom, for "the school is but an extension of the home," the interests and responsibilities of each being so closely linked as to be almost one.

To sum up, then, our plea is that the parents should free themselves from their old-time apathy, their too-ready acceptance of things as they are; that they should recognize the claim of the whole child to specific training according to sex and capacity, instead of its being offered an accumulation of indigestible figures and facts which its nature could not assimilate, and which, therefore,



From the painting in the Diploma Gallery of the Royal Academy. By Hubert von Herkomer, R. A.

"ON STRIKE."

could afford it no mental nourishment. Now that the veil has been lifted and the stage of cavil and demur passed, the hour has come when the fathers and mothers of Canada should put out the glad hand to those who are inaugurating a system which means so much to the future of our country.

H. A. B.

"On Strike."

This picture has been called "a commentary on modern economies," giving the sadder side of one of the many conflicts between capital and labor. The artist shows us the wage-earner, doggedly determined to fight for what he considers "his rights," and in the attitude of the wife, upon whom with her children must fall the heaviest part of the burden, we can read a despairing certainty that no further appeal in words can avail to alter his determination. The very babe in its mother's arms seems to know intuitively that something is amiss, while the child in the background is old enough to realize that a climax of sorrow has been reached. The dramatic aspect of the subject is apparent without any exaggerated appeal to one's sympathies, its chief pathos lying in its truth to nature. The question it enforces is the old, old one, "Can two wrongs ever make a right?"

H. A. B.

Travelling Notes.

I believe I have more than once asserted that I had settled down for a quiet winter with my dear old relative at Tunbridge Wells, and I really have done so, to our mutual satisfaction, with the exception of one or two flights to London on such a special occasion as that of which my last "Notes" told you, or just a visit here and there at the kindly urgings of hospitable relations and friends. "So you call that a quiet winter, do you, Madam Mollie?" say you. My reply is that, considering Mollie's temperament, her inquisitive (or shall I modify it by calling it her enquiring) mind, her many temptations, and the unselfish arrangements made for her by the dear aunt whose home she shared, it has been a fairly quiet winter, after all. Besides, if Mollie never went anywhere, what would she have to tell you about. Now, having made my confession in the third person, I am going back to the more simple and comfortable form of the first person singular. If I do not, I shall get grammatically tangled up, to your confusion and my own.

I have sometimes heard remarks made as to the formality of the English people, their want of cordiality to strangers and so forth; but as far as my experience goes—and this is my third visit to the dear old land—I have never found it so. Never, anywhere, have I received more hearty kindness and hospitality than on this side of the Atlantic. I have been a visitor in many homes, and shall always carry in my heart sweet memories of the hearty welcomes extended to me in all alike. One great pleasure derived from travelling is that it constantly brings you in contact with those who may either know someone you know, even if they are not already personally known to you, or whom you may have met elsewhere in one or other of your meanderings, perhaps thousands of miles away. For instance, when I was in Scotland, last summer, I came across a lady whom I had met at Banff, in the Rocky Mountains, the year before; and one afternoon, when taking a cup of tea at Buzzard's—that king of cake-makers—I espied a lady and gentleman from Tasmania, who were also taking their tea at another of the little marble tables, and with whom I had travelled in the same Pullman car across the Rockies. It was a pleasant surprise to us all, and our meeting was almost that of old friends. Again, one of the most delightful visits in Scotland was the outcome of a good-comradeship established by a month's companionship on board the steamer from Australia. Although by manner, tone, and every mark of culture, I had known that my fellow travellers were unmistakably gentle-people in the truest acceptance of the term, yet I was hardly prepared for what I found awaiting me—the stately magnificence of the country house and its surroundings, and the aristocratic names and titles of my fellow guests. For a few minutes the simple Mollie within me was a little bit staggered, especially when the trim maid asked which dress should she lay out for dinner—and I had only one for evening wear—and that not so new as it once was! Taking my courage in both hands, I dismissed, with thanks, the kindly offer of service, decked myself as best I could, and presented myself, rather nervously, at the drawing-room door. If it had not been for the somewhat absurd notion that I should uplift my Canadian head somewhat more self-assertively than was at all necessary, I should have seen those Japanese curtains, which caught me by the elbow-lace of my sleeve, and that monster tiger's head on the floor, which nearly pitchforked me into the arms of the group in front of it, and thus I might have been spared some mortification, but have perhaps missed a wholesome lesson which will not be lost upon me. I need not say how self-created was my embarrassment, for no eyes could have appeared less observant of my clumsiness, and no hands could have been extended in more cordial greeting than those of my host and hostess. I found Admiral S., who took me in to dinner, a most interesting conversationalist—one who did not absorb all the talk to himself, but led me gently on to tell my own little story, with an air of being duly entertained thereby. The quaint old custom, at bedtime, of handing to each guest her bedroom candlestick, has not died out, and one takes it gravely, after the kind good-night has been said, just as if, in this age of electricity and everything-made-easy, one depended upon it for its original uses. Now, if I had been a stay-at-home Mollie, I should not have the pleasant episode to record, of which, after all, I have not told you the half.

The year of gloom which heralded for the British nation the opening of a new century having passed away, a great change has come over the face of all outward things. Bright colors prevail, and perhaps seem all the brighter from the contrast. There are festivities which mark the new epoch and give new life to trade, and perhaps this latter consideration has not been wholly lost sight of in the arrangements for the various Court ceremonials, more especially for those of the coming coronation, the very smallest details of which will be elaborate and costly.

The King is virtually his own Master of the Ceremonies, and he has a very decided wherefore and why for each order given. One hears everywhere a tone of satisfaction and confidence in the wisdom and good sense of His Majesty, a confidence all the better grounded that in all essentials he carries out much of what he knows to have been the mind of his mother, Queen Victoria of honored memory, in whose footsteps he does not disdain to tread.

I am not going to foreshadow my next comings or goings, but I doubt if I shall date my "Notes" for the next issue from Tunbridge Wells. I shall be sorry to bid farewell to its broad, gorse-covered commons, almost ready to burst into full gold-colored bloom, and its quaint old Pantiles, which always seem to have another and still another old-time incident to tell me. I have had most tempting invitations to France and Hannover, and my aunt and cousins want me to come to Australia to live! Is not that nice? But I am afraid I cannot venture to say, as did the old woman who was struck by lightning, "you see what comes of being so attractive."

MOLLIE.

A writer in the Liverpool Post tells the following story: At one of the railway construction works in Glasgow the other day, a Roman Catholic clergyman, who takes a great interest in the members of his flock engaged at the cutting, saw one of them entering a "pub." He hailed him, but Pat simply looked, and walked in. Waiting till he came out, the reverend gentleman accosted him thus: "Pat, didn't you hear me calling?" "Yes, your reverence, I did, but—I had only the price of one."

THE CHILDREN'S CORNER.

"Twopenny Halfpenny."



I'm a naughty little kitten,
Though I'm almost one year old;
I steal the cream and sugar,
And don't do what I'm told.

My name is Twopenny Halfpenny—
A funny name for a cat;
But I'm worth a golden sovereign—
My mistress told me that.

My fur is black and silky,
My shirt-front always clean;
When there's company to dinner
I'm nearly always seen.

You'd be shocked at my behavior—
I'm in mischief all the day;
I go into other kitchens,
And with other cats I play.

But now it is my bedtime,
And I must stop my chat,
Or I will lose my supper,
And you know I shan't like that.

I'm sorry for my mischief,
And for my wicked ways,
Oh, mistress dear, I do repent,
And will be good these days.

The Legend of St. Christopher.

To-day I am going to tell you the beautiful legend of St. Christopher. The name means "bearer of Christ," and you may have seen a picture of him—a giant, carrying the child Jesus over a rushing stream. The way he is said to have won his name is this:

A giant, called Offero, made up his mind that he would serve the greatest master he could find. Being a heathen, he knew nothing of Christ or Satan, but when he saw the king, his master, cross himself in fear when Satan was named, he said he must go away. "The master I serve must not know what it is to tremble at the name of any foe," said the giant, "so I will leave your service, and journey till I find this stronger king."

So he wandered, seeking Satan, over moun-

tains and deserts. At last he found him, and prostrated himself with his face to the ground, crying out, "I offer my services to you, for you are the mightiest master I know."

Satan accepted him as a servant, very willingly indeed, and they journeyed on together. One day they stopped to rest near a little wayside fountain, with a cross carved above it. It was just a little cross, with a figure hanging on it, but to drink from that fountain even Satan did not dare.

When the giant asked why he trembled before this cross, Satan answered that the Saviour of the world, who died on the cross, was the Lord of earth and heaven, greater than all other kings, with both death and hell beneath Him.

"Then I must leave your service," said the giant, "and seek this great King, who is stronger than you."

So he left Satan, and wandered far and wide, asking where he could find this Saviour who had died on the cross. At last a hermit taught him about the Lord Jesus, and Offero asked how he might serve this new Master. The hermit told him to stay beside a deep, wide river, a river rushing down between rocky precipices. Many people wanted to cross, but were afraid, and he could help them with his mighty strength.

So Offero built a hut of branches close beside the river, and carried many a weak and fainting pilgrim through the stormy water, while all the time he was thinking about that Figure on the Cross.

"Thou art doing well, brave giant; keep thy faith in Him who died"; these words rang always in his ears, so he worked on untiringly, feeling neither pain nor fear.

One night he was sleeping in his hut when he heard a childish voice calling, "Wake, good Offero, please carry me across the stream."

The waves were tossing wildly and the wind was fierce and high, yet he could hear above the roar of winds and waters that childish cry. "I am weary," it kept calling, "come and bear me safely in your strong arms!"

"I am coming," called Offero; "don't be frightened, little one."

Then he took the child in his arms, laid the golden head on his breast, and stepped into the raging water. The waves rolled higher and higher, and the child seemed to grow heavier every moment. Yet the giant struggled on, and with the help of his palm-tree staff safely reached the other side.

Falling on his knee as he looked into the shining face of the Child, he asked wonderingly, "Who art thou?"

Then the child answered: "I am the Master thou hast served so long and faithfully. To-night thou hast borne Me, and I bless thee with My love. Plant thy palm-tree staff here, and it shall burst into new life, the type of thy new birth."

Offero obeyed, and instantly green branches burst forth, covered with clustering dates. Then the stormy wind died into silence and a sweet voice whispered, "He who bore the Christ shall be called Christ Offero." The giant stood by the river, but the little child had vanished.

When the German children, tired of play, ask their mothers for a story, they like nothing better than this legend, told over and over again, of how the giant's name was changed to Christ-offero or Christopher—which means Christ-bearer.

Is not that a beautiful story, children? And you too may bear a burden for Christ, and so deserve the name of Christopher. Any little kindness done for love of Him, any burden carried bravely and cheerfully for His sake, He will gladly accept. We, like the giant, want to serve the greatest master we can find, and there is none greater than our Lord and King.

"I cannot do much," said a little star,
"In making the dark world bright;
My silvery beams cannot struggle far
Through the folding gloom of night;
But still I'm a part of God's great plan,
And I'll cheerfully do the best that I can."

"Oh, what is the use," said a fleecy cloud,
"Of those tiny drops I hold?"
"They will hardly freshen you lily proud,
When caught in her cup of gold;
But still I'm a part of God's great plan,
And I'll cheerfully do the best that I can."

A child went merrily forth to play,
"But a thought, like a silver thread,
As I'm winding in and out all day
About the happy golden head,
"When I'm I'm a part of God's great plan,
I'll try to do the best that I can."

"So she helped a poor neighbor's child along,
Though tired her own small feet;
And she sang from her heart a little song,
Her father thought so sweet!
And he said 'I too am part of God's plan,
And though weary, must do the best that I can.'"

Small Courtesies in Home Life.

[This paper was read by Mrs. Gardner at a recent Institute meeting in North Grey, Ont.]

"A man or woman's good breeding is the best surety against another's bad manners."—Lord Chesterfield.

Temperance in speech is no less a virtue than self-restraint in any other direction. Our conversation bears so important a part in social intercourse, and some attempt is made at it whenever we meet our friends, 'tis strange we are not more proficient in this art. In the home circle, however, too much is often taken for granted, and the graces of true politeness are sometimes entirely dispersed with. The charm of agreeable conversation is appreciated by all, its cultivation is within the reach of everyone, and we may be our own teachers. Nothing so quickly opens hospitable doors or shows a warm welcome. Entertaining conversation does not depend so much upon a well-stored mind, a ready wit or a broad culture, but shows qualities of heart as well as of head, and should reveal sympathy, sincerity and simplicity.

Sympathy and adaptability are in a measure created by a desire to please; but it is not merely from a desire to please in society that good manners should be studied; but from the wish to consider the feelings of other people. "Manners" includes courtesy to all, patience under severe strain, and a calm and modest personality. We must be sensitive to the mood of our listeners, and quick to perceive when someone else wishes to speak. There are talkers who seem to take the bit between their teeth and run away with it. When they do finally cease, the subject is so exhausted that no one else has anything to say.

The common defect of the talkative woman is the habit of repeating the same statement several times during a single conversation. Whether she suspects you of deafness, stupidity or inattention, it is hard to say; but she will inform you five or ten times in an hour that her children were all born very clever; or, that she is extremely nervous; or, that she never eats porridge; etc., etc.

Without simplicity no conversation has any charm. The moment we perceive that the speaker is trying to produce an effect, that moment do we feel contempt for the affectation and pretense. Truth has a marvellous power of making itself felt, no matter what may be said or done; and frankness is admired by every honest man or woman.

The qualities which put us in wrong positions towards life, and cause much unhappiness, are selfishness, vanity, and a desire for popularity or public favor. We all know people whom we may not come near without feeling that to interest them we must pay tribute to their vanity, or limit our conversation that it may please them or pamper to their conceit.

Another class equally disagreeable are those that censure everything and attempt to belittle the efforts or remarks of everyone else, that their own virtues may shine in comparison.

Happiness lies in self-forgetfulness, and to secure it we must cheerfully accept the conditions of our lot, hope for the best, have faith in the future, and try to do all we can for ourselves and those about us without looking to consequences. It is the natural reward of right living, and shows itself in breadth of character and broad charity towards all.

Self-consciousness is but vanity under a less severe name, and self must be forgotten before we can add to our speech the grace and dignity of simplicity. Dignity is the chief charm of woman, just as constitutional brightness is her chief accomplishment.

Gossip has gone out of fashion. It is no longer considered nice to say a word against any one. An ill-natured remark is a social blunder as well as a moral one in good society. We should not allow lapses of manners or levity, and, above all, the careless expression of a low grade of thought.

To be able to say a few kind words is an accomplishment any of us may acquire. Even exchanges of civilities cement friendship. True culture carries with it an atmosphere of breadth; the world, and not the village. Women more than men are in danger of becoming narrow; women lacking breadth are said to betray, by their conversation, minds of narrow compass; bounded on the north by their children, on the south by their servants, on the east by their ailments, and on the west by their clothes. The mind grows narrow when occupied with trifles. When ignorant of our ignorance, we do not know when we betray ourselves.

To sum up the matter; we should never lose sight of the fact that we are likely to be failures

unless we are good comrades. Our friends and neighbors should be able to rely on us for qualities of fidelity, faithfulness and affection...

"If you wish for truth, be kind; If you wish for truth, be true; All that you give of yourself, you find; Your world is a reflex of you."

Kemble, Ont. C. L. GARDNER.

Ingle Nook Chats.

My dear Guests,—

There is not even time to say "How do you do?" to each of my Guests, they are so numerous, yet there are a few whose letters require a special word...

Some questions have been asked regarding Contest XVIII., to which I shall here reply. I believe I originally stated that all drawings should be in pen and ink...

A. D. C. H.—I shall try to have a contest such as you suggest some time in the near future.

"Queenie"—Yours was a nice letter, and your attempt at the puzzle very good, although you are not a winner this time.

"Vera"—I, too, am sorry we did not meet when there was such a good opportunity, but better luck another time. I am at S—n now; "so near, and yet so far."

"Jewess"—I do not wonder you have not much time to compete so often, as Fifth Class work is heavy for a little girl. Yes, I once took charge of the puzzle column for a time...

Mary H.—I am sorry you got "stuck" in the other contest. You have done well this time, although not one of the successful ones. Try again.

A. H.—Still the old name, old fellow-puzzler, as I see you have also. Indeed one does grow attached to persons through correspondence and otherwise.

"The Baby"—I hope your prize has reached you ere this; let me know whether it has or not. Now, "Baby" dear, bend near and I'll whisper a secret: I have heard an old proverb that says "flattery is the food of fools..."

CONTEST XVII.

Excelsior! We have broken the record, and beaten, in point of number, the palmist days of juzzledom, even under Uncle Tom's regime.

- The following is a correct list of animals: 1 ai, 6 dog, 11 hog, 16 lynx, 2 ape, 7 eland, 12 horse, 17 ox, 3 arna, 8 elk, 13 lion, 18 rat, 4 bear, 9 fox, 14 llama, 19 sai, 5 deer, 10 hare, 15 moose, 20 yak

Fred L. Sawyer, Mitchell, Ont.; Allan Smith, Southcot, Ont.; Roy Harris (Box 56), Caledonia, Ont.; and Miss Bessie Broad (ties) are the successful competitors. The papers of the last two were equal in every way...

Willoughby, J. Virgil McLeod, Emily Starr, Alice Lunan, Wm. Coulson, Grace Lynn, Alberta B. McLaughlin, R. Yetts, Catherine J. McKnight, Pearl Sanderson, F. G. Seiple, Mahel Clarke, B. Steinman, Lillie Thorner, Sarah K. McDonald, Fanny Train, Carrie Walsh, John Usher, Ernest Sutherland, Albert Parkin, Alvin Greely, Bessie Davis, Fred Trebilcock, Annie Lamont, Claire Gibbons, Arthur Burr, Delphine Essery, Mrs. Jos. Campbell, Eva L. McConnell, Violet E. E. Honey, Sarah Murphy, Edna Warrilton, Ethel Wardell, Carman Pratt, Wm. J. Moak, Country Sis, F. Roger T. Hoyle, Arden L. Litt, Mattie Marshall, Kate Ryckman, Larna Peacock, Florence Bourn, Olive Whiler, John Dunlop, Mabel K. Keeping, Eva Mitchell, Chris R. Gerber, Lucy Cruickshank, E. M. Isaac, M. A. Anderson, Beatrice Christian, Clarence Craig, Flossie Rea, Jas. McMullen, Austin Bunn, Levia Smyth, Edna Steele, Ross Doan, Allan Smith, Lawrence Conn, Walter Martin, Effie Thomson, Chester Mayhew, Gordon Mayhew, Herbert S. Spears, Floyd Libley, Alex. Nixon, "The Servant," A. D. Lloyd, Mary L. Ker, Ethra Walker, Wm. F. Fleming, Edward Jamieson, Nellie Taylor "Elm," F. Chas. McKenzie, Bertha Barnard, W. F. Lucas, Wm. C. Black, Mrs. Carman Timmins, Homer Bagshaw, W. P. McKarlane, G. H. Risk, D. R. McComb, Freeman Coleman, Christina A. Turner, May Wilson, Rachel Paterson, Lillian Nixon, Grace Thornicroft, L. Love, Dora Wagg, Mary Muir, Helena V. Fowler, Jennie Crosby, Evelyn Slott, Garfield Sillis, Russell Moffatt, Elymer Wright, Georgie Keachie, Gordon R. Pearl, Rolena McDougall, Annie Macdougall, Martha Riley, Amelia Bourn, Cecile Brown, Ethel Jose, Harper Shields, Maggie L. Betts, "Vera," Jessie Sorley, Elizabeth Chase, Maurice Erb, Wm. Gleason, Alice Hume, Janet Willscroft, Myrtle Roberts, Carry Hilles, Alonzo McKnight, "Jewess," "Queenie," Eliza J. Munro, Bella L. Blair, Mabel Cook, Edith Livingstone, Susie A. Crowe, Mabel L. Young, Alex. Cann. The above are just in the order in which the letters were opened, and without regard to merit.

Remember the drawing contest does not close till April 15th. See last issue and this for particulars.

THE HOSTESS.

Ingle Nook Chats, Pakenham, Ont.

A March Song.

Blow, March! and toss in anger Gray clouds across the blue; What care we, housed and happy, For an old blowhard, like you?

We miss some fragrant flavors— A flower or two of spring, But what's the odds? It's summer Where the oak logs crack and sing!

The red flames lick the chimney, And up the blithe sparks go And glitter in the darkness Like diamonds in the snow.

What care we for your clamor? Blow out your trumpet, blast! For Joy's at home with Love to-night, And Love shall hold him fast!

—Atlanta Constitution.

THE QUIET HOUR.

Conversation.

"A kindly word and a tender tone: To only God is their virtue known; They can lift from the dust the abject head, They can turn a foe to a friend instead; The heart close-barred with passion and pride Will fling at their knock its portals wide; And the hate that blights, and the scorn that sears, Will melt in the fountain of childlike tears. What ice-bound barriers have been broken, What rivers of love been stirred, By only a word in kindness spoken, By only a gentle word."

True as these words might be, and sometimes are, I am afraid most of our conversations do not help the world very much. Is it really true that speech is silver and silence golden? We ought to be ashamed of ourselves if it is true, for certainly the power of speech is a very valuable talent, for which we must some day give account. The unprofitable servant was not punished because he misused the talent committed to him, but because he didn't use it at all. Our Lord not only says that we shall be condemned by our words, but also, "By thy words thou shalt be justified." A great deal of our time is spent in conversation, but does that conversation seem likely to justify us? The gift of speech is a very solemn responsibility, and we may well feel afraid when we remember that we must give account for each idle, useless word. But total abstinence from speech is not the best remedy for evil or unprofitable conversation. Our Lord did indeed give us an example of the power of silence, but only on one day of His earthly life—how many times did He cheer and strengthen by His words! Now, preaching is one thing and conversation is another. "Goody-goody" talk is always objectionable, doing a great deal more harm than good, and anyone who deliberately sets himself to edify others by his conversation, is very apt to be priggish or conceited. Conversation should be like the fruit on a tree, growing naturally out of the thoughts, and revealing the real man underneath. "A good man out of the good treasure of the heart bringeth forth good things; and an evil man out of the evil treasure bringeth forth evil things." A man's words will sooner or later show what his character is, no matter how carefully he chooses them and tries to make them the means of hiding his thoughts. How naturally our Lord begins the conversation with the woman at the well of Samaria. Tired and thirsty, He asks her for a drink, and in a very few minutes they are talking together of the very highest truths. Weariness and thirst are forgotten in the eager desire to help this poor

woman—a chance acquaintance, as we might say, as though chance had anything to do with our lives. Again, on the road to Emmaus, the two disciples were drawn quite naturally into conversation by the Stranger who joined them on the way. He began by a simple question, and, in the short walk, opened their eyes to the great truths concerning the Messiah, which were written in their own Scriptures. Because their conversation went far below the surface of ordinary talk, it was not for that reason wearisome, but quite the reverse. How many other disciples since then have found that their hearts burned within them when talking earnestly about the Master. One such talk will stand out as a bright spot in the memory for years, when hundreds of commonplace conversations have been forgotten, and surely it is true that at such times He "makes, unseen, a third." It is written in the book of Malachi that the Lord hearkens and hears, when they who fear Him speak often to one another, "And they shall be Mine, saith the Lord of hosts, in that day when I make up My jewels."

There is no need to talk all the time as though we were in church; but neither is there any need to let all our conversations be light, frothy, frivolous and unprofitable. I have had a good deal of experience with boys, and they are generally supposed to be shy of talking about the inner spiritual realities of life. Just try them, and see. They are very quick to detect any shadow of cant or hypocrisy, but they are for that very reason most satisfactory to talk with—if you really mean every word you say. They enjoy a conversation about invisible, eternal things all the more because they so seldom indulge in it. But give your companion a chance sometimes. It is not conversation at all when one person has the floor all the time. Probably you think I don't practice what I preach, as I certainly keep the floor every fortnight at least. That is very true, yet I am always glad to hear your opinion on any subject, whenever you are willing to express it.

Another very important thing is to know when to stop. The longest talks are not usually the most satisfactory. This is one of the cases where the most valuable goods are generally put up in small parcels, like valuable jewels. "A word fitly spoken is like apples of gold in pictures of silver." Words are not very bulky, neither are seeds, but we never know what harvest may spring from them.

"I dropped a sympathetic word, Nor stayed to watch it grow; For little tending 's needed when The seed is good we sow; But once I met the man again, And by the glad some way He took my hand, I knew I sowed The best of seed that day."

We know something of the harvest which sprang from that conversation by the well. First the conversion of the woman and many of her townsmen. Later on we read that St. Philip found the Samaritans very ready to accept the truth. Surely the harvest did not end then, for seed has a fashion of multiplying. Think what our conversations too often are. How little we should like it, sometimes, if they were taken down in shorthand, and published. People who are considered very good-natured often do terrible mischief with their tongues, as Cowper says:

"Her superfluity the Poor supplies; But if she touch a Character—it dies!"

Here is a recipe for making a scandal, and some of the ingredients named occasionally find their way into ordinary conversations, I am afraid: "Take a grain of falsehood, a handful of runabout, the same quantity of nimble-tongue, a sprig of herb backbite, a teaspoonful of 'don't-you-tell-it,' six drops of malice, and a few drachms of envy. Add a little discontent and jealousy, strain through a bag of misconstruction, cork it up in a bottle of malevolence. Let a few drops be taken before walking out, and the desired result will follow."

There was a good deal of sense in an old Polish law, according to which anyone found guilty of slander was compelled to walk on all-fours through the streets of the town in which he lived, as a sign that he was unworthy of the name of man.

When our Lord promises to confess before His Father those who confess before Him, does He mean only a public profession of faith in the Church, or does He mean also the everyday confession of our lives (which sometimes contradicts the confession in church)? And when He says He will deny before His Father those who deny Him before men, may it not be equally true that empty, frivolous talk is a virtual denial of Him? If God is not in all our thoughts, we are sure to show it by giving Him no place in our words.

One thought more. In conversation, as in everything else, if we want to accomplish anything worth the doing, we must ask God to give us the best words to use, and to fill them with living power.

How sure it is— "That, if we say a true word, instantly We feel 'tis God's—not ours." HOPE.

Second Prize Essay.

THE COLORED FRONT COVER OF THE CHRISTMAS "FARMER'S ADVOCATE," AND WHAT IT TEACHES.

The beautiful front cover of the Christmas "Advocate" suggests to my mind three serving kings.

The stars are suggestive of the birth of the King of kings, whose field of service was the world, with all its ignorance, superstition and sin.

The King whose influence is steadily changing the world's darkness to light, its hatred to love, its cruelty and grief to compassion and joy.

The King whose beautiful life on earth is the inspiration in the hearts of his followers to purity of life and benevolence of action.

How intimately this life was associated with agriculture is illustrated by His birthplace being a stable, His cradle a manger, and whose most instructive parables were taken from the field, the soil, grain, vine and husbandman.

The picture of Edward VII. suggests the farmer king. The appearance of his dress and the pleased expression of his face indicates that he is just returning from a visit to his well-stocked barns, having found everything lovely there; while the circling maple leaves suggest the millions of loyal Canadian hearts that surround him with love and devotion.

This king whose motto is "Ich Dien"—I serve—aims to help his people to conditions of comfort and security.

He has honored agriculture by engaging in her pursuits and by striving for excellence in her varied departments.

He has the honor of being the head of the greatest empire on earth, which had its birth when the world was in a chaotic state of tyranny and oppression; whose struggles for liberty and equality of rights have been of such marvellous benefit to all humanity. Long may he live, and may the consolidation of the empire, the growth of liberty, the enlightenment of his people be the fruits of his glorious reign.

Plymouth Rock has been starting point for the Puritan Fathers of historical fame; to-day that hardy farmer's breed holds the premier place in poultrydom. The average man and woman, whether on farm or town lot, is not as well acquainted with the White Plymouth Rock as they should be, if they want "winter eggs."

If there is any one thing that needs improving on the average farm it is the poultry stock. The farmer's poultry have in many cases been serubs, and inbred ones at that, and, as a consequence, whether as chickens or matured birds, they lack size.

The picture of the "Advocate" brings to mind the third king—the king of agricultural papers, which had its beginning when Canadian agriculture was in a crude state, the farmer being ignorant of many of the conditions that govern successful cultivation.

To estimate how much we owe to the "Advocate" for these changing conditions is impossible, but it has had great influence in stimulating the farmers to improved methods of cultivation, to the rearing of better live stock, and the beautifying of their homes.

With its kingly motto, "Ich Dien," long may it reign in the noble service of Canadian agriculture, imparting to the ignorant knowledge, to the improvident thrift, and to all instruction and inspiration.

Fernton, Man.

Don't Bite Your Lips.

If girls only realized how they spoil the shape of their mouths by biting their lips they would never indulge in this ugly trick.

I hear that sometimes girls bite their lips in striving to obtain dimples. Dimples are not obtained in that fashion, and ugliness often is, for lips that are by nature a little thick may easily be made hideously so by being bitten.

A more frequent cause than vanity for lip biting is probably nervousness or irritability of temper; but whatever the cause, a girl should break herself of the habit directly she becomes conscious of it.

Jno. Clark, Jr., Crowfoot, the owner of the noted Clydesdale stallion, "Waldo," illustrated last summer in the "Advocate," has sold a carload of Clydesdale grades rising four and five years, weighing 1,400 to 1,500 pounds, right off the range.

A meeting of the shareholders of the Condie Farmers' Elevator Co., Ltd., was held at doggy Creek on Feb. 15th. The following officers and directors were elected, and the business in connection with building the elevator was left in their hands.

Thos. H. Chambers, of Brandon, is "strictly in it" when the judge commences work on Barred Plymouth Minors. Our readers are especially interested in the Rocks; the show records of home-bred stock, are sufficient evidence that no mistake will be made by any one desiring the best who orders from Mr. Chambers.

In our advertising columns it will be noticed that Pride of the West 2046, by the noted Charming Charlie (imp.), is prize at the local fairs, being first in a ring of five at Neepawa Fair, 1904, and also at Minnedosa. He is out of Meg Merriels, a granddaughter of Prince of Wales 673, and traces to Rob Roy 714.

Discretion Better than Valor.

A New Yorker, the owner of a magnificent yacht, had for his guests on a recent trip three very clever young men, all of them suitors for the hand of his beautiful daughter.

In her perplexity she sought the advice of the Old Salt, a kindly and generous old sea dog, who sailed the yacht.

"I'll tell you what I'd do, miss, if I were you," he said. "The next time we are in a safe place you fall overboard. I will stand by to see that no harm comes to you, and then you can see which is the best man of the lot."

The plan was agreed to, and a day or two later the young woman slid off the plank into the water. In a second two of the young men were in after her and she was heroically rescued.

"What am I to do now?" she asked. "I have two of them still left."

"Well, I would say this," replied the captain. "If you want a good sensible husband, you take the one that did not jump after you."

During a debate on the Sunday Closing (Ireland) Bill in the House of Commons early in the seventies, Mr. Blake, an old Irish member who sat for Waterford, stated that when he was a young man he had an uncle who regularly took twelve tumblers of whiskey punch daily.

"My dear Uncle—I write to say how pleased I should be if you could see your way to giving up your twelve glasses of whiskey a day. I am sure you would find many advantages in doing so, the greatest of which would be that, as I am persuaded, it would be the means of lengthening your days."

After a brief interval, the uncle replied as follows: "My dear Nephew—I am much obliged to you for your dutiful letter. I was so much struck by what you said, and in particular by your kind wish to lengthen my days, that last Friday I gave up the whiskey. I believe you are right, my boy, as to my days being lengthened, for, behold, it was the longest day that I ever remembered."

Clydesdale Stallion for Sale. Pride of the West 2046. A prizewinner and sure stock-getter. By the noted Charming Charlie, a Provincial winner. Write for particulars. SAM. McLEAN, Franklin, Man.

A trio of Barred Rocks were recently imported by Ebenezer Scott, Meridian P. O., Assa., from McMaster Bros., Laganan, Ont. The hen-head was a vigorous-looking, well-marked bird.

M. Maw reports sales of about 20 Cyphers incubators, and has a shipment of 60 Cyphers en route. Brooders are being disposed of in large quantities. Buyers of one brooder can buy the metal parts from Mr. Maw and make them, and thus save the freight and duty on the lumber in them.

Mr. George Hamilton, of Neepawa, who deals largely in cattle, is quietly laying the foundation for a Shorthorn herd, having picked up several good females and a very promising young bull. He has sold, recently, Shorthorn bull calves to the following: Wm. Scott, Chatwin Bros., both of Neepawa, and a particularly good one to Geo. O. Clark, of Neepawa.

John Smith, manager for Alex. Galbraith, at Brandon, reports the placing of stallions at the following points: Borthwick, Archer's Heir, Bobby Shafto, and the Yorkshire coach, Baronet, to Russell; the French draft, Captain, to Newdale; and the Percheron, Fremont, to Oak River.

Convenient and commodious stock-yards are an essential to the live-stock industry. Such being the case, the Neepawa shippers have a grievance, as the stock-yard at the C.P.R. at that point is not at all in keeping with the shipments from that point. Should two shipments arrive at the same time, one of them will have to be herded until the other is loaded, which in case of fat stock, especially hogs, is very undesirable, and often productive of loss to the shipper.

Chas. Midwinter, one of Winnipeg's large market gardeners, makes a specialty of poultry-breeding, for which his location is particularly well adapted, especially for water fowl, and in geese and ducks the name of Midwinter always figures conspicuously in the prize lists of the poultry show.

J. W. Wolf, Elmer P. O., is a farmer from Western Minnesota, who farms 320 acres west of Verdun, and combines poultry-raising with wheat-farming, keeping Barred, White and Buff Plymouth Rocks, Light Brahmans, C. Indian Games, Pekin ducks, Toulouse geese, Bronze turkeys.

GOSSIP.

A. B. Smith, of Moosomin, recently bought a Shorthorn bull from J. F. Day.

John S. Robson, Thorndale Stock Farm, Manitow, Man., has sold, within the last few months, over 24 head of Shorthorns. Included among this number were two heifers to D. Grieve, Calgary, Alta., and a bull to Alex. Swanson.

In sending in change of copy for advertisement, under date of March 6th, King Bros., the Yorkshire breeders, of Wawanesa, write: "We are completely sold out of hogs and pigs at present. We are pleased to tell you that your paper is bringing us more inquiries (and most of them result in sales of stock) than we can fill."

Spring is the time when most farmers' wives begin to figure on the profits to be made from eggs and early chickens. Banded Rocks are a great favorite with all, and it gives us pleasure to state that we visited some of the Virden fanciers of that useful and handsome breed. G. H. Grundy has some very good birds, the winning cockerel and hen at the late poultry show being from his pens. Silver-Laced Wyandottes and Bantams are also kept, and contribute winners to the shows. Mr. Grundy won 2nd on pullet and 3rd on hen and pen of Wyandottes, 1st on Black Red cock, with a score of 95.5, 1st on cockerel, 2nd on hen, 1st on pullet, and 1st on breeding pen. The spring matings are being made, the orthodox double-mating system being followed with the Banded Plymouth Rocks. An especially fine bird is the winning cockerel of this breed, which will now score over 90. The predominating blood is of Bradley and Thompson strains. When writing Mr. Grundy mention the "Farmer's Advocate." Pure-bred cattle have also proved alluring to this successful poultry breeder, he having recently invested in a pure-bred Shorthorn cow, Roxey of Virden, one of the red, wide-backed kind, and her lengthy red heifer calf, Virden, Rosebud. The same care will be used in breeding cattle as has been done with the poultry.

A strong rival to his neighboring wheat buyer, Grundy, is Jas. Rothnie, and as the two cereal-purchasing representatives of the Lake of the Woods and Ogilvie's strive on the market for the wherewithal to manufacture the staff of life, so also do they compete for premier honors in poultrydom. Rothnie breeds Banded Rocks of the Bradley and King strains, exclusively, and while not an exhibitor at the Manitoba Poultry Show this winter, he has the honor of breeding the winning cockerel. Mr. Rothnie has been elected secretary of the M. P. A. for 1902, consequently considerable of the work for the next poultry show, to be held in his own town, will fall on his shoulders. When speaking of poultry houses, Mr. Rothnie says the greatest trouble with poultry houses in winter is "dampness." The old sod henhouse is as good as any, being dry, warm, cheap, and supplies a good dust bath for the fowl all winter.

Located a few miles north-west of Oak Lake is the stock-breeding establishment of Donald McBeth, where Clydesdales and Shorthorns hold sway. At the head of the Clydesdale stud is Young Keir Barnley (imp.) by Keir Barnley (8716), out of Janet of Tullford (6009), a horse with lots of substance, being a well-muscled, strong-boned, and large, square-jointed fellow. The matrons of the stud include Lady Grey 2218, bay, white on face and hind feet by Lord Selkirk 1405, out of Anna Belle 1113, now owned by J. W. Drysdale, Neopawa, she being by Cowden Lad (imp.), out of Lady Clyde, Lady Clyde, the foundation female of the stud, by Gambetta 43 (imp.), dam Queen 8 (imp.), a strong, blocky mare, with good blue feet and strong quarters. She is the dam of the stallion, Billy Brown, well-known in the Brandon district, and also of Anna Belle, Cassie Clyde 2032, also out of Lady Clyde, by Cowden Lad (imp.). is a chestnut of a good useful type. Another mare is Baby Clyde 2767, by Charming Charlie 1161 (imp.), a bay mare on the blocky order. The Shorthorns are headed by the red and white Minthorn, by Royal Member 17107 (imp.), out of Mischief 18277, a good-topped fellow, bred by Carrill & Son. Although not at his best at the time of our visit, he is quite masculine in appearance and has a fair good touch. The original stock of females were obtained from Watts, Salem, Ont., among whom are Royal Annabelle 20023, by Musketeer, out of Royal Gem, by Barmpton Hero 324, and her daughter, Kent Beauty; the roan, Maid of Irvine 2nd 15944, by Lord Lansdowne 2712 (imp.), out of Maid of Irvine 9912, by Barmpton Hero, two daughters of whom are Isahell and Idahell, the red cow, Bina 25694, out of Lassety 23rd 15943, by Never Tried 16103. There are three families represented in the herd, which is one made up of a lot of useful, thifty type of cattle. Four young bulls (yearlings) were noticed, fair handlers, a roan bull being especially thick deep and wide on top, a red two-year-old and some bull calves, weas and roans, all showed the same red-brown hides and level backs. Recent sales have been Marion by Best Yet 13371, out of Binnie, and Madie, in each by Minthorn, both of the Lovely family, by Alex. McMillan, Edmonton, Alta. The cow, Nancy, by Best Yet, out of Maid of Irvine cow, to Thos. France, Virden, and two Maid of Irvine females, Manitoba Nell and Nora, to Fred Gould, Ralplinton.

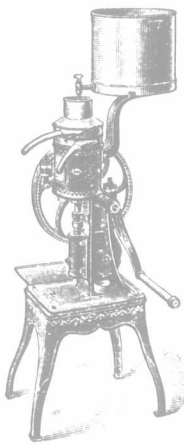
Virden will have the next show of the Manitoba Poultry Association, and the local association are determined to spare no pains to make it a go. The utility feature of the show will undoubtedly be pushed, so as to show conclusively to the farmer that "there's money in it" for him and his wife in the breeding of good birds. Poultry appliances at work, dressed poultry, plucking competitions, exhibits of eggs, and other illustrations of an up-to-date poultry exhibition will probably be included in the bill of fare to be dished up at the annual show. The secretary for the association for 1902 and the next annual show is Jas. Rothnie, Virden.

The Lakeview Stock Farm of Thos. Speers, Oak Lake, is well known to those who are posted in the history of the Shorthorn in Manitoba, because the proprietor of that farm has always been identified as one of the promoters of the breed in bringing first-class representatives of the all-purpose red, white and roans to the Prairie Province. When such sires as Imp. Heir Apparent, Royal Don, Baron's Pride, and Clan Mackay are cited, it will at once be seen that facts bear out the statement. Last year a few cattle were shown from this herd, and captured prizes as follows: First on three-year heifer, open class, with the red Fancy Fry; second and third in yearling bulls with Lord Roberts and Burnbank, and third on Empress of India in the three-year-olds, open, at Brandon. The lord of the manor is Clan Mackay (Vol. 17), by Clan Alpine, one of the noted and fashionable Braith-Buds, the grandsire being Cumberland (46144), the great-grand sire being Walter Scott (61959), of the Miss Ramsden family, thus being related to the Iowa Agricultural College stock bull, Scotland's Crown, and Brave Archer (70018), the latter sold for \$5,000. Clan Mackay is a stylish, masculine, red roan, with a hide that gives a hand-ful, with the soft, mellow flexibility of a kid glove; carrying his flesh well down from a straight top line, he is well filled in fore and hind flank and twist, and in addition has lots of quality. His dam, Rosebud, was by Nero (67530), a bull well thought of in Old Country Shorthorn circles. While not wanting to part with Clan Mackay, who is developing and proving his worth as a sire, several good young bulls are to be seen in the stalls, which no breeder desiring a herd-header at as reasonable figures as is compatible with excellence, can afford to overlook. Prince of India 36137, a roan, masculine yearling, is a deep-bodied, deep-flanked bull, with irreproachable handling qualities and flesh-carrying tendencies, with a front on him and a pedigree that augurs well for his ability to beget the like. His sire is Imp. Lord of Strathboggy 32071, his dam Empress of India 34221, a roan, breedy-looking, heavy-milking cow, imported by W. D. Platt, who sold her to Carrill & Son. Empress has at foot a heifer calf by Clan Mackay that will be heard of later. Lord Roberts, a useful red two-year-old by Goldigger 23360, out of Ury Gem 27223, is a deep, lengthy fellow, with a loin and rump of the thick, wide, full-fleshed type. A very compact, strong-constituted bull is the roan Burnbank, by Scotland Yet 23375, out of Character 20498, by Imp. Warfare 6452. Burnbank shows masculine, is a level, thick, smooth, meaty fellow, and an extra good handler, and for cows on the rangy order would be "the whole thing." One of the things in the herd that takes the eye at once, although "there are others," is Fancy Fry, the red heifer mentioned above. An expansive bosom, a middle that shows a feeder with well-packed cross, heavily-fleshed back and loin, the meat from which is spread on down over the ribs, the full thighs, general smoothness and femininity, make up a combination of bovine character not easy to surpass; she is of ancestry that is of the best, belonging to the celebrated Fry family, being out of Ury Maid 18408 (imp.), and by Goldigger 23360. A useful, breedy-looking cow is Bertha 2nd, by Royal Don 17105, red and a little white in color, and with a calf at foot, she exhibits to a marked degree the form handed down by her parents, Heir Apparent 4105 and Bertha 14th. Persons desiring bulls or heifers or show stock should visit the Lakewood Farm, situated some six miles south of Oak Lake, C. P. R. main line.

A GREAT AGGREGATION OF CLYDESDALES AND HACK-NEYS.

The full-page advertisement in this issue of the Clydesdale and Hackney studs of Graham Bros., Claremont, Ont., speaks for itself, as also does their prize-winning record in unmistakable terms of the character of the horses they handle. "Up-to-date" is the standard of their stock, as last year's show record amply evidences, while the judgment and skill of the Graham Bros. in breeding, selecting and handling of high-class horses is second to none on the American continent. From their present stock the most fastidious fancier should, and we believe will, find what he wants, and will be met in a liberal spirit in dealing. If long experience, first-class facilities for securing the best, and superior judgment in selection counts for anything, this firm certainly have in the highest degree all these recommendations, and are entitled to the large share of the trade which is coming their way, and which they have for so many years enjoyed. Parties requiring stock horses should communicate with them at once as the active demand will doubtless soon clear the docks, and as the season for standing stud horses is near, no time should be lost in securing what is needed.

A Short Talk on Separators.



In order to draw attention away from the shortcomings of their hollow-bowl machines, competitors make a great cry over the "Alpha Discs" simply because they cannot use them in their own separators on account of our patents. We could leave them out, but they increase the capacity of any given size hollow bowl FIVE times. They make absolute clean skimming under adverse conditions possible. The "Alpha" bowls travel from one-third to one-half slower than any other, thereby saving POWER and WEAR and TEAR.

The Alpha De Laval Cream Separators are also the finest built machines of their kind in the world. Made from the best material that money can purchase, by the most skilled expert mechanics obtainable from both sides of the Atlantic. All this backed up by twenty-five years of experience in this particular line of work, and a well-deserved and unapproachable reputation, are reasons why you can safely leave separator experience to someone who has time and money to waste.

Remember there are 300,000 De Laval Machines in everyday use. Catalogue for the asking.

Montreal. Toronto. New York. Philadelphia. Chicago. San Francisco. Poughkeepsie.

THE DE LAVAL SEPARATOR CO.

Western Canadian Offices, Stores and Shops:

248 McDermot Ave., - Winnipeg, Manitoba.

NEW IMPORTATION OF HIGH-CLASS

Clydesdale and Percheron Stallions

ARRIVED AT BRANDON, MAN., FEB. 22.



PRIZEWINNERS AND THE GETS OF PRIZEWINNERS, AND EVERY ANIMAL THOROUGHLY GUARANTEED.

Parties in want of first-class stallions, with size, substance, quality, action and fashionable breeding all combined, should see these horses, or communicate at once with

JAMES SMITH, BEAUBIER HOUSE, BRANDON, - MANITOBA. First come, first served.

Alex. Galbraith, Janesville, Wisconsin.

— Above is probably the best lot of draft stallions ever offered for sale in Manitoba.

GOSSIP.

A visit to the nurserymen of the Province in winter does not give one the opportunity of seeing much in the line of field work. Caldwell & Co., of Virden, are getting ready for the spring planting a large number of Russian poplars and willows, in addition to a good stock of small fruits and ornamentals. Any of our readers desiring such stuff should remember that "for Western conditions, native-grown stuff gives the best results." Disappointments are bound to result from planting eastern-grown stuff, even if of the so-called hard-clad stock. Caldwell & Co. did a large business in tree-planting for farmers previous to the inauguration of the "free-tree system" by the Dominion Government. Parties desiring of planting shelter belts, groves, etc., would do well to deal with reliable firms in preference to any hedge-henge companies, and should correspond with our advertisers at Virden. Order your ornamentals, fruit bushes, etc., early, and have them planted on Arbor Day.

Virden is full of poultry enthusiasts, C. J. Bell looking after the White Rock interests with birds of Heindlich and Fishel strains.

A visit to K. McIver's Roselea Farm, Virden, found that worthy agriculturist engaged not only dispensing Western rye grass seed, for which he is famous throughout the West, but also breeding a few Shorthorns. The stock bull at present in the herd is Strathcona, a Golden Measure (imp.) 23014, out of Donside Beauty (imp.), and is proving a useful sire; he is a roan, and one of the mellow-handling sort. Nine young bulls are in the stalls, ranging from 7 to 23 months old, got by Sir Victor 2612, a Winnipeg winner, and by imported Royal Don, also an industrial prizetaker. These bulls ought to do useful service on the range, on farms at the head of grade herds, and can be bought at a price that renders it folly to keep a scrub bull on any farm. Mr. McIver is only 14 miles from Virden Station, C. P. R. main line, and his advertisement, carefully read, will show you saw it in the "Advocate."

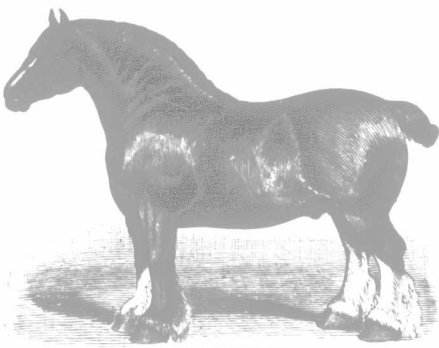


VINCENT & MACPHERSON,
The Leading Western
Undertakers and Embalmers.
Rosser Avenue, Brandon.

Imp. Shires and Clydes FOR SALE at reasonable prices. From three years old upwards. Good colors and best of breeding. Weighing from 1,700 to 2,000 pounds. Apply at Rossin House stable.

W. W. FLEMING, Portage la Prairie, Man.

J. E. SMITH



SIR ARTHUR.

Shorthorn Bulls and Heifers for Sale

The get of Golden Measure (imp.) = 26657 = (72615) or Lord Stanley II. = 22260 =. The greatest stock bull that Russell's great herd ever produced.

CLYDESDALE STALLIONS

Mares and fillies, all ages. Write or wire:

J. E. SMITH,
BOX 274, BRANDON.

Improved farms for sale or to rent.

For Sale: Clydesdales, Shorthorns.

Exceedingly well-bred mares, fillies, one (imp.) two-year-old stallion. Bulls, cows, heifers (all ages) from Cathness. Apply: **PURVES THOMPSON,** Pilot Mound, Man.

PERCHERON STALLIONS
FOR SALE.

Two prizewinners, registered, pedigreed Percheron stallions, sired by that noted horse, Producture. A rare chance to procure a high-class horse. Address:

G. W. BUCHANAN,
PINCHER CREEK, ALTA.

BOOK REVIEW.

Any book reviewed in this department may be ordered through this office, at the price stated.

"HINTS TO HORSE-KEEPERS."

The book bearing the above title was, for the most part, written by the late H. W. Herbert ("Frank Forester"), a native of London, England, who spent the latter part of his life in America. It is intended to include every subject of interest to those who, for pleasure or business, own a horse. This all-comprehensive programme is crowded into 24 chapters, but, after careful examination, we can see little or no good in it. The ideas advanced are ancient, and the symptoms and treatment for diseases ditto. With few exceptions, the illustrations are also ancient and crude. The monstrosity of a frontispiece called a "Clydesdale," fairly indicates the value of the whole work. It would not be sinful to worship that picture, as it is not a likeness of anything in the heavens above, or in the earth beneath, or in the waters under the earth. It is unfortunate that good paper and ink are wasted in such a volume.

A TURKEY BOOK.

Turkey-raising is attaining large proportions in Canada, and will steadily increase. In the United States the annual sales of turkeys for meat reach over 10,000,000 birds, and if the value of breeding stock and eggs were added, the trade would probably reach \$15,000,000. No expense need therefore be offered for publishing a book on the subject, when the Orange-Judd Co. have done, under the name "Turkeys, and How to Grow Them." It is a thoroughly useful volume, dealing almost wholly with the practical aspects

of the subject, but also taking up the natural history and breeds of turkeys. Several comprehensive essays by successful turkey-growers in Canada and the United States are included, and a good chapter on the prevention and treatment of diseases. The volume was edited by Herbert Myrick, assisted by several other well-qualified specialists. It is a well-bound book of 154 pages; price, \$1.

METHODIST MAGAZINE AND REVIEW.

Though denominational in name, the above magazine is not so in fact. The general literary excellence of its articles and stories, the beauty of its illustrations, and the wide range of subjects which it covers, make it a welcome visitor in the libraries of thousands of Canadian homes. One of the oldest of our monthly periodicals, it has steadily improved with age, and is a splendid example of the resourcefulness of its publishers and editor, Dr. Withrow, and well deserves the success which it has won. A most interesting article in the March number is that by C. C. James, M. A., Deputy Minister of Agriculture, Ontario, on "The Irish Palatines," with portraits. An outline of Sir Edwin Arnold's new poem on the first circumnavigation of Africa, with fine engravings, some striking illustrations of the "Grand Canyon of Arizona," and pictures and sketches of the "Black Belt," are presented; and an illustrated account of Lady Henry Somerset's social experiments in England. "The Pathos and Humor of Mission Life," by the Rev. J. C. Seymour; "Medical Mission Work in China," by Dr. O. L. Kilborn; and the story of Henry Broadhurst, the working mason who entered Gladstone's Government, read like romances. Isabelle Horton contributes an exquisite Easter story, "Principal Maggs writes strongly on "The Sword of the Lord Still Edged," and Chancellor Burwash on "College Problems." It is published by Wm. Briggs, Toronto, at \$2 per year.

A SPLENDID MAGAZINE.

The Canadian Magazine, of Toronto, Ont., for March is in keeping with the reputation of that fine periodical, which richly deserves a place in the home of every loyal and progressive magazine reader in the Dominion. It is surprising to find Canadians who still look for low grade U. S. monthlies when such rich stores of literary excellence are to be found at home, which only need one reading to be appreciated. We find variety for all classes of readers, from grave to gay, and it is beautifully illustrated and printed. There are able articles on the future of the Canadian territories, on commercial education, "John Bull in his Shop," "The Making of Penniman," and others equally interesting. We would advise our readers to examine the Canadian Magazine for themselves. It has now subscribers in 20 foreign countries, so highly appreciated is it by good judges. The Easter (April) number will surpass anything of its class ever issued in Canada. Merit considered, the subscription price, \$2.50 per year, or 25 cents per copy, is very low.

That agriculture is a complex science is borne in upon us every day by evidence that is fast accumulating in the way of scientific books treating on the subject. One of the latest to reach us is "Agricultural Bacteriology," written by Professor H. W. Conn, of Wesleyan University, Middleton, Connecticut. This work is really a study of the relation of bacteria to agriculture, with especial reference to the bacteria (germs) in the soil, in water, in the dairy, in miscellaneous farm products, and in plants and domestic animals. Many of our readers are doubtless aware of the connection existing between diseases and germ life, but it is not as well known to them that the science of dairying is also dependent in a large measure on the vegetable form of life termed bacteria. Even clover, manure and other essentials to good farming are assisted in their work by the ubiquitous germ, of which there are undoubtedly two kinds, useful and harmful. Any person desiring to get further knowledge on the subject and to be up-to-date should read this book, which is published by Blake Co. of Philadelphia, and may be obtained from this office for \$2.00.

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THE PIONEER HERD OF

SHORTHORNS

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Wednesday, June 11th, 1 o'clock p. m.

75 Head Scotch-Topped Shorthorns

PRINCIPALLY YOUNG FEMALES AND COWS IN CALF.

On account of advancing years, I am offering my entire herd and farm, thoroughly equipped, containing 800 acres, well fenced; about 200 acres under cultivation; 70 acres young oak timber, affording excellent shelter; abundance of hay and water, and fair buildings.

The herd was established over 30 years ago, and is well known throughout the Northwest; has been handled on common-sense lines, and is noted for constitution, substance and utility.

Situated four miles from Westbourne, where teams will meet trains.

Terms: Five months' credit, with interest at 8 per cent., and 8 per cent. discount for cash.

Reduced railway rates to intending purchasers.

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Specially adapted for feeding with separated or skimmed milk.

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WHOLESALE AGENTS FOR MANITOBA AND TERRITORIES.

FOR SALE:
DRAFT HORSES
 OF ALL AGES.

OWING to lack of range, we have decided to cut our herd of draft horses down to one-half and sell 2,000 head at greatly reduced prices. This great selection of mares, geldings and growthy youngsters of all ages represents the results of seventeen years of judicious mating to strictly high-class Percheron, English Shire, Clydesdale and Hackney sires. We can furnish high-grade brood mares and fillies with foal to imported and home-bred registered stallions, and have always on hand a large and first-class selection of registered and high-grade Percheron and English Shire stallions, also registered mares and fillies of same breeds. Correspondence solicited. Inspection invited.

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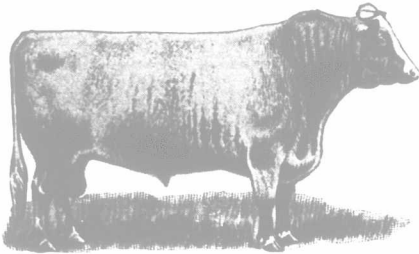
Comprising winners at the International Live Stock Show, Chicago, 1901; also in Scotland. All must be sold to clean out. Intending purchasers should not miss this chance of buying first-class individuals of the very best breeding at reasonable prices.

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CLYDESDALES, SHORTHORNS, SHROPSHIRE,
 BERKSHIRES AND YORKSHIRES.

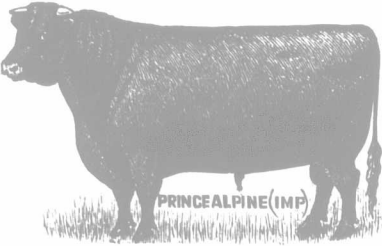


Shorthorn herd headed by Judge, imp. Jubilee, and Ribbon's Choice, Ayrshires of the best quality; herd headed by Surprise of Burnside. Oak Lodge Mighty 7th and a large number of high-class sows represent the approved bacon type of Yorkshires. The Berkshire boar, Victor (Teasdale), sweepstakes at Brandon and Winnipeg, 1900, and 30 sows of faultless conformation and superior breeding, make up the Berkshire herd. Farm one mile from the station. Visitors welcome. Prices and quality right.

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 Jas. Yule, Manager. Crystal City, Man.

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BREEDER OF..... MIDDLECHURCH, MAN.

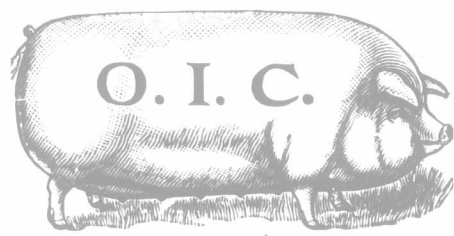


SCOTCH SHORTHORNS

Prince Alpine (imp.), of the celebrated Glaythan family, and Baronet (imp.), of the Sittyton Secret family, at head of herd.

20 BULLS TO SELECT FROM.
 4 white bulls at half value.

Farm seven miles north of Winnipeg. Telephone connection.



Hill Grove.

I am now offering one splendid young August boar and sow by H. G. Conqueror, and out of Linde queen. Sow open or bred by April 1st. Orders booked for March, April and May pigs, from such sows as H. G. Maid, H. G. Beauty, and Duchess of Hill Grove—the best sow I ever raised.

A. E. THOMPSON, HANNAH, N. D.
 Canadian shipping point, Snowflake, Man.

What are You Going to Sow?

This important question is again to the front. Mixed farming is paying better than ever.

GOOD SEEDS AND PURE

ARE WHAT YOU WANT.

BRANDON SEED HOUSE

Is the place to get them. Our seeds are grown for this country. One trial will convince you of their excellence. Our interests are yours. Write us for prices.

THE SEED HOUSE OF WESTERN CANADA.

A. E. McKenzie & Co., Brandon, Man.

GOSSIP.

Mr. H. J. Davis, Woodstock, Ont., importer and breeder of Shorthorn cattle and Yorkshire swine, writes: "The Shorthorn trade has been good this winter, but only the best seem to be in

demand. Have sold sixteen head to go to different points, including the United States and the N.-W. T. Have still one good roan bull sired by an imported bull, and several good females safe in calf to my stock bull, Bapton Chancellor (imp.). This bull was selected by W. S. Marr for use in his own herd at L. P. Merrill.

GOSSIP.

The two-year-old Clydesdale imported by Peter Robertson, Boissevain, is from the noted Claremont stud, Eastfield Prince 2929, is by Eastfield Laddie (imp.) 1127, and is out of Polly of Leskard 2914, she by Sir Walter 131, and traces to Sir Wm. Wallace 123. This is a good-topped, strong-limbed colt, with a heart-girth that evidences plenty of constitution. Square jointed and big footed, he will doubtless receive considerable patronage in his neighborhood.

The duck, especially of the Pekin variety, has since many a year ago for farmer and fancier, and may be ranked as one of the best means of converting rough grains into a high-class edible product. In this respect, we would draw attention to the Pekin ducks of P. J. C. Menlove, Virdon, whose flock has contributed worthy representatives to the various provincial poultry shows, which specimens have brought home with them some of the best prizes competed for. Up to standard weight, of the right conformation and pure white plumage, with clear yellow bills, the purity of their breeding is unquestioned. The Rankin strain predominates, the original stock having been procured from Massachusetts at high figures. Fresh blood is being imported in the shape of two drakes from a noted Massachusetts flock. The demand for eggs from this flock could not be met last season. Persons desirous of procuring eggs should order early. Mr. Menlove grows alfalfa and spring rye for his ducks, and finds those forage plants valuable helps in the feeding of his Pekins. Mr. Menlove is a newcomer to the "Advocate" advertising columns, so that when you write mention that you saw his advertisement in this paper. We understand that agency for the noted Cyphers incubators west of Brandon has been placed in Mr. Menlove's hands. An incubator is a necessity, a labor-saver and a profit-maker to the raiser of early pullets for winter layers, or for early chickens for broilers.

Oliver King, Wawanese, one of the youngest breeders of that favorite of the pork-packer, the Large White Yorkshire, is quite up-to-date and zealous in the cause of producing a thrifty, easy-keeping bacon type of hog. To do so he has just imported a pair of good ones. Oak Lodge Clara 20th, a deep, lengthy sow, with short face and light jowl. She is well bred, being by the imported Daybell boar, Oak Lodge Royal King 30th, out of Oak Lodge Clara 12th. With plenty of constitution, she should prove a good investment, as she is in pig to the prizewinning Oak Lodge Conqueror, first at Toronto in 1899 and 1900. Also included in this importation from Brethour & Saunders, is the three-year-old Oak Lodge Gamester 2nd 3278, by Martin Oak, out of Oak Lodge Girl 2761. This pig will assist in the duties of the barren, where his length and quality, as shown in his head, neck and bone, will undoubtedly show in the litters of pigs from his service.

Ere this number reaches our readers, J. A. S. Macmillan of Brandon, will have imported some Clydesdales of more than ordinary merit. A few stallions and some registered mares will make up a shipment of a character in keeping with those usually made to the Macmillan studs. Kelly's barn, Brandon, is where they will be found. Further information can be obtained by writing Mr. Macmillan for prices and breeding of these horses.

Alex. Gallbraith, of Jamesville, Wis., has shipped in a number of stallions, among which have been some of international fame, by reason of their breeding and deportment at the big shows. These have been disposed of, and as the Western horse breeder has not yet cried "enough," another shipment has just been placed in charge of Mr. Jas. Smith, at the Beaver stables, Brandon. At the time of our visit, the pedigrees were in the hands of H. M. Customs, hence we are not able at this date to give details. Since it to say, all are pedigreed horses, and some with the blood most in favor with heavy-draft horse breeders. Included in the shipment is Lanchester, a thick, dark bay, with sloping pasterns and feet of good size, lots of substance, and back ribs that are let down to give room for a generous load. A high-headed light bay is found in Montrose Tyler, clean legged, springy pasterns, and a showy fellow. Archie's Her is another of the thick, chunky sort, light bay in color, and for those desiring a medium-sized drafter, is almost a model. He has a good set of limbs and pasterns, which are so placed that they should wear well. Sensation is fable to be true to name. He is dark brown in color, with white on hind legs, is a deep-bodied, short-backed, well-muscled fellow, with ribs that would be hard to fault, and the desirable way of going. In Colonel Terry is found a type of drafter in favor with many farmers. A clean-bodied, dark bay, with strong back and kidney, he should be snapped up readily. He is a well-muscled, strong-quartered, active horse. An attractive-looking horse is the black Borthwick, an actor and a well-muscled coarse-goods straightaway, with his looks nearly perfect. His set of hind ankles, belly none, short back and deep saddle will doubtless render him very attractive and result in a steady sale. Included in the lot are Captain, a big light grey French draft horse. Baby Shatto and President, dark grey Percheron sires, of the stout, well-camped order.



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 to give satisfaction.

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Prices reasonable per carload. Write:

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 OF LARGE ENGLISH BERKSHIRES

Are still to the front. Some grand sows, bred for the spring trade. Have two fine litters ready to ship about March 15th. Now booking orders. Call or write for prices.

Jos. Laidler, Neepawa, Man.

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J. E. Marples, Deleau, Man.

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Bulls and heifers of all ages for sale. 300 head to select from. Farm 3 miles from Deleau and 10 miles from Oak Lake. JAMES D. MCGREGOR, Brandon P. O., Man.

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Herd headed by Sityton Stamp (imported). Females bred from or tracing to Windsor (imported). A. TITUS, NAPINKA, MAN.

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Shorthorns and Yorkshires.
Four choice young bulls by that grand-bred bull, Masterpiece, by Grand Sweep (imp.). A choice lot of heifers by Masterpiece, Knuckle Duster (imp.), Lord Lottie 2nd, and Pleasant King. Boars fit for service. Brood sows and suckers. I am offering bargains to make room. Also a fine lot of birds: W. P. Rocks. Correspondence solicited. JAMES BRAY, LONGBURN, MANITOBA.

Thorndale Shorthorns.

25 BULLS, and about 100 FEMALES, of all ages, to choose from.

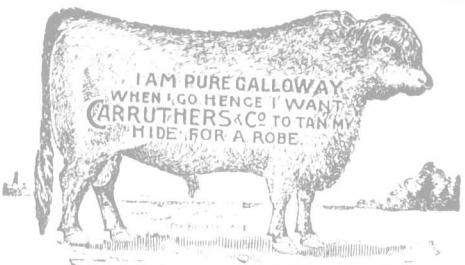
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I am offering three red bulls, one aged, of the heavy-fleshed type, also well-bred females. LEICESTERS of both sexes for sale. GEO. ALLISON, R.R. STATION, ELKHORN, C. P. R. Burnbank, Man.

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of Scotch breeding, seven bulls and forty cows and heifers, mostly all in calf or calf at foot. A few Clydesdales of both sexes. Geo. Rankin, Melrose Stock Farm, Hamiota, Man.



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He has left his hide in good hands. Send for our circular in reference to custom tanning. We send samples of work with circular.
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All nearly 2 years old. Apply for pedigrees and particulars. FOREMAN, Castle Farm, TEULON, MAN.

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Six Shorthorn bulls for sale, sired by Indian Warrior 2nd and Sityton Hero 7th, sweepstakes bull at Winnipeg in 1900 and 1901. Females of the best Scotch families, headed by the best bulls (regardless of price), makes this herd second to none for breeding and quality. Correspondence solicited. J. G. WASHINGTON, Elysee Stock Farm, Niaga, Man. PLEASE MENTION FARMER'S ADVOCATE.

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Shorthorns, Tamworths and Yorkshires FOR SALE.
10 bull calves for sale, 8 to 11 mos. old. 3 Yorkshire boars, fit for service. 1 Tamworth boar, fit for service. White Wyandotte cockerels. W. G. STYLES, ROSSER, MAN.

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15 mile west of Winnipeg, on main line C. P. R.

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Will sell either of my stock bulls, Robbie O'Day 22672 or Veracity 3119. Also a number of young bulls, some good enough for herd heads. YORKSHIRES. A few young sows to farrow in May. Orders booked for spring pigs. PLYMOUTH ROCKS. Some choice cockerels. RYE GRASS. Large quantity of clean, bright seed, also clean Flax Seed.

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Carman and Roland shipping stations. Have sold all our young bulls for this season. Have still some fine young heifers for sale. Call and see them, and compare prices and quality with what others are offering. Correspondence solicited. PAUL BROS., Killarney, Man.

Lakeview Stock Farm.
SHORTHORNS FOR SALE. I am offering for sale bulls and heifers of good quality. Clearer sold soon. THOMAS SPEERS, OAK LAKE, MANITOBA.

SHORTHORNS
6333 Medal herd of 1899-1900. Bulls in service are Nabhan camp and Fairbanks Duke. Some good young bulls for sale. J. G. BARRON, Carberry, Manitoba.

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were each awarded 1st prize, Winnipeg Poultry Show, '02. Cock was 1st prize as cockerel, Toronto Poultry Show, '01. These are being peoned with highest scoring pullets in America. Eggs for sale. E. SCARLETT, Oak Lake, Man.

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The shows prove it. Read the record. Has also Bk. Minoras, Hamburgs, S. C. B. Leghorns, and S. L. Wyandottes. Eggs, \$2 a setting. See my exhibit at the next Brandon show. Stock bred by me is fit to head any yard. Write for particulars. THOS. H. CHAMBERS, Brandon, Man.

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I have a large number of good young birds for sale, also eggs in season. Will book orders for delivery any time. Correspondence solicited. J. F. C. MENLOVE, VIRIDEN, MAN.

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Steamers leave Portland, Maine, every Saturday; St. John, every Wednesday; New York, every Wednesday and Saturday.

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General Agent, C. P. R. Offices,

WINNIPEG.

BRICK MACHINES

WRITE FOR CATALOGUE AND PRICES.

THE BURRIDGE CO'Y,

OFFICE AND WAREHOUSE:

132 PRINCESS STREET,
WINNIPEG, - MANITOBA.

45,000

RUSSIAN POPLARS AND WILLOWS.

20,000 Petrofsky Poplars, 10,000 Wobstli Riga Poplars, 5,000 Russian Golden Willows, 5,000 Russian Laurel Willows, 5,000 French Laurel Willows.

We are offering the above quantity of beautiful, healthy, well-rooted, young Russian trees, about two feet high, for next spring's planting, besides a good stock of small fruits, flowering shrubs, Virginia creepers, etc. For pretty trees, very hardy and fast growers, there is nothing that compares with this Russian stock. Send for descriptive price list.

CALDWELL & CO.

"Virden Nurseries," VIRDEN, MAN.

Manitoba Commission Co'y,

LIMITED,

LICENSED AND BONDED.

Consign your grain and save middleman's profit. Perfectly reliable.

251 GRAIN EXCHANGE,
P. O. BOX 1382, WINNIPEG.

H. S. PATERSON, MANAGER.

Nitrate of Soda

THE STANDARD AMMONIATE FERTILIZER FOR

MONEY CROPS

CORN, FRUIT, HAY, SUGAR BEETS, AND WHEAT.

Send post card for formulas and free bulletins.

William S. Myers, Director,
Dept. A, 12 John Street, New York.

NATIONAL TRUST COMPANY

LIMITED.

OFFICE AND SAFE DEPOSIT VAULTS,

323 AND 325 MAIN STREET, WINNIPEG

CAPITAL—\$1,000,000. RESERVE—\$270,000.

Authorized to act as Executor, Administrator, Trustee, Receiver, Guardian, Committee of Lunatic, Liquidator, General Agent, etc.

Accepted by the Courts as a Trust Company for the Provinces of Ontario, Quebec, and Manitoba.

Official Administrator and Guardian ad-Item for Manitoba.

Trust Funds invested and guaranteed.

Money to loan on Farm security.

Solicitors bringing Estates, Administrations, etc., to the Company are continued in the professional care thereof.

Correspondence invited.

Boxes in Safe Deposit Vaults for rent at \$5 a year.

ARTHUR STEWART, MANAGER.

SPELT FOR SALE. Having a large quantity of spelt for sale have decided to reduce the price to 60c. per bushel in holding sacks. Will be shipped to any address. Fine, bright, clean sample.

H. C. SIMPSON, VIRDEN, MANITOBA.

PLEASE MENTION FARMER'S ADVOCATE.

40 AYRSHIRES.

EXTENSIVE DISPERSION SALE.

Comprising the entire well-known "Highlands Farm Herd," owned by John H. Douglas, Warkworth, Ont.: 3 bulls, including the famous Blair Athol of St. Annes; 25 cows, including Miss Bonnie Doon, Alice of Hatton (imp.), and others of equally high-class breeding. A number of yearling heifers and spring calves, MAKING IN ALL OVER 50 HEAD. The entire herd will be offered without reserve on

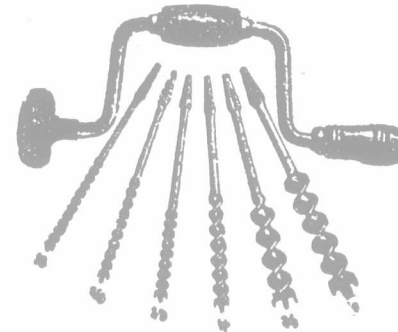
WEDNESDAY, APRIL 2nd, 1902.
CAMPBELLFORD STATION, G. T. R., EIGHT MILES FROM FARM.

Conveyances will meet trains for the accommodation of intending purchasers. CATALOGUES, containing terms and full information, on application.

GEO. JACKSON,
AUCTIONEER,
PORT PERRY.

JOHN H. DOUGLAS,
WARKWORTH,
ONTARIO.

SEND FOR ILLUSTRATED PRICE LIST.



Brace and 6 best Auger Bits,

only \$1.50; postpaid anywhere in the Dominion for \$2.00.



Combination Shoemaker's, Tinsmith's and Harnessmaker's Outfit.

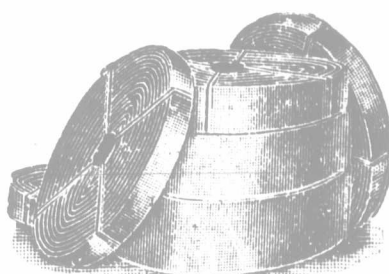
Should be in the possession of everyone. Only \$1.85.



Revolvers, \$1.50; postpaid, \$1.65.

Threshers' Supplies, Belting, Etc.,

at wholesale prices.



WILKINS & CO., 166 and 168 King St. East, TORONTO, ONT.

SEND YOUR NAME

FOR A CATALOGUE OF FLEMING'S

SEEDS

Selected upon the special recommendation of Mr. Bedford, of the Experimental Farm, as being the best for this climate.

IT WILL PAY YOU TO BUY THEM.

FLEMING & SONS, BRANDON.



THE OLD RELIABLE.

LIGHTNING HAY PASSES
HORSE AND STEAM POWER CATALOGUE FREE
KANSAS CITY HAY PRESS CO
439 MILL ST. KANSAS CITY MO

E. J. C. SMITH,

Agent for Canadian Kodak Co.

Supplies of all Kinds.

Printing and Finishing for amateurs.

276 SMITH ST., WINNIPEG.

Send for Catalogue. Established 1892.

2,500 LBS. OF RYE GRASS SEED

(*Agropyrum tenerum*).

RED FYFE WHEAT (60 bushels) from carefully selected seed. FARM HORSES — Clydesdales and drivers, home bred. SHORTHORN BULL, roan, 18 months old.

HENRY NICHOL,

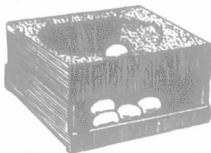
FAIRVIEW FARM, BRANDON, MAN.

"VIGILANT" NEST

SLIDING—ADJUSTABLE
(Patented Can. & U.S.)

The only nest in the World which positively prevents hens from eating their eggs.

Simple—Effective—Durable
No springs—Eggs cannot break. The inclined nest gathers them safely in lower section. Prevents fleas, or parasites, etc. Everlasting, never failing, comfortable. Thousands now in use. Ask your dealer for it or write to **L. P. Morin**, Inventor, Mfr., 12 Antoine St., St. Hyacinthe, Que.
Price 45c. each. AGENTS WANTED.



Barn Painting.



THIS illustration is from the latest catalogue of the Spramotor Co., showing the way to paint a barn with their machine. If you want to know what other things it will do, send for the new book—it's free, and will be ready in a week.

SPRAMOTOR CO.,

BUFFALO, N. Y. LONDON, CAN.

Windsor Salt Makes Fine Butter!

Creameries that have gained a reputation for making the finest high-grade butter are the largest users of Windsor Salt. Can you have better proof of its purity, dryness, evenness, than this?

BEST GROCERS SELL IT.

COMPRESSED

Boiled Blood

A SPLENDID, CHEAP, FOOD FOR

Cattle, horses, hogs, poultry, dogs.

WRITE FOR INFORMATION.

The Canadian Packing Co.

LONDON, ONT.

NOTICES.

"GOOD SEEDS—GOOD CROPS."—That is the way D. M. Ferry & Co., Windsor, Ont., put it in their announcement on another page. They are again sending out their famous seed annual free.

NORTHERN-GROWN SEEDS.—The Harry N. Hammond Seed Co., of Bay City, Mich., make a specialty of high-class farm and garden seeds and seed potatoes. Their crop last year aggregating 274 carloads! A request on a post card will secure one of their beautiful 100-page catalogues.

"RELIABLE SEEDS."—The year 1902 will witness a greater area of farm and garden sowing with seeds in Canada than ever before. Among the houses catering to this great trade is Wm. Ewing & Co., Montreal (successors to Wm. Evans Seed Co.). Write for their free catalogue.

WAVERLEY OATS AND SPELT.—Among the notable new farm seeds announced by Wm. Rennie, of Toronto, are Waverley oats and the much-talked-of spelt. Another specialty is the Giant sugar mangel. The advertisement on another page will repay careful study. This old and deservedly popular seed house aim first, last, and always, at quality.

THE PAINTING SEASON.—With farmers and others the painting season is at hand. The Canada Paint Company, who have extensive works in Montreal and Toronto, assist in making painting a genuine pleasure. Their well-known brand of mixed paints, stains, enamels, implement paints and varnishes are put up in a handy form, ready for use, and any dealer who desires to extend his business is in touch with the Canada Paint Company, Montreal, and sells their manufactures.

CANADIAN PORTLAND CEMENT.—The use of cement in the construction of walls, floors, cisterns, sidewalks, culverts, etc., is only in its infancy in this country. More cement concrete walls will be erected, and more floors laid in 1902 than in any previous year in Canada's history. Portland cements made in Canada are coming to the front. The "Star," "Beaver," and "Ensign" brands are manufactured by the Canadian Portland Cement Co., for whom the sales agents are the Rathbun Co., 310-312 Front St., Toronto. Write them for prices and other information as per advertisement elsewhere in this issue.

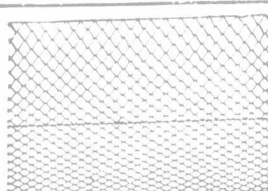
ZANZIBAR PAINTS.—Thousands of new farm buildings will be erected this season. Their durability and appearance will be vastly enhanced by a thorough application of good paint. Sheds, wagons, implements and windmills also need paint. It increases the value of the farm at little cost. In case of existing buildings, etc., the work should be done at once. The Zanzibar Paint Co., of Toronto, make an announcement elsewhere that "Farmer's Advocate" readers are interested in. Note what they say: "Weatherproof, waterproof, rust-proof." Ask your local dealer for their paints, or write them for particulars.

GOSSIP.

AN IMPORTANT AYRSHIRE DISPERSION SALE IN VIEW.

As announced in an advertisement in this issue, an unusually important dispersion sale of Ayrshire cattle is slated for Wednesday, April 2nd, when the entire herd of about 50 head of high-class cattle belonging to Mr. John H. Douglas, M. P. P., will be disposed of by auction at his farm at Warkworth, Ont., eight miles from Campbellford Station, on the Peterboro & Bellefonte branch of the G. E. R. Mr. Douglas is regarded as one of the best judges of Ayrshires in Canada, having frequently been called to judge the class at provincial and other leading exhibitions, and has imported many excellent animals personally selected from leading herds in Scotland. The herd was established over 40 years ago, and has been bred strictly on dairy lines, always considering that size, dairy conformation, large teats, with well-shaped udder, was essential in a profitable dairy cow. The herd has been strengthened in later years by such imported cows as Fairy Queen of Douglas, Alice of Hutton, Violet of Park, and others of equal merit, imported and home-bred, among which is Miss Bonnie Doon, daughter of Amy, who was sweepstakes cow at Toronto Industrial in 1893. The bulls used in the herd have also been of the highest class, both in breeding and conformation. The present stock bull is Blair Athol of St. Annes 9995, also White Prince (imp.), Glencairn of Burnside, Dainty Lad, Dominion Chief, and Prince Wellington, alias Gladstone. Blair Athol of St. Annes is a large bull, of great substance and of ideal dairy conformation. His calves, about 20 of which will be sold, are strong and vigorous, and possessing the finest dairy type. The modern Ayrshire is a model dairy cow in form, vigor of constitution, milk vessel, and capability to utilize farm forage profitably in the production of large quantities of milk, and when dry puts on flesh rapidly. Mr. Douglas' herd measures well up to the standard of the best of the breed in all essentials, and dairymen will find in this sale a rare opportunity to secure high-class cattle of the breed at their own price. The catalogue, giving fuller information, will be sent on application as per the advertisement.

NOTE CLOSE MESH AT BOTTOM



Page Acme Poultry Netting

is close meshed at bottom and does not require rail or board support at edges, having strong straight wire (No. 12 gauge) at top, bottom and in centre, cannot sag and is easy to erect. The "Page Acme" netting is of neat appearance, very durable and cheap. We also make farm and ornamental fence, gates, nails and staples. The name of Page is your guarantee of quality.

The Page Wire Fence Co., Limited, Walkerville, Ont.

"Hinge" Stay Fence

It will not sag, and is cheap, strong and durable. Write for circular and prices.
Good Agents Wanted in every locality, to whom we guarantee good returns.

SHEWING HINGE MOVEMENT OF STAYS UNDER PRESSURE STAYS CANNOT BEND & WILL SPRING BACK TO PLACE WHEN PRESSURE IS REMOVED.

The Strathy Wire Fence Co. (LIMITED), OWEN SOUND, ONT.



MAPLEWOOD HACKNEYS.

PROPERTY OF FREDERICK C. STEVENS, ATTICA, N. Y.

Have won more challenge cups, more championships, more first prizes, and more value in prizes during the past seven years than all the other Hackneys of America combined.

THIS IS THE PLACE TO BUY FOUNDATION STOCK.

Stallions of all ages, mares in foal, young mares and fillies. The best three carriage horse sires in America at the head of this stud: Langton Performer, Clifton 2nd, and Pandango.

SEND FOR CATALOGUE TO E. T. GAY, MANAGER, ATTICA, N. Y.



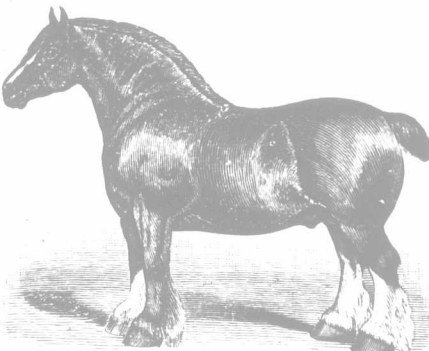
Clydesdale Stallions,

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

ROBERT GRAHAM, Ringwood P. O., Ont.

Stouffville Station, G. T. R., and telegraph office.

Imported Stallions for Sale.



FOURTH consignment, per steamship from Glasgow, due to arrive end of February, 1902.

DALGETY BROS., DUNDEE, SCOTLAND, the largest importers and exporters of horses in Canada, have on hand just now a choice selection of above, including several prizewinners. Our fourth consignment this season. Largest and best lot from Glasgow show. They combine size, quality and action, and all good colors; age, from two years upwards; and will be for sale at

BLACK HORSE HOTEL, FRONT STREET, TORONTO, ONT.,

on Wednesday, March 5th, for one week; after that at our own stables, London, Ont. Any one in need of a good stallion should not miss seeing our stock before buying. Prices right. Apply: -om

JAMES DALGETY, 229 HYMAN STREET, LONDON, ONTARIO.



SPECIAL OFFER IN BARCLAY'S PATENT ATTACHMENT

FOR THE CONTROL AND CURE OF

BALKING AND KICKING HORSES.

We will send our "Attachment," charges paid one way, to any part of Canada C. O. D., and subject to examination and approval of method. When satisfied it will do all we claim for it, pay the express agent our price, \$5.00. If not, the return freight will cost only a few cents. Our article will control any vice known to a horse, and is giving splendid satisfaction wherever used. Full illustration or implement. If you have a trouble-some horse, or a colt you wish to break in, write at once to

THE BARCLAY MFG. CO., BROUGHAM, ONTARIO.

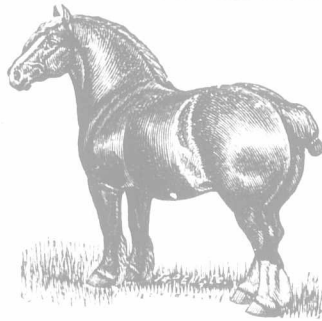
JOHN BRIGHT, MYRTLE, ONTARIO.

BREEDER OF

Clydesdale Horses

AND

SHORTHORN CATTLE.....



SHORTHORNS.

For Sale: 16 head of bulls and bull calves; also a large and choice lot of cows and heifers of all ages.

CLYDESDALES.

11 registered mares, 6 of which are in foal to such notables as Royal Cairnton, Prince Patrick and Lord Lyndock; also 2 young stallions.

Myrtle P. O. and R. K. Stn., G. T. R. and C. P. R.

Please Mention Farmer's Advocate.

CANADA'S GREATEST
CLYDESDALE and HACKNEY
 ESTABLISHMENT.

The Home of the Winners at the Four Leading Shows of America in 1901.
 The Greatest Winnings on Record:

Toronto Industrial Exhibition — Ten Firsts, Four Seconds, and One Third.

Ottawa Central Exhibition — Eight Firsts, Four Seconds, and One Third.

We also won every championship in both stallions and mares, except one which we lost thro' accident.



Buffalo Pan-American — Six Firsts and One Third.

Chicago International Exposition — Five Firsts, One Second and Two Thirds.

MACQUEEN, greatest living Clydesdale sire and show horse in the world, is now at the head of our stud.

We have now on hand and for sale more prizewinning, high-class young stallions and mares than can be found in all other stables in Canada.

30 HEAD OF STALLIONS

From two to five years old; home-bred and imported; of choicest breeding; of ample size, combined with quality and action.

TERMS AND PRICES TO SUIT PURCHASERS.

Intending buyers will consult their own interests by calling on us before purchasing elsewhere. Correspondence and an examination of our stock solicited.

Graham Bros., Claremont, Ont.

Claremont is 25 miles east of Toronto, on the C. P. R. Farm one mile from station.

**HAMMOND'S
EARLY MICHIGAN
POTATO**

This Marvelous Extra Early Potato originated by
HARRY N. HAMMONDSEED CO. Ltd
Box 226 BAY CITY, MICH.

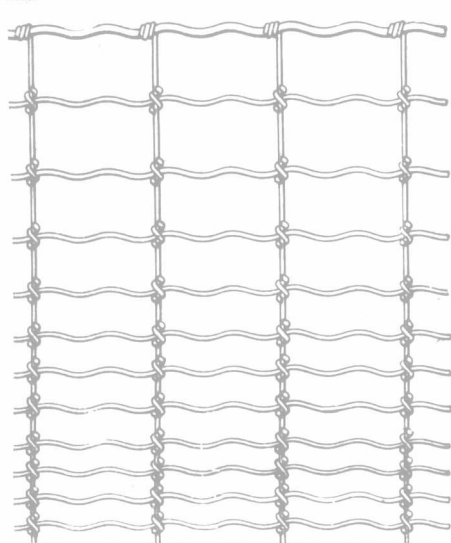
Largest growers of seed potatoes in America, 30 best
varieties. Northern Grown always best. Blight proof,
enormous yielders, highest quality. Lowest price for
lb., 50 lb., or carload. Elegant 100-page Bargain Seed
Catalogue FREE. Write for it today.

FOR SALE :
A Clydesdale stallion, rising 3 years old. In splendid condition; excellent bone and action; a prizewinner wherever shown last fall and fall before.
L. BRADLEY, COLUMBUS, ONTARIO.

"ORCHARD HILL" SHORTHORNS.
Herd comprises representatives of best Scotch-bred families, with Lord Lavender at head. Young animals of both sexes for sale.
om **ARTHUR JOHNSTON, Vandeur, Ont.**

LAKE VIEW STOCK FARM.
SCOTCH SHORTHORNS, both sexes, all ages. As good as the best.
Meaford Station, **JAMES BOWES,**
G. T. R. North. om **Strathnairn P. O.**


LAMB FENCE



A ready-made fence, complete in the roll. The high carbon wire used in the "Lamb" will better retain the spring and has more tensile strength than common hard wire. The large hard wire upright in one piece gives the fence greater support than a small or soft wire could do.

H. R. LAMB,
LONDON, ONT.

**Blood
will tell**



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

**DICK'S
BLOOD PURIFIER**

is a necessity where the best results from feeding would be obtained. It tones up the system, rids the stomach of bots, worms and other parasites that suck the life blood away.
Nothing like Dick's powder for a run down horse.
50 cents a package.

**Leeming, Miles & Co., Agents,
MONTREAL.**
Write for Book on Cattle and Horses free.

CLYDESDALE STALLION
Kinellar Stamp (3041).
One-year old bay.
W. M. BRASH, ASHBURN, ONTARIO

DR. PAGE'S ENGLISH SPAVIN CURE
For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements. This preparation (unlike others) acts by absorbing rather than blister. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by **DR. FREDRICK A. PAGE & SON, 7 AND 9 YORKSHIRE ROAD, LONDON, E. C.** Mailed to any address upon receipt of price, \$1.00. Canadian agents: **J. A. JOHNSTON & CO., DRUGGISTS, 171 KING STREET, EAST, TORONTO, ONT.**

**EIGHTH ANNUAL
Canadian Horse Show**

UNDER THE JOINT AUSPICES OF
**The Canadian Horse Breeders' Association
and The Toronto Hunt, Limited,**

WILL BE HELD AT
The Armouries, Toronto, Can.,

ON
THURSDAY, FRIDAY and SATURDAY,

April 10, 11, 12, 1902

Entries close on Saturday, March 29, 1902, and should be addressed to **HENRY WADE, Parliament Buildings, Toronto.**

**CLYDESDALE AND HACKNEY
STALLIONS AND MARES**

FOR SALE: THE CLYDESDALE STALLION
CHARMING LAD 2923
Rising 3; large size and very smooth; has won 6 prizes and a gold medal at Ottawa Exhibition. **LORD STANLEY 2537,** rising 2, also a prizewinner. **CLOTH OF GOLD 2959,** 5 years old; first-prize winner at Toronto and first and sweepstakes at London. Also brood mares and a number of very fine foals of both sexes. **TWO HACKNEY** stallions; also two mares rising 4 and 5 years old; large, handsome, high-steppers, well broken to drive. Size, action and quality combined in all. Inspection invited.
O. SORBY, GUELPH, ONTARIO.

Shires, Shorthorns, and Leicesters.
Young stock of both sexes for sale. Imported Prince Louis - 32082 - heads the herd. Write for prices or come and see them.
om **John Gardhouse, Highfield P. O., Weston, G. T. R. and C. P. R.**

**FOR SALE:
CLYDESDALES AND SHORTHORNS.**
Stallions from sucking foals up. Brood mares and fillies of superior quality and breeding. A few grand young Shorthorn heifers, bred in the purple. Special mention, the great four-year old stallion "Prince Lyon."
THOS. GOOD, Richmond P. O., Ont.
R. R. Station, Stittsville, C.P.R.

FOR SALE: A Pure-bred Clydesdale Stallion
Bred from imported stock; five years old; brown in color.
GEORGE MARTIN, CROMARTY P. O.

4 Imp. Clydesdale Stallions 4
Amphion, Vol. 21, 2 years old, bay; Bucepholus, Vol. 21, 2 years old, black; Vougeur, Vol. 21, 2 years old, brown; Lord Gartly, Vol. 23, 4 years old, brown. Representing the blood of Golden Sovereign, Sir Christopher, Montrose Matchless, and Royal Gartly.
GEO. G. STEWART, ROSBANK FARM, P. O. and Station, Howick, Quebec.

Clydesdale Stallions
FOR SALE.
One seven-year-old, om
One three-year-old, om
Three two-year-olds.
Also a few mares and fillies of good size and good quality. I. Devitt & Sons, Freeman P. O., Ont. Burlington Junction Station $\frac{1}{2}$ mile from farm.

WM. SMITH, COLUMBUS, ONT.,
IMPORTER AND BREEDER OF
Clydesdale Horses & Shorthorn Cattle
IMP. CLYDESDALES AND AYSHIRESHES.
The three imp. stallions, Copyright, Baron Frederick and Baron Laing, and the Canadian bred stallion, Laurentain. Ays- shires all ages; and poultry, utility breeds. Eggs for sale. om
ROBT. NESS & SONS, Howick, Que., P. O. & Sta.
JAMES A. CRERAR, Shakespeare Ont.
BREEDER AND IMPORTER OF om
HIGH-BRED SCOTCH SHORTHORNS

DR. HESS' STOCK FOOD

IS A GUARANTEED MILK PRODUCER.

W. T. S. Bear, manager of the Oregon Dairy Farm, Franklin, Pa., has the following to say:
DR. HESS & CLARK, ASHLAND, O.
Dear Sirs, -Ten days ago we began feeding Dr. Hess' Stock Food to a dairy herd of 35 cows, part grade Jerseys and part Red Polls. All were suffering from indigestion, owing to heavy feeding of grain through the entire summer; all were falling away in milk; some were so bad as to refuse to eat for several days. Tried all manner of feeds and combinations, but only partially succeeded in checking the decrease in milk. Two days after we began feeding Dr. Hess' Stock Food they began to mend and increase in milk, until they are now gaining an average of two pounds of milk per head per day, without any increase of feed or change of feed or any other conditions. I think the improvement wonderful, especially when we consider that it was done while the temperature was between 10 and 20 degrees above zero, and the first cold snap at that, which is always the worst. Yours truly, **W. T. S. BEAR, Manager Oregon Dairy Farm.**

Feed Dr. Hess' Stock Food to your cows; if it don't pay, your money will be refunded. 7-lb. sack, 65c; 12-lb. sack, \$1.00; 25-lb. sack, \$2.00; 50-lb. sack, \$3.75; 100-lb. sack, \$7.00.
SOLD BY DEALERS GENERALLY, OR ADDRESS:

THE GREIG MANUF'G COMPANY, CANADIAN AGENTS, MONTREAL, QUE.

FREE - Dr. Hess' scientific veterinary work, giving the symptoms and latest treatment on stock diseases, will be mailed you for the asking. Address:
DR. HESS & CLARK, ASHLAND, OHIO.

OAKLAWN FARM

**THE GREATEST
IMPORTING and BREEDING
ESTABLISHMENT
IN THE WORLD.**
**PERCHERONS,
FRENCH COACHERS.**

On hand upward of
500 HEAD.
Our late importations included the Principal Prize Winners at the Great Shows of France.
At the recent

INTERNATIONAL LIVE-STOCK EXPOSITION
at Chicago, the Oaklawn Percherons won every Championship, First Prize, and Gold Medal and every Second Prize in classes.
Notwithstanding the superior quality of our horses and the amply fair and certain terms of our breeding guaranty, backed by our well-known responsibility, it is a fact that our prices are lower than can be obtained elsewhere in America. Catalogue sent on application.

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

Smith & Richardson

**COLUMBUS, ONT., IMPORTERS OF
CLYDESDALE STALLIONS.**
Our latest importation of 4 stallions is the best we ever made, weighing from 2,000 to 2,200 lbs., and of the well-known Darnley and Prince of Wales breeding. We have a number of pure-bred mares; also some young Canadian-bred stallions and fillies. Write for prices. om
Railway Stations: **Oshawa, G. T. R.; Myrtle, C. P. R.**
Long-distance telephone at Columbus.

4 Imp. Clydesdale Stallions

31 Imported Shorthorn Cows and Heifers.
7 Canadian-bred Cows and Heifers.
3 Imported Shorthorn Bulls.
5 Canadian-bred Bulls. om
GEO. ISAAC & BROS., BOMANTON, ONT.
COBURG STATION, G. T. R.

Clydesdales
Two stallions for sale, rising two and three years old. Correspondence solicited. om
Josiah Hallman & Sons, Washington, Ont.

HIGH PARK STOCK FARM.
GALLOWAYS of the choicest breeding and most fashionable strains. Inspection or correspondence invited. **A. M. & ROBERT SHAW,** om **P. O. Box 294, Brantford, Ont.**

INGLESIDE HEREFORDS.

A few choice heifers and young bulls by **Mark Hanna**, sweepstakes bull at Pan-American, Shropshire Sheep and Tamworth Swine.
H. D. SMITH,
Compton, Quebec. om
PLEASE MENTION FARMER'S ADVOCATE.

The Sunnyside Herefords.

Imp. Sunny Slope Tom 1st at head. The blood of Lord Wilton, Garfield, Grove 3rd, Beau Real and Diplomat represented. Special offering: 3 bulls, 8 to 14 mos.; 6 young cows and heifers. Inspection and correspondence solicited. 2 choice registered Berkshire boars, price \$10.00 each. om
O'NEIL BROS., Southgate, Ont.
Lucan station, G. T. R. Ilderton station, L. H. & B.

High-class Herefords

We have for sale the following choice young stock, which have been bred from imported and American sires. Intending buyers will do well to inspect the following: 18 young bulls, 2 aged bulls, 20 young heifers. Correspondence invited. om

A. S. HUNTER, DURHAM, ONT.

6-POLLED ANGUS BULLS - 6
Six young bulls, from 6 to 16 months old; prizewinners among them. All for sale. om
Alex. McKinnon, Hillsburg P. O. and Station.

BELLEVUE SHORTHORNS.

Both sexes. IMPORTED AND HOME BRED. All ages. Prizewinners at home and abroad.

**EDWIN BATTYE,
GORE BAY P. O. AND PORT.** om
MANITOULIN ISLAND.

Mercer's Shorthorns for Sale

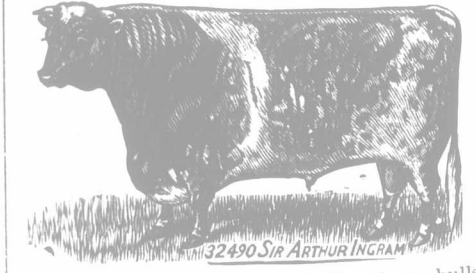
BULLS and heifers from such families as Matchless, Clarets, Missies, Stamfords, Fashions, Buttercup, Isabellas, Princesses, Beatrices, and other choice families. Herd headed by Village Squire - 24993 - (he by Abbotsford), assisted by a son of old Royal Sailor (imp.). Cows and heifers in calf. Four nice young bulls. Our herd stands at the head of the show-ring in this northern country. Over 40 head now in the herd. Intending visitors drop a card and they will be met at the C. P. R. station, Markdale, one mile from farm. Write for prices. No business, no harm. Our motto: "The best is none too good." om
THOS. MERCER, MARKDALE, ONT.

JOHN DRYDEN,

BROOKLIN, ONTARIO.
BREEDER OF
**CRUICKSHANK SHORTHORNS AND CHOICE
SHROPSHIRE SHEEP.**
Choice Young Bulls and Ram Lambs for sale. Write for prices. om

FOR SALE:
Nine Shorthorn bulls, from 8 to 15 months old. Also pure-bred Clydesdale stallion, bred from imported stock, rising 2 yrs.; brown in color. om
McDONALD BROS., WOODSTOCK, ONT.

Wm. Linton,
AURORA, ONT., 1902



Has for sale three imported Shorthorn bulls and a few heifers, various ages; also a few home-bred bulls fit for service. This is one of the herds that the late Amos Cruickshank used to resort to for stock bulls.
Aurora is 24 miles north of Toronto, by Metropolitan R. R. Can leave Toronto any time during the day, and be back in Toronto in two hours and a half. om

J. & W. B. WATT, SALEM, ONTARIO

BREEDERS OF— Shorthorn Cattle, Clydesdale Horses, Leicester and Oxford Sheep, and Berkshire Pigs.

Our herd contains such families as Matchless, English Ladys, Mildreds, Village Buds, Missies, Stamfords, Clarets, and Marthas. Royal Wonder = 34682 =, junior champion of 1901, now heads the herd.

FOR SALE:

SHORTHORNS: 7 young bulls, from 8 to 10 mos. old, sired by Let's Lad and out of deep-milking cows.

SHORTHORNS, SHROPSHIRE, COTS WOLDS. We are now offering a number of heifers and heifer calves; a few bull calves; a number of cows; all bred in the purple and as good as the best.

WE HAVE FOR SALE 10 SHORTHORN BULLS From 6 to 18 months old. Nearly all from imp. dams, and sired by the imp. Golden Drop bull, Royal Prince.

John Miller & Sons, Brougham P.O. CLAREMONT STATION, C. P. R. ONT.

J. R. McCallum, Iona Station, Ont. Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices.

ROSEVALE SHORTHORNS Are of the up-to-date sort. We have for sale a number of young bulls and heifers of all ages.

Shorthorn Bulls. Scotch-bred, good color, lots of size and style—rare good ones. Also females all ages. Write for particulars, or, better, come and see them.

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Maple Lodge Stock Farm. ESTABLISHED 1854. SHORTHORNS.—First-prize milking strains, best Scotch breeding.

A. W. SMITH, Maple Lodge P. O., G. T. R., 3 1/2 miles. GREEN GROVE HERD OF SHORTHORNS. This herd is headed by the famous show bull, Spicy Robin = 28259 = (bred by J. & W. B. Watt).

George D. Fletcher, Binkham P. O., Ont. Erin Shipping Station, C. P. R. SHORTHORNS. Fashionably bred, of both sexes and all ages.

H. PARKER, Durham P. O. and Station. A QUICK, SHARP CUT hurts much less than a bruise, crush or tear.

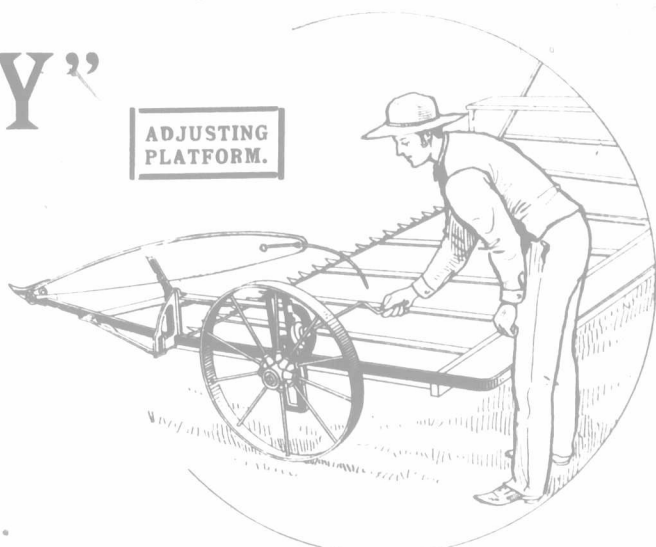
MILKING SHORTHORNS. 2 young bulls of good milking strains and A1 quality for sale. Come and see them. Stn. 3 1/2 miles from farm.

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"YOU'RE EASY"

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Massey-Harris Binder.



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IMPORTERS AND BREEDERS OF Scotch Shorthorns and Shropshire Sheep.

Are offering 10 Imp. bulls from 10 months to 2 years old; 10 home-bred bulls from Imp. stock, 10 to 15 months old; 40 Imp. cows and heifers, all ages.

Burlington Jct. Stn. Tele. & Phone, G. T. R.

SHORTHORNS.

Imp. Prime Minister and Sailor Champion now at head of herd, which are all bred on straight Scotch lines, and are of the up-to-date kind.

SHORTHORNS: We are offering for sale 8 bulls, from 8 months to 3 years old, by Mungo 2nd and Scottish Bard.

ROBT. GLEN, Owen Sound, Ontario.

12 SHORTHORN BULLS.

ALL UNDER TWO YEARS OLD. PRICE, FROM \$100 UPWARDS.

At the Toronto Industrial, 1900, the herd was awarded first for aged cows, three-year-old cows, two-year-old heifers, sweepstakes for female any age, first for herd (bull and four females), and first for breeder's herd.

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J. & W. RUSSELL, RICHMOND HILL, ONT.

Bonnie Burn Stock Farm. 40 rods north of Ont., offers Shorthorn bulls and heifers with calf. Shropshire ewes with lamb, and Berkshire pigs.

SHORTHORNS FOR SALE: Seven choice young bulls, from 9 to 12 months old. Also a few choice heifers, in calf to the grandly bred Marr bull, Spicy Marquis (imp.).

FOR SALE: 3 choice Shorthorn bulls 11 months old. Also Barred Rock eggs from prizewinning stock.

SHORTHORNS (IMP.) Cows and heifers, imp. and home-bred. Bulls, imp. and home-bred—all ages. Representing the fashionable blood of Scotland.

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LESS LABOR AND MORE MONEY ON THE FARM.

BUY A LOW-DOWN, THICK-FLESHED

Hillhurst Shorthorn Bull,

Scotch-topped, from Cumberland, Gloucestershire, or Canadian dairy strain, and raise DEEP-MILKING, BIG-FRAMED COWS AND BABY BEEF in nature's way.

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Scotch Shorthorns

BREEDING FEMALES ALL IMPORTED.

Imp. Golden Drop Victor our present stock bull. Eleven young bulls and some young cows for sale at reasonable prices.

H. CARGILL & SON, Cargill Station, G. T. R. CATALOGUE FREE. Cargill, Ontario.

SHORTHORN BULLS

Good ones. Choicely bred. Moderate prices. Send for bull catalogue. Also Scotch-bred cows and heifers.

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Shorthorns, Berkshires, Leicesters Am offering at present the grand stock boar, Crown Prince; also some young ones.

ISRAEL GROFF, ALMA, ONTARIO.

Shorthorns and Berkshires

Four young bulls, 6 to 12 months old. Pigs, 2 to 6 months old. Pairs supplied not akin.

MAC CAMPBELL, NORTHWOOD, ONT.

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YOUNG COWS AND HEIFERS In calf to Imp. Prince of the Forest and Prince Ramsden; also a few young bulls fit for service.

G. A. Brodie, Bethesda, Ont.

HIGH-CLASS SCOTCH SHORTHORNS of the following families, for sale at moderate prices: Village Girls, Broadhooks, Beaufort Roses, Missies, Clarets, Marr Floras, Nonpareils, Minas and other choice families.

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SHORTHORNS: We are offering 3 extra choice yearling bulls, all from imported sires, straight Cruickshank, with Lavendar and Miss Ramden dams.

THOS. ALLIN & BROS., Oshawa, Ont.

SHORTHORNS (IMP.)

Cows and heifers, imp. and home-bred. Bulls, imp. and home-bred—all ages. Representing the fashionable blood of Scotland.

EDWARD ROBINSON, MARKHAM P. O. & STN.

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WYEBRIDGE, ONT., IMPORTER AND BREEDER OF SHORTHORNS, OXFORD DOWNS AND BERKSHIRE PIGS. Young stock always on hand.

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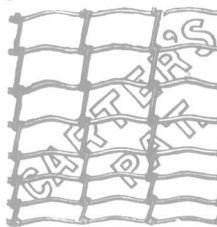
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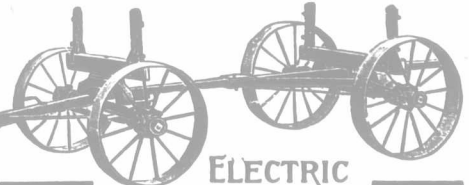
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In the spring. They feel better, look better, work better, and are less liable to catch cold. Don't let your horses stand in the barn all night with a heavy damp coat of hair on. It weakens them and they lose flesh. If clipped they dry out quickly, gain flesh and can be groomed in 1/4th the time. Horses can be clipped in 30 minutes with our machine. Send for Catalogue H. CHICAGO FLEXIBLE SHAFT CO., 150 La Salle Ave., Chicago, Ill., U. S. A.



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To weave your own fence of Galvanized or Bare Steel Spring Wire, 22 inches high, at 25 Cts. per 100. Rods, 25 Cts. per 100. Agents Wanted. Catalogue Free. OATTEE Wire Fence Mach. Co. Box 1, Ridgeway, Ont.



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Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hubs. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free. ELECTRIC WHEEL CO., BOX 253, QUINCY, ILL.

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B. P. Rock, W. Wyandotte, Buff Orpington, and H.udan; also Pekin ducks; \$1.25 per setting. C. W. BEAVER, Prescott, Ontario.

Mammoth Bronze Turkeys.

S. G. and colored Dorkings, S. C. Br. Leghorns, Barred Rocks, Toulouse geese—over 500 grand young birds from winning strains. Pairs and trios mated not akin. ALFRED E. SHORE, White Oak, Ont.

Better Hatches with Hens

by new method of experienced poulterer; beats incubators; simplifies work with sitters; saves your temper. Directions, 20 cents. Using my method you make many times this much on each setting. on VALLEY POULTRY FARM, Helena, Montana.

R. G. ROSE, GLANWORTH, ONT., offers for sale a choice lot of M. B. turkeys from his 40-pound imported yearling to m. Also Black Minorcas, W. Wyandottes, Barred, Buff and White Rocks. Pairs and trios mated not akin.

GRAMMING MACHINES, FATTENING COOPS, Incubators and Brooders POULTRY SUPPLIES. A. J. MORGAN, MFR., LONDON. Catalogue free

MARILLA.

That's the name which means highest excellence in incubators and Brooders—the most perfect regulation of temperature and moisture. Hot air or hot water. Send for catalogue and guarantee. Your money back if you are not satisfied. MARILLA INCUBATOR CO., Box 102, Rose Hill, N. Y. Machines may be seen at the store of our agent, C. J. DANIELS, 196 River St., Toronto, Canada.

SHOEMAKER'S BOOK ON POULTRY

and Family Almanac for 1902. 160 pages 120 engravings, the finest work of its kind ever published. Gives recipes for making condition powders, remedies for all diseases of fowls, plans and diagrams for building poultry houses; tells you how to raise chickens profitably; gives description with illustrations of 48 leading varieties of pure bred fowls; also and poultry supplies at lowest prices. It is an encyclopedia of chicken information, worth many times its cost to anyone interested in poultry. You positively cannot afford to be without it. Sent postpaid, on receipt of price. Send address. G. C. Shoemaker, Box 82, Freeport, Ill.

IT'S THE MAN WITH Canadian Incubators THAT DOES THE WORK.

CANADIAN INCUBATOR & BROODER CO., 987 CATALOGUE - ONT TORONTO, CAN.

GOSSIP.

We are indebted to Mr. W. H. Ladner, Ladner, B. C., for a copy of the Yearbook of British Columbia, and the latest maps of that exceedingly interesting Province. The Yearbook is up-to-date, covering 1901, as well as the history of the Province from an early date. It is replete with interesting and useful information regarding the rich resources of the Pacific Province in agriculture, horticulture, stock-raising, forest wealth fisheries, and the precious metals. A chapter containing much useful information respecting the Canadian Yukon and Northern Territory generally is added. Mr. R. E. Gosnell, Librarian Legislative Assembly, Victoria, B. C., is the compiler.

In response to inquiries received by the Animal Husbandry Department of the Iowa Experiment Station relative to the feeding value of stock foods as by-products of corn, flaxseed and cottonseed for cattle-feeding purposes, Prof. W. J. Kennedy, through the co-operation of Mr. Albert E. Cook, Odebolt, Iowa, has inaugurated an experiment in which eleven lots of twenty head each are on feed. A uniform bunch of hogs is following each lot. The steers are from two and one-half to three years of age, and are high-grade Shorthorn Hereford and Angus, purchased by Mr. Cook in western Nebraska. Hay and straw will be used for roughage, and crushed, snapped corn, to be followed by corn-cob meal, will form the corn part of the grain ration. Lot I, is being fed crushed corn and cob and roughage. Lot II, crushed corn and cob, oil meal and roughage. Lot III, crushed corn and cob, cottonseed meal and roughage. Lot IV, crushed corn and cob, gluten meal and roughage. Lot V, crushed corn and cob, buffalo gluten feed and roughage. Lot VI, crushed corn and cob, germ oil meal and roughage. Lot VII, crushed corn and cob, dried blood and roughage. Lot VIII, crushed corn and cob, Iowa stock food and roughage. Lot IX, crushed corn and cob, Standard stock food and roughage. Lot X, crushed corn and cob, International stock food and roughage. Lot XI, crushed corn and cob, and roughage, this lot to be grazed on a good blue grass pasture as soon as grass season arrives, to be fed in comparison with Lot I, which will be fed the same grain ration, but dry feed for roughage. The feeding period will be of five or six months duration. F. R. Marshall, Assistant in Animal Husbandry, selected the cattle out of a bunch of 700, and made the final division. Mr. R. J. Kinzer, of the Animal Husbandry Department, will do the feeding. The results of this experiment will be published about the first of next September.

INCUBATORS AND BROODERS.

Guaranteed to give satisfaction. Built to last a lifetime. Absolutely self-regulating, self-ventilating, and perfectly reliable in every way.

For circular giving prices, etc., write the manufacturer: J. E. MEYER, Shipping station: Guelph, Kossuth, Ont.

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Buy your fencing and gates direct from the manufacturer. The Oshawa Wire Fence Co., Limited, are the largest manufacturers of different styles of fencing and gates in Canada. Send for catalogue and prices.

OSHAWA WIRE FENCE CO., Ltd., OSHAWA, ONT.

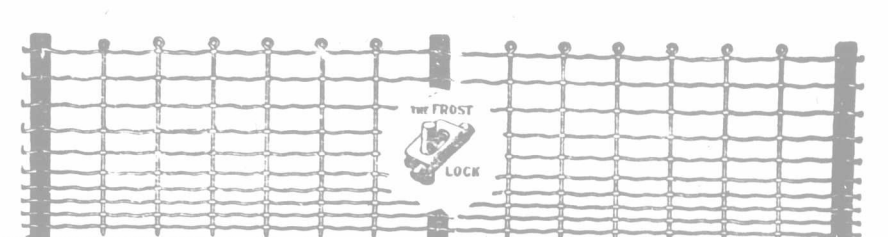
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About \$300 more to fence a 100-acre farm with a ready-woven fence than to do it with the London Fence Machine.

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Write for our new spring catalogue and 1902 prices. Coiled spring and all kinds of wire. Reliable, enterprising agents wanted.

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Frost Wire Fence is a Strong Fence.

The 10 wires and 6 stay fence has heavy uprights. There is not a weak spot in its construction. It will last three times as long as other fences. Place your order for Frost Fence, satisfaction guaranteed. Write for Catalogue. THE FROST WIRE FENCE CO. LTD., WELLAND, Ont.

DO IT NOW

If you really want to add to your income by starting a business that your wife will take pleasure in helping you with, write and find out about the PRAIRIE STATE INCUBATOR. The new catalogue No. 84, with 700 half-tone illustrations, 4 three-color reproductions from original paintings, and 50 full page tinted plates is sent free. Write now. PRAIRIE STATE INCUBATOR COMPANY, HOMER CITY, PA. Or Toronto, Ont., Can., 190 Yonge St.

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ON SALE BY RESPONSIBLE CANADIAN AGENTS. Used with uniform success on twenty-six Government Experiment Stations in the U.S., Canada, Australia and New Zealand; also by America's leading poultrymen and many thousands of persons in every part of the world. Guaranteed to give satisfaction or price refunded. The original and only genuine non-moisture incubator, fully covered by patent. WRITE FOR NAME OF CANADIAN AGENT NEAREST YOU. Agents carry incubators in stock, duty paid, and can save you money. Complete 180-page catalogue for 1902, finely illustrated, free if you mention this paper. Ask for Book No. 110. Address Cypfers Incubator Co., Buffalo, N. Y., Chicago, Ill., Boston, Mass., New York, N. Y.

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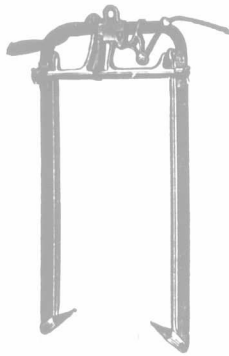
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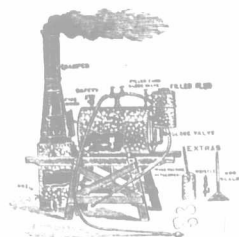


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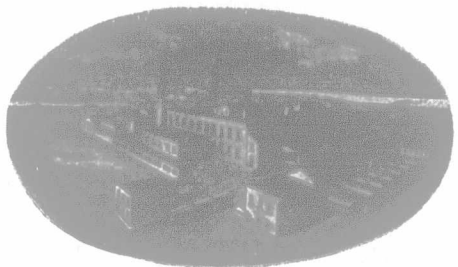
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W. W. Everitt, Chatham, Ont., breeder of Jersey cattle, Berkshire pigs, and poultry, writes: "Toulouse geese advertised all sold, going from the far east to Moosomin in the west; could have doubled sales had I had the stock. All stock doing well; Jerseys and Berkshires doing extra. Still have a few choice young bulls for sale at reasonable prices."

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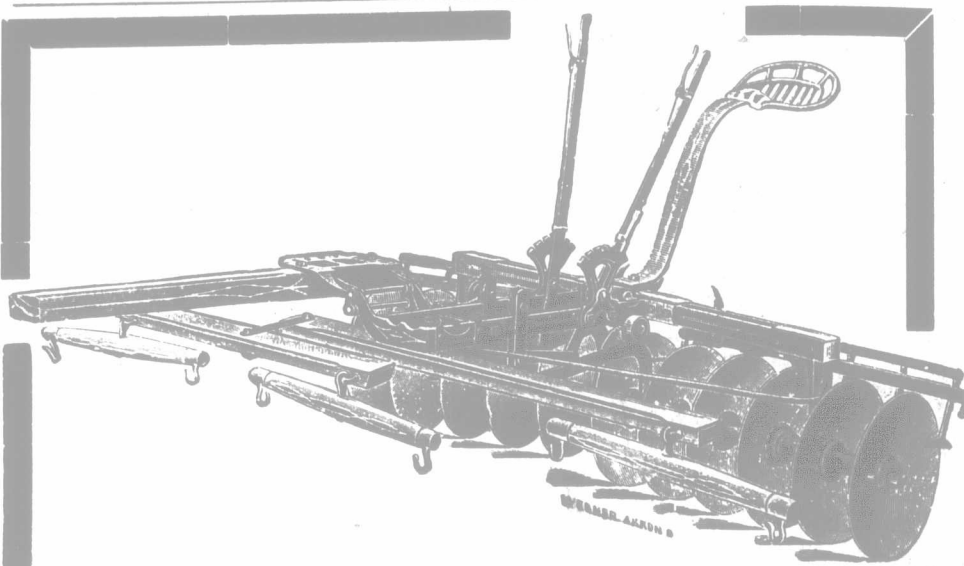
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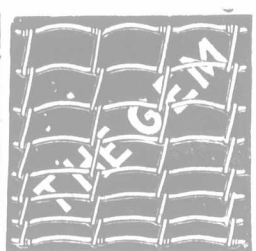
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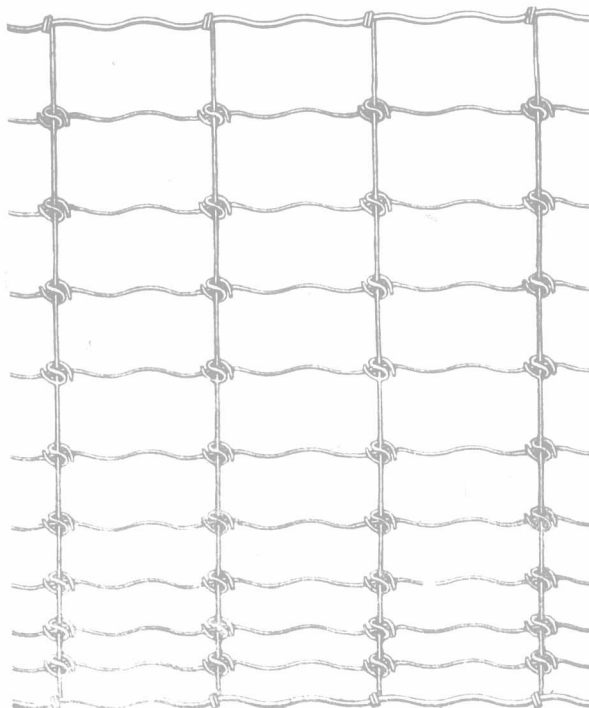
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