

THE FARMER'S ADVOCATE

AND HOME MAGAZINE



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

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A GROUP OF SHORTHORNS OF KINSELLAR BREEDING.
FROM THE VALLEY HOME HERD OF MESSRS. S. J. PIERSON & SON, MEADOWVALE, ONT.

EDITORIAL.

Canada Cattle Trade Restrictions.

In Glasgow there was recently held a conference of the representatives of salesmen and shipping companies, with others interested in the cattle trade with Canada. The object of the conference was to consider what action should be taken in view of the recent restrictions which the Board of Agriculture have placed on the importation of cattle from Canada. Those present were unanimous in the opinion that the present restrictions were not only prejudicial to the cattle trade, but to the community in general. An executive committee was appointed to lay their views before the Government and the Board of Agriculture.

It appears that Mr. Secretary Rusk wishes to aim a parting blow at Canadian stock interests before making his debut. The infliction of ninety days' quarantine on Canadian cattle entering the United States, and the preventing them from being shipped in bond over United States railways is, indeed, a clincher. That he has proved subservient to the different breeders' associations and cliques does not require a very exalted perception. At the same time we must admit that the unjust restrictions enforced by Great Britain, along with their continued absurd accusations that our cattle are diseased, give the shadow of an excuse for this ridiculous ruling, and we presume this is another blessing in disguise which so many of our Canadian writers have fancied they recognized.

From the tone of a recent speech made by Mr. Chaplin, the British ex-President of the Board of Agriculture, he evidently is not satisfied with the arrangements of the Australian Government. This body have not only arranged to carry free to the seaboard by the government railways all dairy produce intended for export, but have also decided to pay a bounty for every pound shipped to Great Britain. Mr. Chaplin said, "This is a very grave and very important question, and one which he thought must come before parliament." The British agricultural press are advising Mr. Chaplin to bring the subject before parliament without delay. We are rather curious to know what excuse can be found for the enterprise of this colony.

In order to facilitate agricultural education, the Pennsylvania State College has instituted a Chataqua course in agriculture. All agree that a more intimate knowledge of this science in all its branches is of great service to those who intend to aim at higher farming and can find the means to obtain it; but it is just here the trouble begins: Only a few can afford the time and expense necessary to put in three or more terms at an agricultural college. Again, agricultural pursuits are looked upon from such a practical standpoint, there is always a disposition on the part of a large number of the farming community to look upon these institutions as all well enough in theory, but decidedly lacking in teaching the work when reduced to practice. The fact is, that a college course was not ordained to complete an education, but is only what in farming is known as the preparation of the soil for the after reception of the seed, and thereby attain the highest results in the production of the crop. Thus a college or university course strengthens the mind, and gives it that receptive frame that gives it strength to think out better plans and better methods, which will be found of the greatest assistance in whatever vocation the student may intend to enter in after life. Thus where it is found impracticable to attend college, this Chataqua system has a great advantage for those who are anxious to study the science of agriculture without leaving their duties at home, the object being to direct a course of reading which will cover those branches that are of most importance. Three groups of subjects are recommended, viz.: Agriculture (soils, crops and fertilizers); Animal Husbandry (stock breeding and feeding, dairying and veterinary science), and Horticultural (fruit and vegetable gardening, etc.) Under each group there have been selected five standard books, which the student is intended to read. This course is free to all, and is so planned that the student will have the fullest liberty in the choice and order of the subjects, and the amount of time to be devoted to them. The projector of the scheme, Mr. H. J. Waters, B. A. S., professor of agriculture for the college, estimates the cost of the books required at \$20.00, which will cover the cost of the books required for all three courses, and all of them are standard works which should be in every farmer's library. This course is free to Canadians, but we think that if the staff at the Ontario Agricultural College were to direct a similar course of reading, it would be appreciated by those devoting their attention to the departments of the farm in which they are most interested, and whose circumstances prevent them availing themselves of the more thorough college course.

Valley Home Shorthorns.

The illustration which adorns our front page for this issue represents four Shorthorns from the Valley Home herd of Messrs. S. J. Pierson & Son, Meadowvale, Ont. These cattle are not only of orthodox North Country breeding, but as individuals embrace that true Aberdeenshire type from which so many successful Canadian showyard winners have sprung. The young bull is Mina Lad, just turned two years old, and we feel that no pen of ours can really do him justice, so thoroughly good is he all over. His equal in form is seldom approached, for with him every desirable beef point is clothed with a depth of natural flesh rarely seen. Mina Lad is a beautiful mossy roan of great substance. He has a capital front with deep ribs, particularly good at both flanks, well finished out behind, capital twist, and is one of those good ones that improve on acquaintance. Further he comes honestly by his strong individuality, as he was sired by Stanley, which was a sweepstakes winner two years in succession. He again was sired by Challenge, a bull in whom two of the longest successful Sittyton strains known in Canada are united, viz., those of Old Barmpton Hero and the Matchless of Elmhurst. Imported Mina Lass, his dam, is the roan cow which stands fronting us in the picture. She was bred at Kinnellar, and is full of that feminine character that would lead us to mark her as a breeding cow of merit. She, too, belongs to that easy feeding sort that have made North Country breeding popular among all feeders who are familiar with them, and to her breeding the young bull may claim half of his outstanding excellence, as Mina Lass was sired by Gravesend, a bull of Sittyton breeding that was much used upon the Kinnellar herd, and she herself belongs to the Mina family, one of the most numerous and most valued of the old sorts there.

The other cow in the foreground is Wimple of Trafalgar, a full sister of the roan heifer illustrated in Mr. Cockburn's group in our December issue, and which so successfully showed at the circuit of fairs during 1892. This cow belongs to another Kinnellar family, many specimens of which have been remarkably good ones. She was sired by Grand Warrior, a bull of Mr. Arthur Johnston's breeding, sired by the imported Kinnellar bull, Warrior, his dam being imported Fame 2nd, bred in the Sheriff-Hutton herd of Mr. John Linton, Yorkshire, England. Wimple of Trafalgar's dam is Wimple of Vermont, bred at Kinnellar, and by the Sittyton-bred bull Vermont. Here is breeding that should suit anyone, and she, too, can back it up, as she is a most likely cow for future honors in the show ring.

The third cow, standing in the background, is Jilt, a three-year-old heifer of good substance. She was sired by the imported Kinnellar bull Reporter, her dam by imported Baron Linton. Her grand dam was the imported Kinnellar cow Juliet. Among the many other good things in this herd, the imported bull Tofthills deserves mention. He is a bull of immense scale, and is remarkably smooth and deep-fleshed. He was first in the class for aged bulls at the late Toronto Industrial Show. He has done exceedingly well for his proprietors. Many of the heifers are by him, and we are assured he is still as useful as ever. The herd numbers fifty head, and comprises the thick-fleshed, useful sorts now in demand. Many of the most popular Scotch families are represented, and the herd is in the most profitable breeding shape possible, all the cows being regular breeders, while the heifers are a desirable lot. A number of these are certain to give an account of themselves at next season's shows. The Valley Home Farm is conveniently situated between the G. T. R. at Brampton, distant seven miles, and the main line of the C. P. R. at Streetsville, while the Orangeville branch of the latter at Meadowvale is about a mile distant from the farm. We understand that this herd will be offered at public auction on April 12, due notice of which will be given in our advertising columns later on. Those who are on the lookout for animals to found a herd or further replenish the ranks of one already established, we can cheerfully bespeak material for selection not often at command.

Free corn was one of the subjects which claimed the attention of the delegates at the Central Farmers' Institute at Toronto last week. Just why free corn is not numbered among the articles under the head of raw material we cannot see. The reduction or removal of the duty upon any article on which the cheapest form of production of beef, pork, or any other export depends, is surely in the interest of farmers, and has nothing whatever to do with the political phase of the question. Reduction of cost is the aim of manufacturers in order to cope with competitors. Surely agriculturists should pursue a similar course.

Wood Ashes.

Wood ashes are one of our most convenient and cheapest fertilizers, yet how often are they one of our most neglected, and either allowed to go to waste or bartered away to peddlers for a bar of common soap per bushel.

Our cousins across the line evidently understand the value of this fertilizer better than we do, and buy enormous quantities of what we yearly throw away as almost useless, as is shown by their agricultural papers, in one of which no less than five different firms advertised "Canadian unleached ashes for sale." As early as 1885, ashes were exported from Ontario and Quebec to the amount of \$179,700.

Among the fruit-growing farms of the Eastern States the use of Canadian ashes has steadily increased; the cost is about 24c. to 25c. per bushel of 45 to 50 lbs. These prices are by the carload at Amherst and vicinity.

The prices in the Eastern States are based on a standard of 6 per cent. potash, and 1½ or 2 per cent. phosphoric acid. Fresh ashes will often exceed the above value.

In view of the above exportation and the great waste of ashes in Ontario, it is worth while for the farmers to consider whether it pays to neglect or to sell for five or ten cents per bushel in cash, or barter a bushel of ashes which the New England farmer finds worth to him 25c. per bushel by the carload.

A sample of fresh ashes from London, which were analyzed, gave:—

Water	2.07 per cent.
Insoluble matter	7.68 "
Potash	7.15 "
Phosphoric Acid	1.89 "
Lime	37.33 "
Magnesia	3.02 "
Iron and Alumina	1.53 "

The value of ashes lies in the amount of potash, phosphoric acid and lime which they contain. At the current price of 5c. per lb. for the first two, and 4c. for the latter, the above sample is worth 54c. per 100 lbs.

Leached ashes will contain from one to two per cent. of potash, the other ingredients being about the same, therefore they will be worth from 20c. to 30c. per 100 lbs., according as to how thorough the leaching process has been. Coal ashes contain little or no plant food, but have a mechanical effect on some soils.

Samples of ashes will vary greatly in value, owing to impurities and the care which has been taken to keep them off the earth and in a dry place; also the kind of wood from which they are obtained. Branches and top wood give an ash much richer in potash than the body wood. Ashes from soft wood are not worth as much as those from hard wood. They are usually estimated at about 4-5 the value of hard wood ashes. As a general rule, we are quite safe in putting the value of ashes at 20c. per bushel for hard wood, and one-half that amount for leached ashes.

Wood ashes are a potash manure, and have a lasting influence; the good effect can generally be seen for a number of years. The gain to be derived from their use will depend upon the amount of available potash in the soil; but few of our farms are so rich in this manure but that an application of ashes would do good. They are helpful on all impoverished soils, and especially to sandy land, but their action does not depend entirely on the potash and phosphoric acid; the alkaline nature of the lime renders them very valuable to soils containing organic matter, as they act as a liberator of fertility.

Ashes which are exported are used chiefly by the gardeners and fruit growers of the New England and the Eastern States; some have found their way as far as the orange groves of Florida. Surely it will pay a farmer to keep on his farm a fertilizer which is valued so highly in other countries. Ashes are of the greatest value to plants of a woody nature, hence they furnish one of the best, as well as the cheapest manure for orchards, gardens and grape vines.

The leguminous crops, as peas, beans and clover, are much helped by a dressing, especially if they are applied in conjunction with a phosphoric manure, as bone meal. On corn, pastures and meadows they give good results, and among the cereals they will probably give better results when applied to fall wheat than spring grain, because the season of growth is longer.

The mode of application will depend upon the crop. For fruit trees they may be applied in the fall or in the spring after the frost has left the ground, spreading evenly around the tree as far as the branches extend. For grass lands they are better applied in the spring. For fall wheat apply after the ground is prepared and before sowing. For spring grains apply before sowing. It is better to harrow the land, so as to incorporate this fertilizer with the soil before sowing the grain, for if a large amount is applied the corrosive action of the ashes might be injurious to the young plants. The quantity to apply will depend upon their freshness and strength, the particular crop, and the condition of the land. Light and impoverished soils require heavy applications. Fruit trees will also require a liberal amount. For general crops apply from one-half to a ton of fresh ashes, and two or three times as much leached ashes.

Pleuro-Pneumonia.

The annual report of the Privy Council Veterinary Department is noticed by the whole world. Every week the public press give the new outbreaks and number of infected animals in Great Britain.

The efforts of the British Government to stamp out Pleuro have been crowned with success, after nearly fifty years' constant battle, and they are now determined to insist on really effective measures being carried out by those countries desirous of sending cattle to English ports.

It must be remembered that the United States veterinary surgeons deny that cattle affected with contagious Pleuro are exported from their country; indeed, the manifesto issued by Mr. Rusk, the late chief, declared that they were entirely free from that disease. That was dated Sept. 26th, 1882. Then comes the following remarkable piece of buncombe: The seaboard and *frontier inspection*, and all necessary cattle quarantine, will be strictly enforced; and there being no possibility of the occurrence of contagious pleuro-pneumonia, "save by its introduction from foreign countries," the country may congratulate itself upon the removal of all apprehension for its cattle interest on the score of contagious pleuro-pneumonia. After this comes the challenge to veterinary surgeons in Great Britain.

The disease has not found entrance into the current of the beef cattle trade of this country, and there is good reason for believing that it never will.

This has been positively asserted and re-asserted, and yet the English veterinarians have openly disbelieved us, and, to prove that we are either incompetent or dishonest, have persisted in finding contagious pleuro-pneumonia among our export cattle landed on their shores, and stoutly maintained the correctness of their opinion against our assertion—*vide* "Mr. Rusk's report and proclamation."

The very week that this proclamation was issued there were six animals condemned at Deptford by Mr. Holman, M. R. C. V. S., for pleuro.

To show what enormous proportions the trade in dead meat and cattle is to America, during the week ending Dec. 24th, 1882, twelve steamers landed cattle and fresh meat at the port of Liverpool from American ports, 3,861 cattle—12,840 quarters of beef. When we come to consider the enormous quantity, nearly 4,000 head of live cattle, no wonder they are desirous of traducing the character of Canadian cattle to get their own landed for feeding purposes inland.

For many years Canada will have to export her stock, and the Scotch farmers will have them if they can, and we see no sort of blessing, disguised or otherwise, in the scheduling of Canadian stock by the English Government. The hypocritical reproduction of the quarantine order by the American Government is what we expected. They have been trying for years to get their cattle landed in Great Britain. They have maintained for some years three veterinarians at the principal ports, who do nothing else but inspect and report to their Government the number of cattle and condition on arrival, so that we can have no difficulty in finding the source of the late trouble.

There is only one good thing that will come of the quarantine: we shall be obliged to ship our cattle entirely through Canada and in Canadian ships. We can then point with pride, and say, as we have hitherto done, Canada is, and has been, free from all contagious diseases; more than this, we would not permit any arrivals to come into Canada, bonded or not.

We must not forget that the British Government have only these last few months been able to say, We have at last got rid of this disease, after fifty years' constant residence. And we should, on the other hand, be at least fair, and say we are convinced that you are mistaken; we do not know this disease, and the fact that it appeared in the Canadian stocker is inexplicable to us. It may, or may not be, a fact that the veterinary inspectors have made a mistake—at least they have erred on the side of caution; for if they had allowed the country to be again overrun with contagious pleuro-pneumonia, under the new name of broncho-pneumonia, or corn-stalk disease, why, they would themselves have had to bear the blame. It is all very well for those who are free from official responsibility to hurl charges of incompetence to those who are paid for doing their duty, and we do not blame them for being cautious or over-careful in performing that duty; nothing but condemnation or loss of position would have been their reward if they did not detect or even stop suspects.

In the recent case of the Canadian stocker, they were fully satisfied that the disease was contagious pleuro-pneumonia, and their testimony is not likely to be shaken by challenges, based by partisans, whose sole object is to traduce these cattle so that their own may be permitted to enter.

The evident fairness of the authorities is apparent. They say, We prevent the Americans landing cattle with broncho-pneumonia, and we must do the same with Canada. Probably no man in existence has had more existence with the disease than Prof. Brown. He has been the head of the department for over 30 years, and makes a practice of seeing every doubtful case, so that we are confident that if he has erred at all, it is on the side of prudence. We do not for one moment suppose he has condemned the animals without cause, and we can only say they must have contracted the disease outside the Dominion.

Now, what is the remedy? Can we prevent the interference of partisan inspectors? No, we cannot; but we can provide separate cattle lairs or sheds for their reception, shelter and isolation, and after

qualified authorized inspection, they can be distributed as heretofore. Our Dominion Government can issue a memorial and have it presented to the House of Commons, signed by all the cattle breeders, buyers, shippers and veterinarians of the country, stating, under oath, that they have never seen a single case of contagious pleuro-pneumonia or corn-stalk disease in Canada.

We contend that it must have originated on board the cars to Boston or New York, or else on board the cattle ships in transit. Those of us who know the wretched accommodation on board the tramp cattle ships, must be aware that there is no more likely place for the disease to originate afresh, lurk or remain dormant, until fresh subjects present themselves for inoculation. We speak whereof we know, and our experience on board these pest places is on record. The horrors of the cattle ships few men can paint, and no words can describe the filth, and no tongue tell of the brutality of the drovers to these dumb animals. Fortunately their condition has of late been improved to a great extent; still we believe that if the disease manifested in the animals in question could be traced, it would be found on board these steamers. We hail with pleasure this caution, if it compels our shippers to export their animals along the Canadian railways, through our own ports; we can then fall as the result of our own negligence only. The supineness of our government is lamentable; the English Government are not aware, or rather the agricultural press are not acquainted with the fact that Canada has always held quarantine against the U. S. cattle—they are under the impression that they have free entry without inspection, more especially settlers' stock, and they say we may have obtained the disease in that way. We do not advocate retaliation or tit for tat, still patience passes beyond virtue and becomes cowardice when the U. S. adds insult to injury, by the recent scheduling of cattle they know to be free from disease.

A Horse Breeders' Association Needed.

It is time breeders of all kinds of horses joined together and formed a general horse breeders' association for the benefit of this most important branch of stock breeding. Cattle breeders have recently formed an association in behalf of this industry, and each separate breed has a representative on the executive. Sheep men have for years been organized, and those who have attended their meetings and watched the influence that they have brought to bear in favor of their business are all most favorably impressed with the advantages they have thus gained. Swine breeders have also brought pressure to bear which has given a great impetus to this industry by joining together in behalf of the general interest in their breeding operations. Now, if there is any industry that requires fostering at this time, it is horse breeding, and although it requires more skill and knowledge than almost any work upon the farm, yet men go at it blindly, and many farmers never make the slightest study of what is required, and consequently it may be truthfully said that there is more money lost than made in horse breeding by the average farmer, as it is being conducted at present. Again, while farmers generally have some fixed idea for what purpose they are breeding cattle, sheep or hogs, they seem to overlook this essential point, and think that it is all chance in horse breeding. Each season is a repetition of those gone by, in which stallions, with no pretensions whatever to breeding, and which are themselves unfit for any special purpose, obtain patronage merely because their services are held cheap. Much of the money offered at exhibitions is for the same reason squandered, as far as advancing breeding interests are concerned, because properly defined breeding classes are not arranged.

It is a well established fact that all lines of trade depend directly or indirectly upon the financial condition of the farmers; that when they suffer, men engaged in other pursuits are affected to a greater or less degree. Now horse breeding is undergoing such a revulsion from low prices, there being no market whatever for the common grades, that this has affected the better and most valuable horses, when such are offered for sale. For this reason horses are being sold by farmers for \$100 and less, while dealers are deriving the whole benefit, for numbers of those who have bred the horse that is now required, and are in possession of them, are unable to distinguish between a good one and one which will not sell at any price. Consequently all lines of horse breeding are being neglected. All horse breeders will lose through this course, because the farmers will most decidedly remove their patronage.

All this must affect stallion owners, and ruin the prospect of improving the horse stock of the country for years to come, if those interested in the different breeds do not bestir themselves. It will require all the argument and energy and combined effort that can be brought out to prevent the almost entire neglect of horse breeding, and for this reason the needed help should be forthcoming as early in the season as it is possible to bring it out. It takes years to revolutionize this trade, and because the inferior, useless, nondescript horse is not in demand, pressure is brought to bear upon every horse, good, bad or indifferent, that is offered for sale, and prices are depressed all round, while there never was a time when really good horses were commanding better figures; but it is the horse dealers who are reaping the harvest and buying at low prices, be-

cause the farmers do not know how to condition and educate the horses for the present trade. If private individuals are making a success of holding sales, why could not a properly conducted society do better? They would at least be assured of as much outside support as one individual, while a large extent of the country could be represented and breeders of all classes of good horses would be enabled to bring out any branch they are interested in.

Canadian Cattle Breeders' Association.

This new organization has been started in the interest of the cattle breeding interests of the Dominion. Never in the history of cattle breeding was there more urgent necessity of concerted action on the part of those who are engaged in breeding any of the special breeds or classes of cattle. The cry has all along been, Favor our manufactures until they are developed. Yet, nothing has been done to foster our cattle breeding industry, which is of more importance than any other on the farm. What manufacturers have gained by organization our farmers could obtain if they could but join hands. Cattle and cattle products are now bringing in upwards of \$20,000,000 annually, with every chance for further development. We therefore welcome the advent of an association that should prove a power to help on the great work which the constitution below explains:—

CONSTITUTION OF THE CATTLE BREEDERS' ASSOCIATION OF CANADA.

PREAMBLE.

Whereas, the members of all pure-bred cattle associations and representatives of other pure breeds not formed into associations, recognizing the importance of organizing an association having for its object co-operation in the work of promoting the interests of the breeders of pure-bred cattle in such ways as may hereafter be determined upon, and desiring to secure the assistance of those who have a genuine interest in the improvement of the various pure breeds of recorded animals, do hereby unite in forming an association for the aforesaid purposes, and we adopt for our government the following constitution:—

ARTICLE I.—NAME.

This organization shall be known as "The Canadian Cattle Breeders' Association."

ARTICLE II.—OBJECT.

The object of this association shall be to promote the general interests of the breeders of pure-bred and recorded cattle, and to secure the co-operation of the members composing the same, especially in the work of:

Section 1.—The general adoption of a higher standard of quality in breeding.

Section 2.—To confer and advise with the Dominion and Provincial authorities, concerning the rules and regulations pertaining to importation and exportation of cattle to and from the Dominion of Canada, and of traffic in and marketing the same; the adoption of sanitary measures; the punishment of fraud in pedigree, and such other legislation as, in the opinion of the management, will tend to promote the prosperity of the cattle industry.

Section 3.—The extension of the commerce in the improved breeds and the development of new and profitable markets for our surplus stock, meat, and dairy products in home and foreign markets.

Section 4.—The encouragement of breeders to attain to a higher standard of individual excellence in the breeding of animals, by the holding of exhibitions, and the offering of liberal prizes for the best specimens of the several breeds shown. To consider and advise with the officers of fairs and other organizations interested in the exhibition of cattle and cattle products. To co-operate generally in such lines of work as may tend to advertise to the best advantage and extend the trade in cattle and cattle products.

Section 5.—To represent, foster and protect, in such other ways as may be deemed advisable, all the associations which are organized and maintained for the purpose of perpetuating and recording the pedigrees of a pure and recognized breed.

ARTICLE III.—MEMBERSHIP.

Section 1.—The membership shall consist of the associations named in the foregoing preamble, and such other duly organized cattle breeders' associations as may be approved of by the committee on membership.

Section 2.—The membership fee of the association shall be \$10. A failure by any member to pay the initiation fee, or such assessments as may be voted by a majority of the organizations comprising the Canadian Cattle Breeders' Association, will work a forfeiture of all rights and privileges in connection with the same.

Section 3.—Each member of the association shall be entitled to representation at the annual meeting by two members, to be selected at the annual meeting of the respective organizations.

ARTICLE IV.—OFFICERS.

The officers of the association shall consist of a president, vice-president, secretary and treasurer.

ARTICLE V.—ELECTIONS.

Section 1.—The officers and a director for each breed shall be elected to constitute the Board of Management at the annual meeting, to be held at such time and place as the Board of Directors may appoint, due notice of which meeting shall be sent to the secretary of each association.

The remainder of the Constitution will be drawn up and submitted with the above at a meeting to be held at Albion Hotel, Toronto, during the horse show in March.

The Cattle Quarantine.

Just as our last form was going to press we understand that Mr. N. Awrey, M.P.P., Ontario Commissioner to the World's Fair, received a despatch from the U. S. Department of Agriculture assuring him that the recent quarantine regulation will not be allowed to affect cattle intended for exhibition at Chicago. Exhibitors will be required "to give the numbers and descriptions of cattle, and show where they have been a year previous to shipment, and accompanying this with a certificate from a Canadian veterinary inspector (surgeon) that no contagious disease exists in the locality." This, Mr. Awrey points out, differs but little from the original conditions of shipment.

The Central Farmers' Institute.

This representative body held its three days' session at Shaftesbury Hall, Toronto, February 7 and 9, inclusive. Mr. T. Loyd Jones, Burford, was elected president for the ensuing year; Mr. D. M. McPherson, Lancaster, vice-president; and Mr. A. H. Pettit, Grimsby, secretary.

Able papers were read by a number of the most prominent men engaged in different lines of farming throughout the province, and these were attentively received by those present. The tariff question came in for a large share of the attention of the delegates, and to judge by the tone of arguments brought out, together with the resolutions adopted, the meeting unanimously favored a tariff reform. In the discussions on this question the debaters advanced many plans whereby agriculture might derive assistance through legislation, and, although there was much difference of opinion as to the means, all agreed in the urgent necessity of a tariff that would discriminate in favor of agricultural pursuits.

MR. AWREY'S ADDRESS.

President Awrey addressed the meeting at considerable length. In alluding to the condition of the farmers, Mr. Awrey said that although there were many things which might be improved, still the great increase in the value of farm products in Ontario during the last few years proved that, despite many difficulties, substantial progress has been made, in support of which he quoted statistics showing the immense increase in the volume of trade, particularly in the dairying and cattle industries. Referring to the scheduling of Canadian cattle by England and the United States, Mr. Awrey characterized it as a most unwarranted act on the part of England, and an unneighborly one on the part of America. They could tell the Yankees, however, that Canadians could live despite the worst efforts of their neighbors. In this connection Mr. Awrey denounced Prof. Goldwin Smith for attempting to represent to the States that there was any considerable feeling in favor of annexation in this country. (Applause.) "However hard the times may be," he continued, "they will have to be infinitely worse before Canadians will be willing to sell their birthright." (Loud cheers.) Mr. Awrey concluded his vigorous address by advocating free trade with England, which, besides being of direct advantage to the farmers of Canada, would also bring the Yankees to their knees and force them to open their markets to Canada. Mr. Awrey gained a hearty cheer when he alluded to the action of the Ontario Government in establishing a binder twine factory at the Central prison, the product of which, he said, he expected would be sold at cost, thus forcing the combine to bring down their prices or go out of business. The president's spirited address was evidently quite to the mind of the audience, who frequently applauded his remarks. The convention then adjourned.

Mr. Kells moved the following resolution, which was carried:—"Whereas it is desirable that better trade relations between Great Britain and Canada should exist, that is, that the commerce of both countries should be more freely and fully established. Further, we believe the government of this Dominion should be the first to move in this matter, therefore, be it resolved, that this Central Farmers' Institute, representing almost every electoral district of this province of Ontario, memorialize the Dominion Government, asking them to allow all goods manufactured in Great Britain and imported into Canada to be free of duty, or as low as is consistent with the revenue of the country."

Dr. Cowan, Galt, another imperial federationist, made a warm speech in favor of preferential trade, and proposed the following motion which also carried:—"That, in the opinion of this meeting, preferential trade with Great Britain would do much to promote the welfare and prosperity of this country."

Another resolution was presented by the committee, who were evidently smarting under the resolution passed at the meeting of the manufacturers on Tuesday. The resolution referred to read as follows:—"That whereas the farmers of Canada during the last thirteen years have largely supported a protective tariff for the purpose of estab-

lishing and building up the manufacturing interests of this country; and whereas we are of the opinion that such manufacturing industries as are suitable to the country have received such assistance for a period long enough to enable them now to withstand fair and open competition; and whereas the Canadian Manufacturers' Association at its annual meeting held in Toronto on February 7th declares and reaffirms its determination to support and perpetuate the high tariff policy; be it therefore resolved, that this meeting hereby declare and affirm that the perpetuation of such high tariff policy would be detrimental to the vital interests of those engaged in agricultural pursuits, and that we are of the opinion that the freest possible reciprocal trade relations with all nations is the most conducive to the best interests of the Canadian farmers."

The motion aroused considerable discussion, several amendments being proposed, but were declared out of order. Finally the motion was put without further discussion and carried unanimously.

THE CATTLE SCHEDULE.

The scheduling of Canadian cattle in England again came up, this time in the form of a resolution, proposed by Mr. T. Strachan, as follows:—"That farmers of this institute, representing ridings from all parts of the province, are desirous of recording their belief, as far as their knowledge goes regarding the health of Canada's herds, that they are entirely free from any contagious disease whatever, and that the executive committee be instructed to take steps to bring this matter to the attention of the proper authorities, and, if possible, to remove the obstacles now placed upon Canadian cattle entering the British market, and that they be not slaughtered at the port of entry." The resolution was adopted unanimously amid loud applause.

SCHEDULING SWINE.

The following resolution was carried unanimously:—"That the government be petitioned to schedule United States swine on account of the prevalence of contagious disease in that country."

FREE CORN.

The proposal that corn be placed on the free list was endorsed in a resolution calling upon the Dominion Government to take immediate action in removing the duty on a product which was the raw material indispensable to the farmers of Ontario.

It was resolved to petition the government to exempt the farmers from the operation of the Employers' Liability and Compensation act.

It was carried unanimously that a deputation proceed to Ottawa to urge on the government the necessity of removing the customs duties on goods of British manufacture.

Our Public Roads.

(CONTINUED FROM PAGE 43.)

He should keep the ditches clean and in good order, and fill in the ruts as soon as they appear. To enable him to do this, gravel should be deposited in suitable places on the side of the road, one heap in each quarter of a mile. He should be furnished with a shovel, a wheelbarrow, a pickaxe, and a rammer. The new material should be added little by little, from time to time, in depressions and deficient places, and it should be broken fine in comparison with that used in the original construction. This patching should be done so constantly that it will never be necessary to add more than one to two inches in thickness at a time. It is one of the greatest mistakes in roadmaking that can be committed to lay on thick coats of material. A cubic yard, nicely prepared and broken, to a rod will be quite enough for a coat, and, if accurately noticed, will be found to last as long as double the quantity put on unprepared and in thick layers. In speaking of keeping up the roads by constant patching, Gilmore says:—"This system of maintenance for roads of moderate traffic seems open to the objection of being unnecessarily expensive, but observation and experience have fully demonstrated that such is not the case, and that the 'stitch in time' policy applies here with peculiar and significant force. It is not only cheaper to maintain such a highway in good condition for a given traffic adapted to it than to pay the extra expense of conducting the same traffic on a bad road, but it is also vastly cheaper to keep the road in excellent condition than it is to restore it to that state after a period of injurious neglect, during which it has become filled with deep ruts, and thickly covered with dust and mud."

An eminent French engineer, who gave the matter an exhaustive and practical study, came to the conclusion that, in proportion as the intervals between the periods of repairs were shortened upon roads of small traffic, two important and valuable results followed—first, that the annual expense was lessened, and second, the roads were always in better condition; and, finally, that the roads were never so good, nor the expense of maintenance so small, as when the system of unremitting and minute attention was in operation. The experience of these men, I think, would furnish sufficient argument in favor of putting our roads in a state of efficiency such as has been described—a thing which is manifestly impossible under our present system of administration.

The statute labor system was devised to meet the requirements of early settlements, when a simultaneous opening of all the roads in a township was the thing most desirable. Its chief advantages

were, that under its working each ratepayer was permitted to do his share of the road building in his own immediate neighborhood, and that he was able to pay his road tax in labor rather than in money; but these considerations (however important at first) have long since lost their force.

The portions of the roads in which all are most interested now are those in the neighborhood of the town which are used in common by all.

And the second consideration has come to be looked upon as a doubtful privilege, as time is quite as valuable to the farmer on his property as on the road. Owing to the laxity of pathmasters, the time spent on the road is flagrantly misapplied. The day required is eight hours long, and any pretence of work is accepted. The impression is prevalent that in road work the time is to be put in with as little exertion as possible.

The real amount of gravel hauled is never so great as reported, on account of the smallness of wagon boxes and the desire of teamsters to save their horses. Anyone who has studied statute labor will agree with me that over one-third the time is wasted through the trickery of workmen and the carelessness or ignorance of directors. As a proof of this statement I will give you of an example:—

The township council pays thirty-five cents per cord for gravel, and counts five loads to the cord. Now, by actual measurement, I find the average gravel-box used is 8 feet long, 3 feet 1 inch wide and 10 inches deep, which, if filled, would hold 79% of a cord, showing a loss of 21% of a cord on every cord paid for, or a total loss of 21% of the money paid out, which in the last year of which I have any account would be 21% of \$524, or a total of \$110, and besides this the boxes were hardly ever filled.

I will now briefly suggest what I think would be an improvement. It seems to me that, first of all, it is absolutely necessary that we should have a thoroughly competent and responsible man as engineer or overseer, who would know how, when and where the work could be done to the best advantage, and that he should have the power, with the approval of the council, to purchase the necessary tools, keep the time of the workmen, and be responsible for all the work left in his charge. He might also have the power to hire farmers and their teams to work on the roads, who were willing to work according to the regulations which he might adopt. Another method which I think would give good results would be to abolish farmers' labor and do the work entirely by contract.

But I very much fear it will be a difficult matter to accomplish much in the direction of a general adoption of this system, unless legislation can be secured to assist in perfecting it. And I would suggest that the Provincial Government, by a legislative enactment, do at once two or three things in the direction of furthering this movement.

First, procure and disseminate information by establishing a bureau, where the facts relating to the expense, mechanical construction, care, durability, use and extent of the different kinds of roads shall be made known and ascertained.

Then I would have some kind of government supervision, presided over by a competent engineer or engineers, appointed by the government in aid of road making and repairing upon scientific and economic principles; and I think it would also be to the public advantage if the state should own or control and maintain some through highways connecting the principal towns. They could in this way give a profitable example, and a strong incentive to the different municipalities to construct better contributory roads as feeders to the main ones. And it appears to me, also, that there would be a good investment for some of the rusty millions of surplus which is periodically reported as being in the hands of the Provincial Treasurer, and I trust that some influential body of our citizens may suggest it to the Premier, so that he may have ample time to take it into his consideration.

How Canadian Clydesdales Are Spoken of by Glasgow Judges.

The importation of draught horses from Canada is a menace to what has hitherto been one of the most profitable branches of farming, the importance of which cannot be overestimated, says the Scottish Farmer. The view in Scotland has very generally prevailed that, whatever else the foreigner might be able to send, heavy work horses were an impossibility. It is, however, not so: the Province of Ontario was settled by Scotchmen, and for well nigh half a century the settlers and their descendants have been breeding grade Clydesdales. Starting with such prime horses as the famous Netherby and George Buchanan, they had a nucleus which, in course of subsequent development, produced horses of a superior draught type. A ready market was hitherto found for all that could be raised across the border; but now that there is a heavy duty on them there, the British farmer finds himself in competition with the Canadian farmer in his own market. There are several of these Canadian horses at work in Glasgow, and they are popular with contractors. A handsome young mare that had never been yoked was proceeding along Cathedral street the other morning, and on enquiry it transpired that she was a Canadian. She is owned by Messrs. Wordie, and was going to be yoked for the first time. Bay in color, with white face and white hind legs of the standard Clydesdale, she stood about 15.2, and had capital feet and legs, with sharp, clean bone. She walked well, and was not to be distinguished from the average home-bred draught horse.

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CANADIAN THORPE BARLEY.

Except on rare occasions and in favorable localities, the English Two-Rowed Barley have not done well in Canada, but the Duckbill and the Canadian Thorpe—an improved variety of Duckbill—have done very well in all parts where the Six-Rowed Barley succeeds. For feeding purposes it is far superior to the last named; it is also a much heavier yielding, according to English reports. It is an excellent malting variety, but for this purpose should never be mixed with any other sort. It is an upright grower, long, bright and very stiff in the straw; seldom, if ever, lodges. During the last three years it has been tested by leading farmers residing in various parts of Ontario; also by the Dominion Experimental Farms. All have found it the variety par excellence, being harder, withstanding frost and drought better than any other sort; in fact, being equal to the hardest wheats in this respect. The average yields of this variety will vary from 40 to 60 bushels per acre, when sown on suitable soils; when sown on rich cultivated lands, the yield has sometimes reached 70 bushels per acre. The grains are large and plump; if cut early and carefully harvested, are very bright and light in color. We have procured a quantity of this grain; the stock has been carefully hand-picked in the bag and field for the past ten years, and for ten previous years it was each year carefully selected in the field, so that it now is a well-established pedigreed variety. For one new yearly subscriber to the FARMER'S ADVOCATE we will send 20 lbs. of this Barley, or for two new subscribers, 48 lbs.; for every additional new subscriber we will send 1 bushel (24 lbs.) bags free. The grain will be sent by freight or express, as desired by the receiver, who will pay R. R. charges. One dollar must accompany each new name sent.

STOCK.

The Hackney Horse Society.

The Canadian Hackney Horse Society held their second annual meeting on Feb. 8th, at the Rossin House, Toronto. The Secretary, Henry Wade, read the report of the Society. They have decided to adopt the American standard, but with a more moderate scale of fees. During the year they had registered twenty-four animals, and twenty-three new members had joined the Society. The Treasurer's statement showed a cash surplus on hand.

The following Inspectors have been appointed to inspect and pass mares considered to have breeding and action sufficient to admit of half registration. For Ontario—Mr. John Carson, Kingston; Mr. D. H. Grand, London; Dr. Grenside, Guelph; Dr. McLean, Meaford; Mr. W. D. Grand, Toronto. For Quebec—Mr. Robert Ness, Howick; Mr. James Cochrane, Hillhurst; Prof. McEachran, Montreal. For Manitoba—Mr. T. G. Ferris, Portage la Prairie. For Nova Scotia—Mr. A. S. Slip.

Officers were then elected as follows:—President, John Hope, Bow Park, Brantford. Vice-Presidents—Ontario, Robert Davies, Toronto; Quebec, James A. Cochrane, Hillhurst; Nova Scotia, J. B. McKay, Stellarton; New Brunswick, Hon. D. McLelland, St. John; P. E. Island, C. C. Gardiner, Charlottetown; N. W. T., W. Bell Irving, Cochrane, Alta; Manitoba, J. Rutherford, V. S., Brandon; British Columbia, S. F. Tolme, Victoria. Directors—Robt. Graham, Claremont; W. D. Sorby, Guelph; John Holderness, Toronto; F. Grenside, V. S., Guelph; G. H. Hastings, Deer Park; Robert Miller, Brougham; R. Beith, Bowmanville; W. D. Grand, Toronto; Robert Bond, Toronto. Secretary—Henry Wade, Toronto. Auditors—Messrs. H. Hastings and Geo. Pepper. Delegate to the Industrial Exhibition Association, J. Hope; to the Central Farmers' Institute, Robert Miller; to the Western Fair, London, W. D. Sorby; to the Montreal Exhibition, James H. Cochrane.

The Clydesdale Horse Association.

The Clydesdale Horse Association of Canada held its annual meeting on the 8th of February, at the Albion Hotel, Toronto. There was a large attendance of members present. Mr. Wade, the Secretary, presented his annual report. He said that registration had fallen off to some extent, owing to the dullness of the trade; also during the year objectional orders had been issued by the Treasury Department of the United States in regard to the passing of pure-bred animals across the line for breeding purposes, by refusing to recognize Canadian records, not because the standard of our books was not high enough, but because of the almost unanimous request of the live stock associations of the United States. This action will adversely affect the trade, as on account of the delay in registering in the American books it is almost impossible to register before shipping across the border. As a means of strengthening their own book it was not necessary, for in the course of time all animals would be registered without any compulsory act. Mr. Buchanan, of the live stock department, takes a broader view of the subject, for our certificates are quite enough to enable horses to exhibit at the World's Fair. A large number of horses have already been inspected, and it is confidently expected that Canada will return with fresh laurels added to her crown. After considerable discussion on the unfriendly attitude of the American Government and the American Clydesdale Association, the following motion was passed:—

Moved by Mr. John Davidson, seconded by Mr. A. Johnston, that a deputation representing the Clydesdale Horse Association of Canada, consisting of the President, Mr. Davies, Mr. McCrae, Mr. Miller, and Hon. John Dryden, the Minister of Agriculture of Ontario, wait upon the American authorities for the purpose of securing recognition of the Canadian Studbook.

LICENSING THOROUGHbred STOCK.

A discussion followed on the question of licensing thoroughbred stock, and passing a law to make fees for cross-bred stock uncollectable by law.

Mr. Arthur Johnston moved, seconded by James Leask, that our delegate to the Central Farmers' Institute be instructed to oppose any motion set on foot at the meeting of that Institute to limit by license or otherwise the number of male animals offered for service, as being contrary to the best interests of struggling farmers and contrary to British liberties. This motion was carried by a large majority.

Mr. McCrae moved that any horse foaled and reared in Canada be considered Canadian bred, and this rule to apply after this year's show. This motion carried, although strongly opposed.

A discussion followed on the question of awarding sweepstake prizes, but nothing was done, and the meeting adjourned.

ELECTION OF OFFICERS.

Officers were then elected as follows:—President, Robert Davies, Toronto; Provincial Vice-Presidents—Ontario, Arthur Johnston, Greenwood; Quebec, Robert Ness, Howick; Nova Scotia, Wm. O'Brien, Windsor; New Brunswick, A. S. Murray, Fredericton; Prince Edward Island, Hon. Jas. Clow, Murray Harbour; Manitoba, John E. Smith, Brandon; Northwest Territories, John A. Turner, Calgary; British Columbia, H. D. Benson, M. P. P., Ladner's Landing. Directors—Robert Beith, Bowmanville; W. D. Sorby, Guelph; John Davidson,

Ashburn; George Cockburn, Baltimore; Andrew Russell, Carrville; Robert Graham, Claremont; and Robert Miller, Brougham.

Representatives from the association were elected to other institutions as follows:—Central Farmers' Institute—D. McCrae, Guelph; Toronto Industrial Exhibition—Mr. H. Wade and Mr. John Davidson, Ashburn. Western Fair—Mr. E. Charlton, Ottawa Fair—Mr. Thomas Good, Montreal Exhibition—Mr. Robert Ness. Auditors—Messrs. Green and Major.

Shorthorn Breeders' Association.

The seventh annual meeting of the Dominion Shorthorn Breeders' Association was held on the 10th February, in Toronto. This society has had a very successful year. The number of registrations and certificates granted are much in excess of former years, the fees for the above amounting to \$682 more than last year. This shows that the Shorthorn business is in a very flourishing condition. The increase in membership over the previous year is sixty-one.

Complaint was made as to the unneighborly and unjust conduct of the Treasury Department of the United States, by the advice of their Live Stock Association, in leaving our herd book out of the list of those eligible to pass animals across the line free of duty, when it is known that our standard is higher than any book printed.

John I. Hobson proposed that the Hon. John Dryden be elected as a life member, and that a testimonial and suitable address be presented to him, with a view of acknowledging in some tangible way the great services which he had rendered in the interest of the Shorthorn breeders of Ontario.

This motion was unanimously adopted by a standing vote.

The financial committee reported that everything was in a prosperous condition. They had employed a chartered accountant to audit the books, and he had found everything correct. The committee further recommended the following changes in order to simplify and make receipts more uniform for registration fees, that being one of the principal sources of revenue, viz.:—Members to be charged the uniform fee of 75c. for registration and certificate, no pedigree to be recorded without certificate being issued for the same; non-members to be charged the uniform fee of \$1.25 for registration and certificate, no pedigree to be recorded without certificate being issued for the same. It was further recommended that new members' fees be \$4.00 in the future, instead of \$5.00. After considerable discussion the finance report was adopted.

Nicholas Awrey, M. P. P., was then introduced to the meeting, and spoke for nearly half an hour, dealing with questions of interest to the members of the Shorthorn Breeders' Association. Before closing Mr. Awrey said:—"I am strongly of the opinion that if the American Government schedule our cattle we should not exhibit any cattle at all at the World's Fair, and I want you to instruct me regarding your feelings in this matter."

When Mr. Awrey resumed his seat, John I. Hobson rose and moved as follows:—"That it is the opinion of this association that there does not exist, or has not existed in Canada, any pleuro-pneumonia, and if the quarantine regulations of the United States, as proclaimed by Secretary Rusk, are not modified in favor of exhibits, so as to permit them to be shown at the Columbian Exhibition without such quarantine, the Commissioners of the Dominion and Ontario should refrain from making any exhibits of cattle at the World's Fair."

John Idington, in a spirited speech, seconded the motion, which was carried unanimously.

Moved by John Hope, seconded by T. E. Robson, that there never have been any pleuro-pneumonia cases in Canada, except in the cases of some cattle imported and quarantined at Quebec some years ago, and this association protests emphatically that the regulations now in force in Great Britain scheduling Canadian cattle should not be continued, and would endorse any action the Dominion Government may take in going to any expense to furnish the evidence of the fact necessary to bring about a rescission of the order, and that a copy of this resolution be forwarded to the Minister of Agriculture at Ottawa. The motion was carried with enthusiasm, and the meeting adjourned.

Officers for the ensuing year were then elected as follows:—

Richard Gibson, Delaware, president, re-elected. Vice-presidents—Arthur Johnston, Greenwood, Ont.; Hon. D. Ferguson, M. P. P., Charlottetown, P. E. I.; J. H. Ladner, Ladner's Landing, B. C.; D. Brims, Athelstane, Quebec; Josiah Wood, M. P., Sackville, N. S.; James Geddes, Calgary, Alta; Prof. Geo. Lawson, Halifax, N. S.; John E. Smith, Brandon, Man. Executive Committee—W. J. Biggins, Clinton; J. L. Cowan, Galt; James Tolton, Walkerton; Wm. Linton, Aurora; F. I. Patten, St. George; Arthur Johnston, Greenwood; James Russell, Richmond Hill; John Isaac, Markham; W. G. Pettit, Burlington; C. M. Simmons, Ivan; Edward Jeffs, Bondhead; Jas. Hunter, Alma; T. Russell, Exeter; John I. Hobson, Mosborough; Wm. Ballantyne, Stratford.

The following delegates were appointed:—Toronto Industrial Exhibition, John I. Hobson and James Russell; Farmers' Institute, E. Jeffs; Cattle Breeders' Association, J. I. Hobson and A. Johnston; Western Fair, London, Messrs. Brown and Simmons; Hamilton Fair, W. G. Pettit; Montreal Industrial, Messrs. Sangster and Elliott.

Ayrshire Breeders.

The sixth annual meeting of the Ayrshire Breeders' Association was held on Feb. 9th, in Toronto. The President, Mr. Thos. Guy, of Oshawa, in his opening address, alluded to the depressed condition of agriculture, and as a consequence many farmers are turning their attention to dairying. The Ayrshire cattle occupied a foremost position among the dairy breeds, as was shown by their great popularity at the present time. This is owing to their superior milking qualities, hardihood and beauty of form and color. He wished to impress upon his hearers the importance of breeding for milk only, and to bear in mind the fact that milk production was the whole object of Ayrshire cattle.

The annual reports show that the membership has been largely increased, and that the Association is in a good financial condition. Ayrshire cattle have taken a very prominent position during the year, a large number having been selected for the World's Fair at Chicago. Some fine animals have also been imported from Scotland.

A number of interesting papers were delivered by members of the Association. One by Mr. D. Nichols, Catarqui, upheld the usefulness of the Ayrshire cattle, and stated that the Ayrshire milk was rich in casein, and was therefore peculiarly adapted for cheese-making. The speaker then went on to compare them with the different dairy breeds.

Mr. Alf. Brown, of Bethel, addressed the meeting on "How to select sires for dairy herds so as to secure uniform results." He said that a reliable milk record attached to the pedigree of all pure-bred cows and published in the herd book would be of great value. Our best dairy men are keeping private records, but this is not enough. If the above records were kept we could make our selections without any trouble, and cattle could be purchased on their merits by consulting the herd book.

After hearing the paper, the following resolution was carried in accordance with the advice contained in it:—Moved by Alf. Brown, seconded by Joseph Yuill, "That in the opinion of this Association, owing to the importance of the dairy industry of Canada, it is desirable that every effort on the part of this and kindred associations should be made to extend their usefulness in every possible way; therefore be it resolved that a reliable milk record of all registered cows be placed in each future volume of the Dominion Ayrshire Herd Book."

Mr. Yuill enumerated among the points of a good Ayrshire cow the following:—Face, lengthy; eyes, bright; horns, strong; shoulders, thin; back, long; no hollows behind the shoulders; considerable width between the front legs; tail long and tapering and well set up; udders covering as much of body as possible; mouth and nostrils large; hair soft and skin not too thick.

ELECTION OF OFFICERS.

The election of officers was then taken up, and resulted as follows:—

- President, M. Ballantyne, St. Mary's.
- Vice-President for Ontario, M. Stewart, Menie.
- Vice-President for Quebec, W. C. Edwards, North Mission Mills.
- Vice-President for Manitoba, George Steele, Glenboro.
- Vice-President for Northwest Territories, Claude H. Manvers, Moosomin.
- Vice-President for Prince Edward Island, C. C. Gardiner, Charlottetown.
- Vice-President for British Columbia, A. C. Wells, Chilliwack.
- Vice-President for Nova Scotia, J. Blanchard, Truro.
- Secretary-Treasurer, Hy. Wade, Toronto.
- Delegates to the Industrial Exhibition, J. McCormick, Brockton, and Thos. Guy, Oshawa.
- Delegates to Western Fair, M. Ballantyne, St. Marys, and A. Kain, Byron.
- Delegates to Ottawa Central Fair, J. Yuill, Carleton Place, and C. Smith, Hintonburg.
- Delegates to Cattle Breeders' Association, D. Morton, Hamilton, and J. Knight, Elginburg.
- Directors of the Association—J. McCormick, Brockton; Joseph Yuill, Carleton Place; Alf. Brown, Bethel; Thos. Guy, Oshawa; W. W. Ballantyne, Stratford; J. Knight, Elginburg; W. Nichol, Plattsville.
- Auditors, H. E. Eyre, Harlem, and C. W. Green, Toronto.

In taking the chair as President of the Association, Mr. Ballantyne made a few remarks regarding the importance of the work they had in hand, and the necessity, in the interests of the farming community, of carrying on that work with energy and zeal.

The meeting then adjourned.

The better the breed the better the feed, and the better will be the results secured. Each is dependent to a more or less extent upon the other.

There may be such a thing as a general purpose horse on the farm, but when sent to market the requirements of cities control the price. Distinct classes are wanted here, such as draught, saddle or driving horses.

Feed no animal that is not thrifty by nature. There is much difference in this respect. One animal may make double the gain from a given allowance of food that another will. Study the individual characteristics of your flocks and herds, and aim to know each head separately.

Our Scottish Letter.

AN INTERESTING CHAPTER IN CLYDESDALE BREEDING.

The show of the Highland Society held at Kelso in 1863 was one of the best ever held in the Border district. The Merryton stud was strongly in evidence in the female classes. London Maggie, as we have said, was first in the brood mare class. Old Rosie, the dam of Young Rosie 67, was first, and another Merryton mare was second in the yield class; the first prize three-year-old filly was a splendid and well-known Merryton mare by Blackleg 71; another Merryton filly was third in the same class; the Coldrach Merryton filly was second in the two-year-old class, and a renowned mare Rosie, by Garibaldi 312, was first amongst yearlings. There were many other well-known mares prize-winners on this occasion. The fourth yield mare was Brisk, a mare from Galloway, the dam of Vanquisher 890, in his turn the sire of M'Kean's Prince Charlie 629, and the sire of the dam of Druid 1120. The second three-year-old filly was the premier female of the older Clydesdale race—Keir Peggy 187, the dam of Darnley, Newstead 559, and Pollok 697—all three Highland and Agricultural Society first prize-winners—not to speak of many mares. The fourth prize three-year-old filly, and the first prize two-year-old filly were from the Glenlee stud in Galloway, then managed by that sterling old Clydesdale fancier, Mr. Oliphant Brown, who is still spared to us. It will occur to most of those familiar with the history of Clydesdales that we have in this list the germ of an almost complete history of the most notable modern Clydesdales.

Beginning with the first prize yield mare, Old Rosie, we are introduced to an interesting chapter in the history of horse breeding. This mare was bred by Mr. Hugh Roger, then farming in Attiquin, near Maybole, and she was got by Andrew Hendrie's Farmer's Glory, a horse of Lincolnshire breeding, which was awarded the Ayr premium during two seasons, and afterwards travelled in Cumberland. He bred remarkably well in Ayrshire during his first season, the fourth prize mare Brisk, in the same class as Old Rosie, being another of his daughters. The dam of Old Rosie was a black mare, owned at the time by Mr. John Craig, Drumshang, and, I rather think, bred by him. Old Rosie was quite a famous mare in her time, and two of her daughters, at least, were prominent in the showing. The elder was Young Rosie 67, foaled in 1865, and got by the Kenmuir Prince of Wales 669, winner of second prize in the two-year-old class at this same show of 1863, while the younger was Knockdon Jean 66, foaled in 1870, and got by the Merryton Prince of Wales 673. Both of these were prize-winning mares, and produced good stock. Knockdon Jean was second as a yearling at the Perth Show of 1871, her more distinguished relative, Knockblack mare Rosie, being first in the two-year-old class, and her own sister, Princess 185, being first in the yearling class the same day.

Both Knockdon Jean and Young Rosie were owned by Mr. James Nicol Fleming, and at his great sale at Knockdon, in October, 1876, they passed into the hands of Mr. Cross, of Knockdon, in whose possession they died. Of the two, Young Rosie was by far the more notable. Indeed, as events have turned out, she is one of the most distinguished matrons amongst Clydesdales. Her progeny included Knockblack mare Rosie, whose sire was the Merryton Prince of Wales, her own brother, Prince David 643, well known as a breeding horse in Kintyre, and amongst others the sire of the dams of Prince Lawrence, Ardnacraig 4812, and Sir Lawrence, and the mare above named, Princess 185, which was for a time in the possession of Mr. Drew, and was bought by Mr. Johnston, Lochburnie, at the Merryton sale of 1879. The record of the Knockblack mare in the showyard was up to the date at which she appeared almost unparalleled. This same Kelso Show, as we shall find later on, witnessed the advent of a mare in the national show ring which eventually made a record that beats hers, and possibly has not been more than twice exceeded. However, there can be no doubt that the phenomenal success of the Rosie fillies at the 1871 show of the Highland Society was the first indication of the supremely successful career of Prince of Wales 673 as a breeding horse. As is, perhaps, fairly well-known, Knockblack mare had but two foals. One of these was Dummore Prince Charlie 634, the sire of Moss Rose, while the other was Young Prince of Kilbride 1013 or 327, the sire of nothing in particular. The best animal we ever saw got by him is a mare named Victoria, owned by Messrs. R. & J. Findlay, Springhill, and a daughter of the dam of the famous Flashwood mare. This is a beautiful filly, but, unfortunately, she was blemished at an early stage of her career.

If prize-winning alone could ensure success in a breeding animal, Young Prince of Kilbride ought to have been a breeding horse of the first water. We have indicated somewhat of the calibre of his dam, and his sire—M'Kean's Prince of Kilbride 660—had an almost unique record for a stallion. He was first at the Highland and Agricultural Society's Shows at Perth in 1871, Kelso in 1872, and Stirling in 1873. In fact, Young Prince of Kilbride was the produce of the two sensational animals of the Stirling Show in 1873. An important element, however, was wanting in this combination, which was present in the other which produced Dummore Prince Charlie. It is, of course, to be borne in mind that neither of the two sons of Knockblack mare was a beauty. But both had sires with great

reputations, and the one bred a large number of superior animals, one of them one of the best Clydesdales of the past twelve years, while the other bred almost nothing that was above the average. The sire of Dummore Prince Charlie was Old Times 579, admittedly the best three-year-old stallion of 1872, and the something that was wanting in the other case but present in this was the consanguinity of the sire and dam of Dummore Prince Charlie. The dam of Old Times was Hawkie, an own sister of Darling, the dam of Prince of Wales, so that the granddam on the top line and the great-granddam on the under line of Dummore Prince Charlie's pedigree were own sisters. In the case of these two sons of Knockblack mare we have a superficial exception to the rule "that like begets like," and yet when we look more closely into the matter we will find that the wisdom of breeding from the best and coupling the best with the best was seldom better proved than in the case of the history of this whole Rosie tribe. There may be, and there will be, disappointments even where this is done. I have been long enough associated with the Clydesdale business now to remember the expressions of surprise that were common when Dummore Prince Charlie used to be discussed, but ere a few years had passed away surprise had given place to regret that such a horse should ever have been sold out of the country.

The fourth prize mare in foal at Kelso in 1863, as has been said, was another daughter of Hendrie's Farmer's Glory. This was Brisk, the dam of Vanquisher 890, a mare of great weight and substance, and favorably reported of by the older race of breeders who remember her. Vanquisher was a horse about which comparatively little is on record. He has, however, played an important part in Clydesdale history, and his descendants would be sufficiently numerous were there none of them but those got by Macgregor and Lord Erskine. The sire of Vanquisher, however, has made his influence felt in a marked degree on the breed of Scottish horses, and, as he figures for the first and only time at a Highland and Agricultural Society's Show at this same Kelso meeting of 1863, it may be well to say all we have to say about him here and now. The horse was none other than Lochfergus Champion, possibly, previous to the days of Darnley and Prince of Wales, the most familiar name in Clydesdale lore. And this familiarity is not to be wondered at, because, with perhaps the exception of the Prince of Wales and Old Times' lines, there is not an outstanding Clydesdale strain unaffected by his blood. He was the sire of the sire of Darnley, the sire of the dam of Drumflower Farmer 286, and the sire of the sire of M'Kean's Prince Charlie. Add to his relationship to these outstanding and influential sires the fact that he has been the sire of very many mares that have proved successful as breeding animals, and it will be seen that we have good reason to accord to Lochfergus Champion a pre-eminent place amongst Clydesdale heads of families. And yet the greatest show yard achievement of this horse was a highly commended ticket in the two-year-old class of the Highland and Agricultural Society's Show of 1863. Lochfergus Champion was a Clydesdale of the Clydesdales. He was bred by Mr. Gordon, Barstibly, Castle-Douglas. His sire was Salmon's Champion 737, own brother to the famous Victor 892, and his dam was a good old Galloway sort, descended direct from the Lanarkshire breed which the Muirs of Sornfallo took to Kirkcudbright. I take it that he was not a horse of superlative quality, but strong and masculine, and in some features even coarse. His daughters were a little after the same type, and some of them were rather "brained." They were, however, a hardy, enduring race, and not seldom lived to very old ages. They have gained the highest honors at the Royal more than once, and possibly the most successful breeding animal amongst them was Whittlebury Jean 229, the dam of the unbeaten two-year-old colt of 1874, Brewster's Pride of Scotland 602. In all likelihood the best show horse ever got by Lochfergus Champion was Brewster's Surprise 845, which gained first prize at the Highland and Agricultural Society's Show at Perth in 1871, and bred grand stock in the Island of Bute, where he was premium horse same year. He was exported at the close of that season.

Still following the prize list of 1863, we are next introduced to Keir Peggy 187, the combination of whose blood with that of Lochfergus Champion produced Darnley, the greatest Clydesdale stallion ever bred. It is not often one finds Darnley described in these terms, but any one who seeks to rob him of this distinction cannot have weighed the facts and examined the evidence. He was champion of the Highland and Agricultural Society Show in 1878, when six years old, and in 1884, when twelve years old; he was twice winner of the Glasgow Agricultural Society's first premium, namely, in 1876 and 1877, and he was first aged stallion at the Highland and Agricultural Society's Show at Edinburgh in the latter year. He was winner of the family group first prize at the Highland and Agricultural Society's Show in 1882, with five animals of any age, beating Prince of Wales and Lord Lyon, and to-day there are more stallions got by him breeding prize stock than there are got by any other horse. Only, as far as I know, at this Border show of 1863 did his grand sire and his dam ever meet together in the same show ring, and as we have given some full details about the former, we need not grudge to spend a little time with the latter.

In all that constitutes good quality in a draught mare, Keir Peggy must be pronounced as near to perfection as any Clydesdale that ever lived.

She was one of the foremost prize mares in her prime, being noted in the West of Scotland as the Barnbrock filly before she joined the Keir stud; and in Sir William Stirling Maxwell's hands she was second at this show of 1863, and in the following year, at the Highland and Agricultural Society's Show at Stirling she was first as mare in foal, beating London Maggie. She was a well-coloured bay mare, up to a big size, with good feet and legs, and possessed of a splendid constitution. When I saw her in the Keir policies she was past twenty-six years of age. Her limbs were wonderfully fresh and clean, and in every line her appearance indicated health. She produced her first foal, Pollok 592, in 1865, and her last, Lorne Peggy 5494, in 1882, and died 24th November, 1888. At the Glasgow Stallion Show of 1889, when Flashwood was first, Sir Everard second, and Grand National third, every prize-winner in the aged but two was descended from Keir Peggy. Her first foal, Pollok, was got by Baronet 30, winner of first prize as a two-year-old at this same Kelso Show, and he himself was first prize two-year-old at the Highland and Agricultural Society's Show in 1867, and thereafter was exported to California. His portrait, by a good artist, is at Keir, and shows him to have been what those who knew him say he was, a worthy forerunner of the splendid tale of Clydesdales that claimed Keir Peggy for their dam. In all, she gave birth to ten foals, one of these, unfortunately, being a dead foal, in 1876, after Lochfergus Champion.

The breeding of Keir Peggy was Clydesdale in every line. The only ascertained cross in her pedigree about which there is any dispute is that of the chestnut mare, the granddam of her sire Samson, alias Logan's Twin 741. Her dam's kind were bred in Kilmalcolm parish, Renfrewshire, by the Holmes family from the beginning of this century at least, and there are those still alive who can testify to the various stages of their history during that period. She was herself bred by Mr. Hugh Whyte, Barnbrock, Kilbarchan, and her dam was bred by Mr. James Holmes, Auchencloich, and got by Erskine's Farmer's Fancy 298, a first prize Highland and Agricultural Society's stallion.

Passing down the prize list of 1863, the next mare that attracts our notice is Glenlee Maggie 30, winner of fourth prize in the same class as Keir Peggy. This was one of the exhibits made for Mr. Wellwood Maxwell, of Glenlee, by Mr. Oliphant Brown. She is not known to me as the ancestor of any celebrated animals, but her breeding brings her into close relationship with noted lines. Her sire was Salmon's Champion, the sire of Lochfergus Champion, and her dam was the dam of the favorite horse Young Lofty 987, which did so much to improve the breed of horses in Derbyshire. Young Lofty was third in the two-year-old class at this show, being beaten by the Keir Baronet 30, and the Kenmuir Prince of Wales 669, and beating Lochfergus Champion. It is significant of the importance of the prize-winners in 1863 that all three horses have already engaged our attention at considerable length, and Young Lofty merits as full notice as any of them. He was twice winner of the Glasgow premium, and in the second year was first at the Highland and Agricultural Society's Show at Glasgow in 1867. He thereafter was sold to go to England, and in 1870 was first at the Royal Agricultural Society's Show at Oxford. He travelled for many years in Derbyshire, and was known there as Tagg's Lofty and the Trotting Horse. What brought him into prominence in his later days chiefly was the fact that he was the sire of several of the best mares introduced by Mr. Drew from England. Of these Countess and Baroness are names that occur to me at the time of writing, but there were several others. The local name applied to Young Lofty indicates pretty clearly the points for which he was famed. His action was faultless, and his stock from the English standpoint were grand wearers. A son of his, as late as 1886, stood second to Prince of Avondale at the Royal Norwich, and one of the best Shire stallions of recent years, Willington Boy, had a dash of his blood in his veins. This Norwich horse was an animal of excellent balance of merit, and he was not a little admired by the Scotchmen at the show, who were agreeably surprised when they learned how he was bred. Young Lofty was a very hardy horse, and lived to a green old age.

The list of the prize-winners of 1863 which calls for attention was, in respect of her subsequent career, the best. This was the first prize yearling filly Rosie, owned by the Duke of Hamilton, and bred by Mr. John Barr, Barrangry. Her sire was the superb horse Garibaldi 312, that was first at the Perth Show of 1861, and she was herself first four years in succession, namely, in 1863, 1864, 1865 and 1867, at the National Show. I do not know that even Moss Rose herself has a record at the Highland Society's Shows that will beat this. Taking her prize list altogether, of course, she can leave any Clydesdale mare that has ever been shown behind her, but at the shows of the leading society there are but three mares with a prize record of four firsts. These are this Rosie by Garibaldi, the Auchendennan Damsel, and Moss Rose.

Not only did the Duke of Hamilton's Rosie have a record of this character herself, but she was dam of another Rosie—Rosie II.—which all but duplicated her dam's career. This mare was got by Sir Walter Scott, and was first at Glasgow, and second at the Highland and Agricultural Society in 1869; first at the Highland and Agricultural Society's Show at Dumfries in 1870, and first at the Highland and Agricultural Society's Show at Perth in 1871.

At the last-named show she was bought, along with a daughter of London Maggie, by Mr. John M. Martin from Mr. Drew, and in 1872 she produced a filly foal, by Prince of Wales, named Rosie III., 243. This filly gained first at Glasgow when a yearling, but, unfortunately, the tribe seems to have been lost after this. Whatever the cause, this third Rosie never bred anything of much account, and Mr. Martin at length disposed of her amongst several others as a kind of "shot." She went to Aberdeenshire, but I am afraid has done nothing very startling.

This brings before us a curious instance of the truth that the best and most likely-looking—and likely also in respect of breeding—animals miss breeding. In Mr. Martin's hands Rosie III. was noted with the Lochburnie Crown Prince, the sire of his invincible Damsel, Gleniffer 361, a powerful big black horse, which took a leading place in the show ring about 1877 and 1878, and Newstead, the half-brother of Darnley, which bred so well in the Keir stud; but the result was indifferent in each case. It will occur to most that this was very singular, because it would be hard to conceive a line of breeding of a higher class than that of Rosie III. Prince of Wales, Sir Walter Scott, and Garibaldi 312, were not merely first prize-winners at the Highland and Agricultural Society's Shows, but all three were phenomenal horses. The dam and granddam of Rosie III. were certainly phenomenal mares, and yet the results of breeding with her were disappointing in the extreme. In view of the success that has attended the Darnley and Prince of Wales cross in recent years, it is perhaps unfortunate that Rosie III. had not been served by Darnley; but at the time in which Rosie III. was in a convenient place, the public generally labored under the curious hallucination that Newstead was likely to be a more successful sire than Darnley; and it was only as a very special favor that the service of Newstead was granted by Sir William Stirling Maxwell for Rosie III.

It has been said, with what substratum of truth I know not, that the dam of the first Rosie of this tribe was an English mare. If the statement be well founded, we have in the history of the two Rosie tribes two interesting sets of facts. The Knockdon Rosie had an English sire and a Scottish dam; the Merryton Rosie had a Scottish sire and an English dam. Both mares were mated with exceptionally well-bred Clydesdale horses; the Knockdon Rosie with the Kenmuir Prince of Wales 669, and the Merryton Rosie with the Largs horse, Sir Walter Scott. The respective results were two fillies, distinguished as Young Rosie and Rosie II. Both of these younger mares were mated with the same horse, the Merryton Prince of Wales 673, and the produce was respectively Knoxblack mare Rosie and the Auchendennan Rosie III. Both of these mares in their respective progeny were disappointing; but the progeny of the former displayed their power in the succeeding generation, while the progeny of the latter have passed into oblivion. The whole circle of facts suggests the wisdom of following up the race that has gone into oblivion. I cannot but think that the blood that is in it will tell, and that the Rosies will come again. SCOTLAND YET.

Chatty Letter from the States.

(From our Chicago Correspondent.)

The cold weather has interfered with the marketing of stock, and has also increased the consumptive demand for all kinds of meats. The stocks of provisions were seldom, if ever, lighter at this season of the year. The marketing of stock of nearly all kinds is falling behind last year. January receipts showed a loss of 6,000 cattle and 380,000 hogs. Receipts for the first seven working days of February foot up 62,300 cattle, 95,400 hogs, and 50,000 sheep, showing a decrease of 9,000 cattle, 75,000 hogs, and no change in sheep from last week—a decrease of 5,000 cattle, 20,000 hogs, and an increase of 12,000 sheep, compared with the first seven days of February, '92. The hog receipts show a decrease of 212,000 compared with the same time in February, '91.

The British cattle markets are only fair. Best American beefs selling about the same as a year ago, but they cost nearly, or quite, \$1.00 per 100 lbs. more in Chicago.

Western fed sheep are coming freely. Some 94 lb. lambs sold at \$6.45 per 100 lb.

Excepting Christmas time choice cattle are selling the highest in over a year. Breeders and feeders are taking some hope, but they are not feeling the way hog men are by a long shot.

Good Texas cattle are selling well. Twenty-six head of Thoroughbred Shorthorns, raised in Texas, sold to the Eastman Company, of New York, at \$6.00. The lot averaged 1,563 lbs., and were very fine. The highest price obtained in Chicago last year for Texas cattle was \$5.25, in July. The first half of 1892, \$4.25 was the highest, and outside of July prices \$4.30 was the highest the last half of 1892.

Distillery fed steers, 1,150@1,350 lbs., have been selling at \$4.50@5.20.

Cows and mixed butcher stock have been selling very high lately. The cause is to be found in the fact that buyers are very anxious to "cheaper" their wholesale beef. Choice cuts of good beef are not only very scarce but very high.

Before the middle of the present month hogs sold at \$8.65. In October, 1892, hogs sold at \$9.35. That price will doubtless be reached on the present upturn.

The way people are nursing the pigs and saving

young sows is a caution to hog raisers 18 to 20 months hence.

The scarcity of lard-making hogs and suet-making beeves is causing the big slaughterers who are in the butterine and oleomargarine business to turn their attention more largely to vegetable oils. They are establishing large cotton-seed oil mills at different parts of the south. From these institutions they get, not only oil for butter and lard, but are also able to make very fat cattle on the oil meal.

Texas cattle are coming forward very freely for this season of the year. They are selling at \$3@3.75 for grass steers, \$4.00@4.50 for fed steers, with 26 head of 1,526 lb. fed steers at \$6.00.

Bills are being introduced into several of the western legislatures to "regulate" stock yard and commission charges. Whatever may be said of the sincerity of some of the supporters of these bills, the originators, if not those who actually introduced them, are generally considered legislative "land beggers." Some of this class of legislation should be allowed to go through and be carried to the highest courts, and then there would be less of it.

The Jersey a Business Cow.

BY A. L. CROSBY.

When we engage in the business of butter dairying we need cows that will make the most butter from a given amount of feed. We want these cows to be hearty feeders, to be easy milkers, giving very rich milk, to be gentle, not too large in size, early and regular breeders, and able to do good work in the dairy for many years. In short, we need a business cow, and in the Jersey we have just such a cow.

A Hearty Feeder.—The Jersey cow is noted as being a hearty feeder, and a hearty feeder is one that cannot only eat a large quantity of feed, but a large quantity of rich feed. It is the feed that makes the milk, and in order to make plenty of rich milk the cow must eat plenty of rich feed.

Gentleness.—The disposition of the Jersey cow is about as near perfection as we can expect cow nature to be. Gentleness in a cow is worth money; it counts up in dollars every year; it saves milk; it keeps the richness of the milk from being wasted, for irritable cows are apt to beget irritation in those who milk them, and this, in turn, breeds ill-treatment of the cows, which causes a loss of butter fat in the milk; it insures better care, for the gentle cow is the petted cow; and in other ways the gentle disposition of the Jersey is one of her valuable characteristics.

An Easy, Rich Milker.—The business cow must be one that can be quickly milked, and the milk must be rich; these two qualifications will commend themselves to every business dairyman.

Size in the Dairy Cow.—There has been a good deal of controversy about the proper size for a dairy cow. Some contend that she should be big, so that when she has done her work in the dairy she can be fattened up for beef. Those men object to the Jersey because she is too small—she won't make beef enough. Ever since I began to study the matter I have been a strong advocate of the special purpose cow. We want a certain kind of cow for a certain kind of work, and she must do that work better than any other kind of cow; she should be a cow for one kind of dairy business in order to be a good business dairy cow. It appears to me that the extra weight in a dairy cow, over and above what is necessary for her to do the best work, must be fed at a great loss, because it is fed for many years before it is sold. This proposition, it would seem, cannot be successfully controverted. The business cow must pay every year of her dairy life, and we can't afford to wait till we kill her to get any part of our profit; each year should show a good balance to her credit. And how much profit could we expect from cow beef fed from 10 to 15 years? It is absurd to expect any.

An Early and Regular Breeder.—We don't want to wait till our business cow is three years old before we get any profit from her—we can't afford to waste a year's time; and our Jersey will not disappoint us in this respect, for she begins to return a profit when two years of age, sometimes earlier. This early breeding is so much time gained; when we make a business venture we endeavor to make it pay as soon as possible, and, in the dairy business, we want a cow that will commence her work early in life and begin to pay as soon as she begins her work. A dairy cow must also be a regular breeder. We want to arrange our calving periods to suit our business; and a cow that is a regular and sure breeder is worth much more than one that is unreliable in this respect.

A Cow that Works for Many Years.—When we get a machine that does excellent work, our first thought is, Will it be durable? If it wears out after a few years of use, it may be too expensive. Our business cow is a machine, by the use of which we expect to make money, and she must be a durable machine, for we cannot afford to milk her a few years and then replace her with another. The Jersey cow not only begins her work at a very early age, but she continues to work—and work profitably—till she becomes very old.

To sum up: The Jersey cow is a business cow—one that has been bred for business; she attends to her business, and if well cared for by the dairyman will enable him to make money in his business.

FARM.

Why Manure is Necessary.

Ask the majority of farmers why they use manures, and their answer will be, "To produce heavier crops." This answer may be correct in the abstract, but then there is nothing in it which explains why soil requires the aid of manure in producing a crop, or how the manure assists crop production. There is a why and a wherefore for the universal custom of manuring or fertilizing the soil, and the thinking farmer investigates these, and is never content until he gets down to the bottom of the facts and employs certain means to accomplish certain desired ends.

The growth of a crop necessitates a supply of all the several materials that are built up in it, in proper condition and due proportion, just as does the building of a house or barn necessitates the provision of the proper materials in quality and quantity for its construction. If all the materials necessary for the growth of a particular crop are not present in the soil, the plants produced are imperfect, just as when the builder runs short of material his work is bound to be slighted, unless a fresh supply is furnished.

When successive crops have exhausted the soil of certain elements of plant food, its work of producing crops must cease until this loss is made good some way or other. This deficiency is usually supplied either by applying barnyard manures, plowing in green crops, or using commercial fertilizers. A slower but surer process would be to let the land go back to its natural state, to allow it to grow up with trees and grass, when in due process of time it would again be restored to fertility by the annual deposits of leaves, decayed branches and trunks of trees, together with the natural development of plant food in the soil; but this latter method is wholly impracticable on the farm, and we must resort to some sort of manuring process to make good the wastes of plant food that are all the while going on.

Through the wise provision of nature no two kinds of farm crops feed alike, or take the same kind of material from the soil. A manure or fertilizer must be applied to return what we have taken from the land, without which farming cannot be carried on profitably. Just what needs to be put back, and how these elements are to be obtained most economically, are questions to be solved by the agriculturist himself, as the case may be, and here we have room for thought as well as for muscular labor. Some idea of the amount of inorganic and mineral matter taken from the soil by a single crop of wheat may be gained by the following analysis of 25 bushels of grain and 3,000 pounds of straw, or a good average crop on good lands. This amount is found to contain about 26 pounds of potash, 10 of lime, 20 of phosphoric acid, 6 of sulphuric acid, besides considerable quantities of salt, iron, soda and magnesia. All these ingredients must be in the soil in a soluble form to secure a luxuriant growth of wheat. If any of these elements of plant food are deficient, the crop cannot make a luxuriant or even average growth. But we should remember that just as surely as we annually sell products from our farms, we are using up steadily the materials from which they were produced, and we must keep the storehouse full or our labors on the farm will not be properly rewarded.

This depleting process is what gives us so much worn-out land all over the country. Manures made on the farm are indispensable, and their production should be encouraged; but they are not always produced in sufficient quantities, and when a commercial fertilizer can be purchased, it is best to make good the annual drain made by exporting grain from the farm.

Lands Sold Since Jan., 1892, by the Canadian Pacific Railway Co.,

TO U. S. SETTLERS ARRIVING FROM THE U. S.

The demand for land has been very general throughout the whole country. The new districts which have been attracting buyers this year are particularly the country beyond Melita recently opened up by the line to Estevan, and Northern Alberta tributary to the Calgary and Edmonton road. The last mentioned district has proved particularly attractive to new settlers who wish to secure free grant lands. Good free grant lands can still be had there within convenient distance of railway stations, which is not the case in Manitoba, where the desirable Government lands within easy access of the railway are practically exhausted. The sales made to settlers from the United States are given in detail, with the States from which the purchasers have come:—

Dakota	225	sections of 160 acres	36,000 acres.
Idaho	36	"	8,960 "
Michigan	1	"	160 "
Minnesota	27	"	4,320 "
Nebraska	13	"	2,080 "
Washington	200	"	32,000 "
Wisconsin	6	"	960 "
Oregon	2	"	320 "
Indiana	1	"	160 "
New York	1	"	160 "
Kansas	3	"	480 "
Montana	1	"	160 "
	336		85,760 acres.

How to Utilize Old Barns.

The main feature for the majority of farmers to consider in laying out plans for barn buildings should be to keep the cost as low as possible, and yet provide the necessary room for the stock. At the same time the comfort of the inmates and convenience in attending to them must not be lost sight of. Room must be provided for storing the required feed that will keep the stock supplied during the winter. Space for grain before threshing is considered necessary in these barns, while in many cases storage room for straw, with compartments for saving chaff at threshing, should also be provided; next, the granary and silo, if the latter is intended to be placed in the barn.

Many of those contemplating building are in the same position that I was, with a barn in good repair, yet lacking in storage room and not of sufficient width to advantageously arrange the basement for stock under the building.

Much of the difficulty of building at this day is found in supplying the timber necessary, and in many instances this item is the most difficult to provide. Where buildings have been properly kept in repair, the sills kept off the ground, proper attention having been paid to the roofs, these old frames will generally be sound; and yet, if they are pulled down, are practically worthless, as little use can be made of the timber, because they are not of a suitable length, and however carefully the lumber is taken from the buildings, much of it is destroyed,

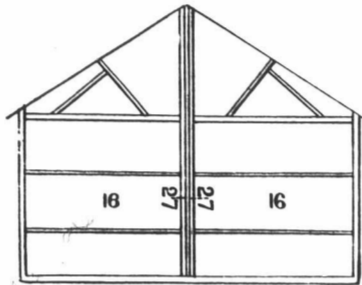


FIG. 1.

and does not cut much of a figure in the estimate required upon a new building. In taking this view of the matter, a great number of plans have been suggested in utilizing old buildings by adding to them, and thus providing the necessary room. Of these there is a plan that I followed which is easily put in practice, and which gives the most satisfactory results, and by this means the most may be made of the barn buildings that have already been doing duty.

First, a calculation must be made of what space will be required in the basement for stables for the stock intended to be kept, and the estimate taken of what room is required for storage above. In calculating the width above, there is a difference for what purpose the stabling is intended to be used. For instance, a dairy barn requires different laying out than that intended for a breeding barn, while one intended for fattening cattle should be differently arranged from either; and if these points are not calculated there will be found the posts blocking the passages below that so often deface the interior of really good basement stables, and which a little forethought will easily arrange so as to have them placed where they do not encumber the space.

Again, where stone, brick, or other expensive walls are built, it will always be found to economize space to have the building of sufficient width, and it is difficult to lay out the interior of a basement to advantage where it is less than forty-five or fifty feet, depending upon the purpose for which it is intended to be used.

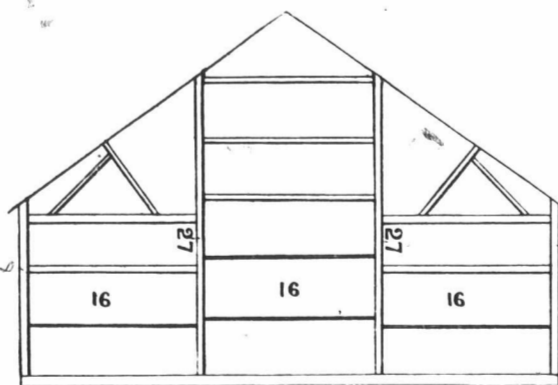


FIG. 2.

The general plan followed for increasing the width of a frame is to build a lean-to along the side; but, however high the posts of the original building, it does not allow enough head room to make use of the space above, nor does it allow height enough for a door. Therefore, there is very little gain in the space added above. A far better way to form the necessary width is to place the addition in the centre, as shown in illustration (fig. 2); by this plan it is much easier executed, and leaves the roof, the siding and the doors intact. The mode of procedure in this case I adopted is as follows: The barn I intended to be enlarged was thirty-two feet wide and seventy-five feet in length, and I wished the building required to be forty-eight feet in width. The wall posts are sixteen feet (about a common height in some localities), and there are hundreds such throughout the country which do not by any means supply the wants of the farms they are on. The width of the old building was thirty-two feet, and

the pitch of the roof was what is known as one-third, which in this case would be slightly less than eleven feet, which, added to the height of the wall, will make the peak twenty-seven feet high. This barn has six bents; therefore, twelve pieces of timber twenty-seven feet long by eight by eight inches square were procured. On these tenons were cut in the top to enter mortices in the purline plate, and the mortices must also be cut for the tie girts that are to fasten the future building together; then this upright post was halved into the cross beam. The two middle boards were first taken off from each end of the barn, and all the boards loosened from the end sill, in order to raise the cross beam far enough to get the old centre post out. The girts also had to be cut. The post then was raised to place it on the sill for which a mortice had been cut, the girts entered, and the post bolted to the cross beam, and proceed so until all the posts are in position. The purline plates were then raised on to the old cross beams, in readiness to raise on to the posts. A number of men got upon the peak of the roof, and with crow bars separated the rafters where joined and pried them up, and supported them high enough to enable the purline plate to be placed upon the posts and the rafters let down to their place on plate. When this was finished on both sides, the end view of building appeared as in fig. 1.

The next proceeding is to take a cross-cut saw and cut the beams between the posts and the sills at the same point. Then the building was in readiness to move, and hitched on with the moving apparatus and drawn apart, the tie girts placed in position and pinned fast; the centre tier of rafters was placed in position, and the frame was again intact. The frame is now in much the same shape in which most builders lay out the frames for large barn buildings, as the tie girts between the purline posts secure the building from any possibility of spreading. This way of adding may be applied to any building that requires a greater width; is more easily performed, does not injure the siding or roof, gives the addition at the greatest height, and therefore has double the advantages of any other mode of expansion.

The Coast and Islands of the New Westminster District of British Columbia.

BY W. FERGUSON, VANCOUVER, B. C.

Until lately comparatively little has been known outside of this province of the great advantages which the coast and islands of the New Westminster district of British Columbia offer to settlers, either in the agricultural or grazing lines. Within the last two years a large amount of the land nearest the principal cities has been taken up and settled, but a great area is still available for settlement that can be brought under cultivation or utilized for grazing purposes. Intending settlers can either purchase partially improved farms at prices varying from \$5 per acre upwards, or can pre-empt government lands as bona fide settlers. In the latter case it is always well for new comers to procure the assistance of some reliable location agent, whose knowledge of the country would save the intending settler much loss of time, annoyance and money in making a selection of his claim. As regards the capabilities of this section, I glean the following from reports of practical men who have been long settled in the country:—All fruits, and vegetables as well, being in quality ahead of those of the far-famed Fraser River Valley, and the yield is unrivalled. Particular mention may be made of the raising of tomatoes on the Islands of the Gulf. This branch of horticulture has been tried as an experiment well calculated to test the possibilities of the land, and the success met with was far ahead of the most sanguine expectation entertained. The fruit ripens earlier than on the mainland, owing to increased sunlight, and possesses a much superior flavor. The growth of strawberries along the water front is something phenomenal, and it is difficult to give a just idea of the productiveness of the land in this locality. The climate is much milder than that of any other part of the Dominion. Snow and frost are practically unknown on the Islands. Cattle, sheep and poultry thrive well; sheep-raising especially offers a splendid field for investment. On Savary Island, the property of Mr. J. Green, the increase of sheep has exceeded one hundred per cent., and in one instance he has shown a flock of twenty ewes with thirty-eight lambs. When it is remembered that the mild winters of this favored region render it unnecessary to put up any feed, it will be seen that there is an unparalleled chance for a practical farmer with very moderate capital to do an excellent business. Sheep, hogs and poultry find a ready market in the cities adjacent, there being excellent steamboat communication. The cities of Vancouver, Victoria, Nanaimo and New Westminster are at present supplied mainly from the Northwest and from Oregon and Washington, and it is only of recent date that the fact has begun to be recognized of there being at our very doors the means of producing everything necessary for home consumption. An industrious man with a little capital can find no better location than the section of country herein described.

Report of the Progress of the Work of the Canadian Section of the World's Fair.

A bulletin written by Prof. Wm. Saunders has been issued by the Dominion Government, which gives a report of all work done connected with the Canadian department of the World's Fair up to November, when Prof. Saunders' ill health forced him to send in his resignation. This gentleman has met with great success in his work, and has secured a generous allowance of space, which is situated in very advantageous positions. Altogether the space allotted to Canada amounts to 106,000 square feet, besides sufficient accommodation for about 700 head of live stock, with the written promise of the chief of this department that if more space is needed for the Canadian exhibit it would be granted.

At the suggestion of Sir Henry Wood, the request was made, and granted by the Exposition authorities, that wherever practical the space allotted to Canada should be next to that of Great Britain.

The Dominion Government invited all the provinces to co-operate with the executive commissioner to exhibit as full and complete a display as possible. The conditions of the invitation provided that the Dominion Government should pay for the transportation of exhibits going and returning. The provision was made that the cost of placing the exhibits in position, and the expenses of caretakers to look after the goods during the time of the Exposition, and the bringing of exhibits together for economical shipment in car lots, should be defrayed by the Provincial Government. In the case of live stock the Dominion Government will pay for all food, and if it is found necessary to quarantine any of the animals on their return, this expense will also be borne by the federal authorities, the provinces agreeing to defray the cost of selecting, and the expense of providing attendants to go with the stock and to take charge of it while at the exhibition.

All risk of wear and tear, damage from exposure or accidents, must be borne by the individual owners.

The provinces and territories have agreed to prepare exhibits, to be shown in provincial groups, of their minerals, timber, fruit, vegetables and honey, and to co-operate with the Dominion in preparing an educational exhibit, and a display of agricultural produce and of live stock.

In manufactures the space allotted to Canada is 21,600 square feet, and adjoins that of the Mother Country. Applications have been made for a large amount of space from all leading manufacturers.

In the liberal arts the space allowed will be 6,000 square feet, which will be chiefly occupied by the educational exhibits of the provinces and territories. The display which is designed to illustrate the educational system of Ontario, under the charge of Dr. S. P. May, of Toronto, is already well advanced. In this department the space granted has been insufficient. A much larger area than that which has been granted could have been filled, had it been possible to obtain it.

AGRICULTURE.

Here Canada has been awarded two blocks of space, a total of 7,700 square feet; this also adjoins that of Great Britain. There will be a large display of the agricultural products raised in the different provinces, both from the Dominion Experimental Farms and selections from other sources. Collections of stuffed birds and animals will be placed here, as will be found the mammoth cheese, which was crowded out of the dairy building.

The Dominion Millers' Association is preparing to show all the leading brands of Canadian flours.

AGRICULTURAL IMPLEMENTS.

Here Canada has been assigned 7,880 square feet, of which a large amount has been already applied for, so there is likely to be an excellent display.

DAIRY.

In this department 3,000 feet of space was applied for, but, on account of the smallness of the dairy building, it was found necessary to restrict the Canadian exhibit to 576 feet. About 1,000 choice cheeses have already been obtained. Preparations are being made for a good display of butter of fine quality from the important dairy sections.

FORESTRY.

The forestry building has been so constructed as to require for its support a series of groups of columns, each of which is to be composed of three trees with the bark intact. Canada has been invited to supply a number of these groups with her representative trees. Inside the building 4,000 feet has been assigned to Canada for further display of her trees, timber and wood productions.

HORTICULTURE.

In this department the provinces have entered heartily into the work. 8,000 square feet have been assigned for the display of fruits and vegetables. In Ontario the work is under the charge of Mr. A. H. Pettit, President of the Fruit Growers' Association. Since the fruit crop in the Western States has been poor, a larger space has been offered to Canada, and efforts are being made to fill it creditably.

FISHERIES.

Here a space of 5,000 feet has been assigned to Canada. An excellent exhibit is in course of preparation. In the exhibits of minerals, machinery, transportation, electricity and fine arts, all the available space will be well filled with a creditable exhibit. In the transportation department it has been arranged that a representative train of Canadian cars will be shown alongside of a train of English cars, also in contrast to them will be shown a dog train and Red River cart.

DEPARTMENT OF INDIAN AFFAIRS.

Here, besides examples of the handiwork of Indians from all parts of Canada, there will be families of the different tribes, with their equipments, representing their wild condition; also young Indians from the Industrial schools, who will work at their several occupations. This exhibit is designed to show the effect of the liberal and paternal policy pursued by the Canadian Government.

LIVE STOCK.

Preparations have been made for an extensive display of horses, cattle, sheep, swine and poultry. Expert judges were chosen by the Ontario Commissioner, N. Awrey, Esq., who has visited all the important exhibitions and selected the best specimens to be found in the different classes. Similar work has been done in Quebec, and it is expected that a display will be made by Manitoba and Prince Edward Island. This will certainly be the largest exhibit which Canada has ever made, and will surely call attention to the advantages which the Canadian climate affords to the breeding of high class animals.

GARDEN AND ORCHARD.

Experimenting with New Fruits.

BY A. M. SMITH, ST. CATHARINES.

From the title of my subject you might think I am going to give my own experience in growing new fruits, but such is not my intention. Experimenting with new fruits and its cost to the country is more properly the subject which I wish to present to your consideration, and in doing so I may make some statements which you may think extravagant, to say the least, but I want you to carefully examine the facts and see if they will not bear out my assertions. Last winter, while I was attending a meeting of the Michigan Horticultural Society, it was stated by one of their prominent members, I think their president, T. P. Lyons, who is also a director of one of their fruit experimental stations, "that there was annually enough money spent in the purchase of worthless fruits to maintain the poor of the State." I have been thinking upon this subject and making a little estimate of the amount spent in Canada, and I have come to the conclusion that the money spent here in worthless fruits and fruits not adapted to the climate and wants of the country, and in their cultivation, would far exceed that sum; and I will venture the assertion, that within the last twenty-five years there has been more money thus wasted than would pay our national debt (which you all know is not a very small one). I know it is far easier to make an assertion than to prove it, and that what might be accepted as proof by those familiar with the subject might not be understood by those who were not. I think all who have had experience in growing fruit, and in marketing it, will fully understand the difference between the value of the tree that produces \$10 worth of fruit and one that produces 50 cents worth, or less, annually, particularly if the latter costs five times as much when planted, and has, perhaps, had twice the time and money expended upon its cultivation, and I doubt not your experience in finding this out has cost some of you more than your share of the national debt. But there are others, perhaps, who are not familiar with this business, who would be hard to convince that there was such a loss. But, suppose we take an ordinary farmer's orchard, like the majority of those in our neighborhood, and on an average what proportion of good paying varieties will you find that will yield a good, fair crop of a quality that will bring a first-class price in the market? Take the country through and you will not find over 25 per cent. I have packed apples in nearly all of the best apple sections of the country, and I did not find that on an average, and what are the rest? They are apples ranging from fair to worthless. Let us see what this means. Take 100 apple trees, which should, at a low estimate, average two barrels to the tree for twenty years, worth \$1.00 per barrel, and because three-fourths of them are not adapted to the country, or the market, they only average one barrel. You have a yearly loss of \$100 to each 100 trees, or \$2,000 in twenty years. How much would that amount to on the total orchards of Ontario? This is not all; the same holds good on all other varieties of fruit—pears, plums, peaches, cherries, grapes, and small fruits. Half of the money expended on them has been a total loss, except to the nurserymen, and perhaps the experience bought may be of some use to some, though, I am sorry to say, one-half of our farmers do not seem to profit by it, for the next agent that comes along with the picture of something new and wonderful, and declares it will bear from July to January in any soil or climate from Manitoba to Mexico, will get their order. This loss is not confined to farmers and fruit growers alone. Our mechanics and townspeople are annually spending thousands of dollars for trees and plants to stock their gardens, more than one-half of which is worthless, or not adapted to the climate. Now, the question is, How has this state of things come about? Who is to blame for it, and what is the remedy? In the early history of our country there was some excuse for this. People were anxious to grow fruit, and had no means of knowing whether a variety was good and would succeed here or not, till they tried it, and later on agents from the other side swarmed the country, recommending this and that variety; many, with the hope of getting something good, planted a little of everything, which accounts for

the large collection of varieties in some of our old orchards. But as years rolled round, and there began to be a demand for shipping fruits, planters began to understand what varieties were profitable. They commenced to order those varieties largely, and planted new orchards, and here came in the iniquity of tree agents, and, I am sorry to say, some of the nurserymen. There was not enough of this kind of trees to supply the demand, and there was inserted in their blank orders, which they always carry to be filled out, this clause (which is generally observed by the buyer), "If you have not got the varieties called for, you may substitute others, which you think equally desirable." The consequence was, that many a man who gave his order for Baldwins, Greenings, Northern Spies, or other choice varieties he wanted, found out when they came to bear that he had Talman Sweet, Colvert, or some variety he did not want, but something the nurseryman wanted to get rid of, or the tree agent could buy cheaper, and which they thought would be "equally desirable" for them to get the money for. I could point to hundreds of such cases, but many of you know them to your sorrow. Besides this, there is a laudable desire on the part of planters to get something new; something there is more money in than the old, and they are on the alert for new things, some of them anxious to get the start of their neighbors. Nurserymen, knowing this, are continually introducing new things, and by getting high recommendations from one another, a kind of "scratch my back and I'll scratch yours," they succeed in selling them readily, often at ten times the price of varieties 100 per cent. better. It is true, an occasional new sort may be of value in some sections, but not one in one hundred proves to be superior to the old established varieties. I could mention dozens of sorts that thousands of dollars have been paid for through the country, and thousands more spent in their cultivation, which never pay for the time spent in planting, much less in nursing and cultivating. Prof. Lyon, of the Michigan Fruit Experimental Station, stated in his report last winter, that not more than one in one hundred of the new sorts and novelties succeeded, or even equalled the old standard varieties, though some of them might appear valuable for a year or so. His advice to fruit growers was, for general planting, let novelties alone. Yet, glib-tongued agents will often induce men to invest largely in new, untried fruits. I know of one in my section who persuaded a farmer to plant several acres of a new grape, called the Early Dawn, for which he obtained an enormous price, representing that they were so early he would have the market all to himself before his neighbor's grapes were ripe, and thus secure a fortune; but when they came to bear, the fact "dawned" upon him that he had been swindled. They were not earlier than some of the old sorts, and far below them in size, quality, and productiveness. Similar instances might be multiplied, but it is not necessary. We know that these are facts, and can understand how they have come about, and I think you see we are, in a great measure, to blame for it ourselves. As long as we continue to invest our money in these new things, simply upon the recommendation of the tree agent, or a few men interested in their sale, we shall be doomed to loss and disappointment. I do not wish to insinuate that nurserymen and tree agents are all rogues—far from it; I believe nurserymen are as honorable men as a class as those engaged in any calling, and some tree agents are also, but there are those who, like the manufacturers and dealers in whiskey, are not in it for the good they can do to the country, but for the money they can get out of it. Now, about the remedy for this state of affairs. We do not want to discourage experimenting with new fruits, or the introducing of them if they are worthy; on the contrary, we want to encourage this work, but we do want to devise some means of having such tested by competent parties not interested in their sale, so that we may know whether they are worth planting or not, before we pay out our hard earned dollars for them. This is a matter which affects the whole country at large, not only fruit growers, but consumers. We are all interested in getting the very best fruits our country will produce, and at the best possible rates; and anything that hinders their production diminishes the supply and adds to their cost. I know of no better or fairer way to remedy the evil than by asking our government to assist us in this matter by establishing experimental stations in fruit growing districts, where fruits can be tested by disinterested parties, under its supervision, as is done in nearly all the neighboring States, and by enacting laws regulating the sale of trees and plants, making it a criminal offence to wilfully substitute an inferior fruit for one ordered, or in perpetrating frauds of a similar nature. We have advocated this before in our society, and the matter has been brought before our Ministry of Agriculture, who, I think, sees the necessity of it, and is willing to do what he can to assist us; yet no definite action has been taken further than the appointing of a committee to consult as to the best means of carrying out the work, but who have as yet accomplished but little; still, I hope some more definite action will be taken during the coming winter, and the matter brought before our Legislature, who, I trust, will see the need of this work, and grant us what we ask, and we want every fruit grower and lover of fruit interested in this work to agitate this subject. Talk it to your neighbors, bring the matter before your member of Parliament, and if he has not sense enough to see the necessity of it, ask him to step down and out and put someone in his place who has.

DAIRY.

Dairymen's Association of Western Ontario.

[CONTINUED FROM LAST ISSUE.]

TUESDAY EVENING.

Mayor Spencer, of London, addressed the Convention and gave the members a hearty welcome to the city of London. He said he was sure he was giving expression to the feelings of the citizens by so doing; also he would thank the Association for the assistance which the dairymen has given to build up the city of London. The cheese market held now in this city is one of the largest markets in the Dominion, and no doubt the increase in dairying was the cause of the establishment of the new packing house adjacent to this city, which, he hoped, would be a benefit to the city and the surrounding country, and also profitable for the company.

Mr. Masuret, President of the Board of Trade, addressed the Convention, and in the name of the Board of Trade gave them a hearty welcome; and, as he was a merchant in the city, he hoped the Association would take hold of the butter question and work up the butter trade of the province as successfully as they had done the cheese industry.

GOOD NEWS FOR THE FARMERS.

Mr. Pattullo, Woodstock, read an excellent paper on road-making. The standard of the civilization of a people may be fairly judged from the state of their roads. We are ahead of some people in some things, but as to our roads we are in a state of barbarism. Perhaps our system of statute labor has something to do with it, the want of skill in many of the pathmasters, the want of system in doing the work; what one pathmaster does this year may be undone by another pathmaster next year, etc. Why have they such good roads in England and Scotland? They make the roads properly at first, and they keep them good by attending to the repairing as it is needed. With good roads farmers would save much in getting their produce to the market; there would not be so many lame and blemished horses, nor so many broken vehicles. It would be a great saving to the farmer if he had good roads, which would prevent these and many other losses.

Mr. E. Casswell addressed the meeting shortly, and read some extracts of an address delivered by the Dairy Commissioner in London, England, on Canada as a food producing country.

Mr. J. S. Pearce read a good paper on "The Future Cheesemaker and His Requirements," which we will give to our readers at an early date.

Mr. C. E. Chadwick addressed the Convention shortly, as one of the pioneers of the dairy work, and who had acted as secretary of the Association since its formation. He was glad to hear such words of encouragement and cheer from the Minister of Agriculture, telling us the government would financially support the dairy interests of the province as they had done in the past.

Ex-Governor Hoard, after telling a good story of Old Uncle Joe's trip to New York, said he had rather a rough time in getting to London, but was glad he got here, though suffering some from the effects of the storm and cold. Last year had been one of the most important in dairy history. It had been a year of experimental work—of investigation into dairy facts and dairy truth such as had never been seen before, and they had made some progress in solving some of the difficult problems connected with their work. He was glad Canada was keeping pace with them. Dairy students in the States and Canada are one in their ideas and purposes of education and progress. They may build up tariff walls, but they can't collect anything from an idea, so we can exchange ideas and help each other in spite of the walls of separation which politics may build. We have all been struggling to get good milk and honest milk for our factories and creameries. In April, 1891, Hoard's creameries started to pay for milk according to the quality or amount of butter fat which it contained, according to the Babcock test. In one month there was an increase in the richness of the milk and in the return of profits to the patrons. The Babcock test clears away the moral hazard question in the dairy business. Every patron is paid for what he brings, and, consequently, they become more honest with themselves, with the cow, with the creamery, and with their neighbors, which must be a benefit to all. From April to November the increase was one-third of a pound of butter fat in every 100 lbs. of milk, and the December milk was 25 per cent. richer than it ever had been before. A prominent dairymen had said the Babcock test beats the Bible in making patrons honest. He said, "I have been quoting Scripture to my patrons for years, but could not by that means improve the milk, but when I got the Babcock tester the improvement came at once without much talk."

C. C. James, Deputy Minister of Agriculture, addressed the Convention on "The Dairymen as a Manufacturer." In the barbarous age when people lived by the chase and hunt alone, it required twenty square miles to sustain one man; a little further down the ages we find 140 to the square mile, and as we come down to our own day, England has an average of 541 to the square mile, and, in some manufacturing districts, 6,000 to the mile; in Middlesex, England, there are 10,000 to the mile. In these large centres of population they must be provided with food from outside areas. The agriculturists are the providers of food and raw material for clothing, and in this sense were manufacturers in the broadest sense. Business principles

bring success. 1st. Capital properly invested. 2nd. Machinery the right kind. 3rd. Proper selecting of raw material. 4th. Intelligent and proper management. Now, capital is not used to pay dividends; dividends should be paid from the earnings. Capital and machinery should be in use all the year round, to make profits. Now, many farmers have their capital and machines idle a good part of the year, in the form of idle horses and idle cows, that are not earning anything to pay their dividends. Machinery is always being changed and improved to meet the requirements of the markets and increase the profits. Is the farmer doing this as he might do? We fear not. Manufacturers always seek the cleverest and best educated hands to handle machines and material to produce the best article, as the competition is severe. Are the farmers studying their business in this way? Let there be no waste; the manufacturer uses up all his refuse and waste material, and makes money out of it in some way; instead of calling them waste products now, they call them bye products, and utilize them for some purpose. Are farmers doing this as they might do? These things and many others, have to be studied and practised in order to succeed.

Prof. Saunders, Director of the Dominion Experimental Farms, said it was only lately that he received a notice to be at the Dairymen's Convention, and on account of Prof. Robertson not being home from England he was here in his absence. Prof. Robertson's visit to England was for various reasons. He went to address the provision trade in England, to help to remove any prejudice which the English people may have against our products. We had a considerable quantity of both cheese and butter to dispose of, which was made at our experimental stations, and he wanted to see these put upon the market and disposed of at different points, to show the trade the quality of our goods and show them that Canada was a great and good dairy country. The preparation which the government is making for an exhibit at the World's Fair will be something grand in our dairy products. We have made the largest cheese that has ever been made, for this exhibition—9 feet high and 7 feet wide, and weighs 11 tons. Besides this we have 1,160 square feet of table room for our other exhibits of cheese. We have about 200 cheese made in 1891, 1,000 cheese made in 1892, and will make a considerable number in 1893, so that we expect a grand display of our cheese industry, and a good many prizes as well. Prof. S. gave some good advice about the selection of seeds, proper cultivation of the soil, etc., etc.

Dr. VanSlyke, Geneva, N. Y., said:—What is it that gives value to milk for cheesemaking? Some say it is bulk, or weight; some say there is good cheese milk, but not good for making butter, and some milk good for making butter, but not so good for cheesemaking. We made about fifty experiments to find out the facts about this question, at different factories in different districts, and also a number at our station at Geneva which could not be done at the factories, as we made a complete analysis of the milk, the whey and the cheese made. To test milk and pay for it according to its value in butter fat the Doctor said: Is it fair, is it practicable, is it rapid, is it simple, and is it accurate? 1st. He said all their experiments went to show it was fair to every one to be paid according to the Babcock test of butter fat. 2nd. It is practicable. Yes, it is. With due care any ordinary person can very soon learn to make tests. It requires care and attention to take the samples properly and make tests, but there is nothing complicated about it. 3rd. It is rapid. A patron's milk when properly sampled and put into a jar, one sample each day, can be tested once or twice a week, with perfect accuracy, in say fifteen minutes, and according to the size of the machine, from four samples up to thirty at once. Butter and casein are the two elements which cheesemakers have to deal with. There is some albumen in the milk, but it does not concern the cheesemaker in everyday work. No. 1 samples, with 3 per cent. of butter fat, contained 2 per cent. of casein. No. 2 samples, with 4 per cent. of butter fat, contained 2.67 per cent. casein, or the same proportion of casein to butter fat that the 3 per cent. milk had. All the experiments made with milk between 3 and 4 per cent. butter fat showed the same results. The Babcock test is the only remedy yet proposed to do away with gross injustice in paying for milk by bulk or weight. The average butter fat tests for six months, May to October, were 3.69 per cent. The average quantity of cheese made for every pound of butter fat was about 2.75 pounds. The amount of fat lost in the whey in manufacturing the cheese during the six months was 0.30 per cent., the average from 0.29 per cent. to 0.35 per cent. Reasons why the present method should be discarded: It is not business-like; it is not honest; it takes money out of one man's pocket and puts it into another's; it discourages the production of good milk. Reasons for adopting this new method: Because paying for fat is just to all concerned in the business; it will improve the quality of the milk; it will cause more care to be taken in the breeding and feeding of cows; it removes all temptation to do wrong to neighbors and factorymen. Improved milk improves the quality of the cheese, and, consequently, increases honest profits in the business.

A very interesting discussion followed. A good many questions were asked from the floor. We hope this will not be the last time the Doctor will visit our convention. We are only voicing the convention when we say his address and report of the experiments which he had made in testing milk and making cheese was perhaps of most benefit to the

cheesemakers of any of the addresses given. The scientific and practical facts were given in a clear and instructive manner, which the convention listened to with the greatest attention.

Mr. E. Casswell, agent for the Canadian Packing Co., recently established in London, read a paper on "Breeding and Feeding Hogs." The demand for fine sided side bacon has increased, and dairy fed hogs make the finest bacon. He advised farmers to go in for more hogs; long and lean, tender and young is what is wanted to suit the trade.

The Hon. Mr. Ballantyne, confirmed Mr. Casswell's statement, saying that Canadian bacon sold in England for 20s. per cwt. more than American.

Ex-Governor Hoard showed two diagrams of two wonderful cows—Pauline Paul (Holstein) and Matilda (Jersey.) Pauline, in one year, produced 1,100 lbs. of butter; Matilda, over 900 lbs. in one year. He pointed out the long, round shape of their udders, and their enormous digestive powers, which could digest food enough to produce such quantities of butter. The cow's needs should be studied, if we expect her to give us large returns. We must feed her with material which she can convert into butter fat and casein, or, in other words, out of which she can make milk. If cows could talk, how they would cry out for a better breed of dairymen—men who were educated in the dairy business. After giving some good advice to the farmers, he closed with one remark, which is not universally believed, viz.: "The general purpose cow is a fraud; she stands between many a farmer and success in dairying; the sooner they get quit of her the better." He also gave some rather startling figures from the annual report of his home creamery, showing the price paid per 100 lbs. of milk according to quality. The price ranged all the way from 88c., the lowest, to \$1.25, the highest price paid per 100 lbs.—37c. of difference; a good many patrons ranged about 96c. to \$1.00 per 100 lbs. milk. He hoped the farmers of Ontario would soon become so rich that the cry would cease coming across the border, that their young men were emigrating to the States. Ontario had resources which, if properly developed, would make her second to none.

Care of Milk.

BY C. C. MACDONALD, SUP. EXP. DAIRYING.

The care of milk is such a broad subject that I will not take up the time of this convention with anything but the most important details pertaining thereto.

There have been some attempts made in the past few years by some of the farmers of Canada to furnish better milk to the cheese and butter factories than was done even ten years ago, and the result of those attempts is noted by the increased make and sale of Canadian cheese, and the higher rank it takes in the foreign markets.

The more we educate the farmers and induce them to perform their part of the dairy work thoroughly, the better cheese and greater quantity we may expect to make, and consequently bring more wealth to the country.

Milk at its best is a very perishable compound, and very susceptible to any contamination foreign to itself, and therefore should be protected at all times from anything that would injure its quality in any way. A farmer's wife would not put flour near the Kerosene can, or anything else that would contaminate it and render it unfit to make good bread. Neither should the farmer expose the milk from his dairy to any foul odors, such as those of the pig-sty, the barnyard, or the cow or horse stable, or those arising from dead carcasses, or to the certainty of contamination by conveying whey from the cheese factory in the milk cans, all these going to render the cheese or butter maker's raw material (milk) unfit to manufacture the proper article of food for the masses to consume.

In my travels last year I visited one cheese factory which sold the last two months' make for one-eighth of a cent a pound more than any other factory in that neighborhood. I learned afterwards that the patrons of that factory did not carry whey home in their milk cans, while the patrons of all the other cheese factories round about, almost without any exception, did carry the whey home in the milk cans. This means that the patrons of this one factory received more money for the whey by the increased price for their cheese than they could possibly make out of it by feeding it at home.

There is another matter to be considered here, and that is the increased make of cheese from untainted milk compared with that which has been tainted by sour whey or other impurities already mentioned. It has been proved that one-eighth more cheese can be made from pure, wholesome milk than from tainted milk; therefore, carelessness, with regard to the milk results, is a loss not only to the individual himself, but to the other patrons of the factory as well.

Now, the first and most important matter to be considered in the care of milk is absolute cleanliness from beginning to end—cleanliness in the stable and milking yard, in milking, with the milk pails, with the strainers, with the milk cans, and with the wagon in which the milk is conveyed to the factory.

One man of whom I know came to a factory with milk drawn in a cart which had been used only an hour before carting manure to the field. This I took as a wilful mistake, and scolded the man for so doing, but he did not seem to feel that he had done anything wrong.

Everything that is used for handling milk should be scrupulously clean. This point cannot be too

carefully noted, or too frequently repeated. The best method for cleaning milk utensils is to rinse the articles in use with cold water first, as cold water removes all stickiness of the milk from the sides of the vessels; afterwards use water as hot as the hands can bear and wash thoroughly, using a little Pearline in the water. Look well to the seams of the milk cans and pails, and any crevices where filth is apt to collect. The little places sometimes left by the tinsmith in finishing his work are very dangerous, as they are apt to be passed over by the dairymaid, and the tiny particles of milk gathering there from day to day begin to decay and raise havoc with the whole can of milk. In these small places the germs of decomposition are created, and the result is tainted milk.

After the articles have been thoroughly washed, boiling water only should be used for scalding purposes as a finishing touch to the cleansing. The vessels should then be placed in the open air, that they may become thoroughly aired before the next milking time.

Supposing the time for milking has arrived, the milkers should go to the milking place with clean hands, and should be equipped with some clean, warm water and a clean flannel cloth to wash and brush the cows' udders before beginning to milk. This should be the invariable practice of every dairyman at all times in the year. It is one very important part of the care of milk.

When the milk is first drawn (not half an hour afterwards, as some dairymen I know of persist in doing), it should be strained through a clean strainer. A cloth strainer is far superior to any other, for several reasons:—1st, It can be cleaned much easier; 2nd, Can be easily exchanged when worn out; 3rd, It will arrest the very smallest particles, and prevent them going into the milk; 4th, It is cheaper than any other.

There is no reasonable excuse for a patron sending milk to a factory unstrained, as the cloth sufficient to last a whole year would not cost more than twenty cents.

Immediately after the milk is strained it should be thoroughly aerated by means of dipping, stirring or pouring, to expose it to the pure air.

The most efficient method of airing milk is to procure a good aerator, which costs a paltry sum of money, and will pay for itself twice over in one season. The aerator is placed on top of the can with a cloth strainer inside of the receiving bowl, and it is ready to do its work. Thus the milk is both strained and aerated at once, saving time. Milk treated in this way does not require putting down in cold water, except in extremely hot, close nights. The surrounding atmosphere should always be pure, and the milk should not be cooled down below the temperature of the atmosphere, but should be just two or three degrees above, in order to keep up a slight evaporation. On the other hand, if the milk is colder than the atmosphere, it will absorb any impurities from it that may be afloat.

The night's and morning's milk should always be treated the same, viz., thoroughly strained and aerated before being carted to the factory.

The cream should not be removed or any part of it, nor the strippings kept back. This reminds me of an incident that occurred at a certain factory in which it fell to my lot to hold a meeting. The cheesemaker had instructed the patrons not to strain their milk, and when I asked why he had done such an outrageous thing, he said that if the milk was dirty the patrons would not be so apt to take any cream off. I assured him that he needed to issue better laws than that, and see that they were enforced. That man was making the poorest lot of cheese I found while making that tour.

The cheesemakers do not require green, unripened milk, as is generally supposed by the average farmer; rather he desires his raw material matured, for if it is not so he has the trouble of maturing the whole bulk of milk received, a work which is better to be done by the farmer himself.

In summer the milk is generally in a proper stage of maturity. It is in the autumn, when the cold nights come in, that the patrons should look more carefully to the condition of the milk.

After the proper straining and aerating, the can of milk should be taken to the kitchen, where the temperature should be about seventy degrees. If milk is thus treated, it will be in proper condition when it arrives at the factory. Consequently the cheesemaker is enabled to perform his work better and exercise his skill more thoroughly.

Milk should never be allowed to become frosted or chilled, hence the reason for conveying it to a moderately warm place in cold weather. Frosted milk has a bitter flavor, and will impart it to the cheese or butter; so it is most important that farmers furnishing milk to a factory should study milk, i. e., what it is, what it is to be converted into, and the best ways to care for it, and give every assistance in his power to make the finest article possible. It should be the aim of the patrons, one and all, to furnish pure, sweet, wholesome milk to the factories. As the farmers are the first who have to deal with the raw material, a great deal depends on their treatment of it as to what the quality of the manufactured article is to be. The farmer's aim with regard to the factory should be to make it the best, not only in the county, but the best in the Dominion, by a hearty co-operation with the cheese or butter maker. They, too, should study one another's interests, and together strive to establish a prominent name for the factory they are connected with.

I have hitherto spoken only of milk as taken from the cow and conveyed to the factory, but it may not

come amiss to say a few words concerning the modes by which farmers may ensure the purity of the milk yielded by the cow. If the milk yielded by the cow is impure, no subsequent amount of care can make it pure. Very often, if tainted milk be traced to its source, it will be found in something affecting the animal. Foul odors breathed by the cow will affect the milk, so will poor food and bad water, the latter two more especially. More than one farmer, puzzled by tainted milk, after taking every possible care of milk vessels, etc., has found the source of the impurity in the water drunk by the cow. Hence the importance of supplying only the purest water for the cow to drink. She uses the water she drinks as a conveyance to carry the food she eats to the different parts of her body, and if the water is tainted the milk cannot fail to be so. Now who would dare to dream, for one moment, that pure, wholesome cheese or butter could be made from milk obtained under such conditions? Let the food given be pure, wholesome and succulent, and the water pure and plentiful, and give the same care a good father gives his children, and every farmer is assured of success in the dairy business.

POULTRY.

Poultry on the Farm.

BY IDA E. TILSON, WEST SALEM, WIS.

Poultry and larger stock very fitly combine, because their diet and care have so much in common. Ensilage, roots and clover hay do the same work for all. The bulk of green food and its small proportion of solid matter dilute a concentrated grain ration, and satisfy without overworking the digestive apparatus. That variety of meals and grains prolific layers need is already planned for where good milkers or growing pigs are kept. The same crops, purchases and storage answer in both cases. One-third each bran, shorts, and cornmeal is a fine pudding for hens, and any combination suitable to other stock can form at least the basis of our poultry food. For example, oil meal glosses biddy's coat, and in the quantity fed is only restricted by its laxative nature.

Perhaps animal food is most indispensable of all, if we are to have a constant supply of eggs. In summer, on a wide range, fowls make insects a great part of their living. Our northern year is more than half winter, however. Fowls are sometimes confined, too, while gardens are starting or berries ripening; and when they have gone over and over a piece of land, the insect crop does yearly diminish, not enough old bugs being left to replenish the farm. The meat supply becomes a serious question. Lard scraps, or cracklings as they are called, are excellent, but not obtainable at every place, and they are rich, needing care in use. It is also difficult to secure them early enough in the fall, and I have failed to keep them over summer satisfactorily. If closely shut up, the scraps mould and sour; if left open, moths riddle them. Beef livers and hearts are good, but expensive, and all raw meat is very laxative. Beef bones boiled till their meat comes off are admirable, but the labor is great for its results. Several years in which my hens had sunflower seeds and sufficient milk, but no meat whatever, gave some of their best egg records. Milk is not so forcing as meat, but is a steady, thriving diet, and takes the place even of green food, when the latter cannot be supplied regularly. For young, growing fowls, it is the best of foods, making bone and muscle. According to our modern dairy system, skim milk is usually sweet, often nearly fresh, and on hand most or quite all the year. Though its fats have been taken for butter, there is left abundance of albumen and salts of lime, the very material for building frames or producing eggs. Skimmed milk in any form is relished, and preferred for drink above everything else, yet fowls never gorge themselves as they do with puddings and corn. During the hot months they will almost subsist and lay on it alone, because milk, being combined food and drink, does, while assuaging thirst, help supply biddy's system slowly but constantly, just as her quick digestion demands. An egg, or the animal frame itself, including flesh, is about two-thirds water, and my observation of poultry yards has discovered more lack of clean, fresh, suitable liquid supplies than anything else. Hens thrive also on buttermilk, diluted with a little water, which reduction is sometimes needed by new or rich milk. Buttermilk has its little globules broken open by churning, and is, therefore, already half digested. Unlike the natural acid of fruit juice, a fermented sour is poisonous, hence sour milk in time may produce bowel complaint. When so much curdled that its whey has separated, it is unsafe for the interior of either fowl or human being. The process better be completed and "Dutch cheese" made—a food strong as lean meat, and upon which the hardy Swiss mountaineer lives and climbs. Milk slightly acid, or of the consistency of boiled custard, is not so bad, but its effects must be watched, especially in hot weather, and rather than do so I usually correct by a little soda. Most poulterers withhold water from chicks the first few days of their lives, in order that they may get the start of those parasitic germs found in all but the purest water. Milk, if sweet, can be supplied freely at once, provided a proper drinking dish; and without the latter, need be withheld only long enough for the chicks to get steady on their feet, so they will not tumble around and in it, wetting their delicate down. A sardine can, with most of its cover remaining, showing only

a suitable slit at one end, or a cup inverted in a saucer, leaving but a narrow rim of milk, are home-made applications of that principle on which patent drinking dishes are constructed to prevent the soiling of their contents. For very little chicks, no food excels bread and milk, varied with oatmeal moistened by milk, custard and milk curd, a programme wherein this lacteal fluid is basis and staple all the way through. Of course, meal puddings, wheat, and all other suitable things are worked in early, but carefully. Milk freezes less readily than water does, hence the former is a superior winter drink. And if there be any panacea for all the ills hen-flesh is heir to, bread and milk furnishes it. I once read, however, of a poultry man with a surplus of oats and milk, who for several weeks kept his fowls exclusively on that monotonous diet, till they began to droop and die from bowel complaint. But, of course, poultry culture calls for the usual exercise of common sense and judgment.

There may be a question whether this valuable milk shall be given hens or reserved for other stock. But some who have watched and recorded comparative results, declare a pound of chicken or eggs is produced more cheaply than a pound of pork. We know the former product is certainly several times as nourishing and sells higher. The Chicago market report of Jan. 21, 1893, quotes live pork 7.85c. per lb.; dressed, 8c. to 9c.; live poultry, 10c.; dressed, 13c.; and eggs, 28c. to 32c. per doz. It takes a dozen large eggs to make a pound, some kinds would fall below, and these are not unusual prices for poultry products, while pork is at almost unprecedented figures, so the advantage is clearly with our hens. Theodore Louis, the Wisconsin writer on swine, tells of an institute where the following mottoes appeared on the walls:—"The horse is king," "The cow is queen," "The sheep has a silver hoof," to which he suggested be added this: "The pig is banker, because he discounts the others." I will now contribute another motto: "Poultry can crow over them all."

A Word About Incubators.

The practicability of hatching chickens by artificial means is no longer a matter of experiment or dispute. The incubator and brooder has proved its efficiency beyond a shadow of doubt. Enterprising breeders long ago discovered that chickens could be produced by the incubator in greater quantities, with less time, trouble and expense; and there are but few extensive poultry raisers to-day who are not using the incubator in preference to the methods of nature.

The advantages of artificial incubation are many. First, there is no waiting for a broody hen; an incubator is always ready to set, never deserts its nest, does not eat the eggs nor clumsily break them. Another advantage of the incubator is that it enables the breeder to always have his chickens ready early in the season, and obtain the best market prices.

LEGAL QUESTIONS AND ANSWERS.

[Answers to legal questions of subscribers, by a practicing barrister and solicitor, are published for our subscribers free.]

Allansville, 20th Jan., 1893.

DEAR SIR,—Kindly answer these questions:—
Q. 1.—Is there any horse condition powder or cattle spice patented or registered in Canada? 2. Also, what protection does a patent give?

SUBSCRIBER.

A. 1.—There probably is a formula or description of composition of matter for several different condition powders, etc., registered in the patent office at Ottawa, but in order to ascertain what they are and what patents thereon have been issued, it would be necessary to obtain the information by searches in the Patent Office, at Ottawa, and these searches could most conveniently be made by engaging the services of some person at Ottawa, or by communicating with the Commissioner of Patents, who would furnish the information on payment of the usual fees. 2. Assuming a patent has been granted, the holder of the patent is entitled to the exclusive right of making, using, etc., the invention during the term mentioned in the patent, the time being either five, ten or fifteen years. This protection, however, is only obtained or enforced by the holder bringing action at law to restrain an infringement, and, of course, in any such action, the validity of the patent itself is always a question to be decided, and the holder of the patent then not unfrequently finds that a patent is no protection to him whatever, as it may be declared void, either in whole or in part. Great care is requisite in taking out a patent, in order to afford the protection required, to be sure that the alleged invention is new, and to have the patent accurately defined.

Q. Is it necessary to have a swamp fenced all round to prohibit hunting in it, and will written notices do as well as printed ones, and how many are required in a forty acre swamp?

WALTER S. COWAN, Crieff, Ont.

A. No; the fence is not absolutely necessary. The law surrounds every man's property with an imaginary fence, and any person trespassing, even on unfenced land, after notice warning him not to do so, is punishable. As to the means of giving the notice, that is a matter for the owner to decide upon in considering the circumstances of each case, so as that the trespasser shall receive the notice. It may be given either in writing or verbally, personally or by placing either written or printed notices so that they will come to the notice of the trespasser.

VETERINARY.

The Physiology of Locomotion in the Horse.

BY WM. MOLE, M. R. C. V. S., HAMILTON, ONT.
(Continued from November, 1892.)

Animal mechanism may be described as a new subject, and offers a wide field for exploration, depending on the ability to observe and the correct deduction of the observer's record.

It is easy to demonstrate the importance of such a subject as locomotion and conformation in the horse, and there is no doubt a considerable interest in exciting a deeper knowledge of the different modes of animal progression, the proper recording of the observations of different horsemen, breeders and trainers on the subject.

The knowledge of nature is the guide of practical conduct to the farmer; nothing happens by chance, everything in nature follows a definite order, and it is want of ability on the part of the observer to notice those laws that will then describe the natural laws as one of chance.

Thus science and common sense are not opposed as people sometimes fancy them to be. Science is only common sense; that is to say, it strives to be accurate, and it is just as hard to reason accurately as it is to observe accurately. Instantaneous photography has entirely revolutionized our ideas of the position taken in the horse at full speed gallop, for it is within the memory of every horseman that the only position that the animal artist or painter could, or would recognize, was the full stretch of a horse with all the legs extended. We know that it is an impossible position, and we hope to be able, by a few plates taken at the trot, gallop and jump, to convince any casual observer that we have always been led astray with regard to the position taken at the particular moment of passing over any obstacle in the jump, the elevation of the fore and hind limbs in the trot and gallop. Terrestrial locomotion of the horse is even now very imperfectly understood. If we knew under what condition the maximum of speed which the horse could furnish on the race or trotting track, it would put an end to much discussion. We should know exactly at what pace an animal does the best service. The circulation of the blood, the proper regulation of the supply of air for respiration, the due amount of food for nutrition, are all involved in the production of locomotion, and ought to be thoroughly understood by everyone who has the care or training of an animal for speed, more especially for excessive speed, as witnessed in the trotting horse. Yet how few, how very few, have the slightest idea of the wonderful piece of mechanism that is placed in their hands for development, a sort of general rule predominates. So much food, so much work, with a doubtful pedigree to start; ought, under their system of training, to produce a trotter. Only let a man produce an animal that can do a mile in 2.30, or a little better, and he is instantly lauded to the skies as a wonderful trainer of trotting horses; but the number of failures is never taken into consideration. This method is one of congealment, and it is not until the animal is broken down under the conditions stated that anyone can say that the identical was not a trotter, and never could be. The animal's organization does not lend itself to exact measurement; its complexity is too great, the conditions too various; but there are certain essential qualifications that do give some general idea to those who have the powers of observation, and these we propose to point out.

According to the modern theory, force, which manifests itself at a given moment, is not created, but only rendered sensible from being latent or hidden. Thus a stretched spring or piece of India rubber will, at the end of an indefinite time, give back the force which has been used to stretch it. So that we can say all living beings give out heat and produce work. The disengagement of these forces is caused by the chemical transformation of food. The heat resulting is the latent force stored up in the animal economy, and produced by work. The watery vapour which saturates the air as it comes away out of the lungs removes from the organism and carries away with it a certain amount of heat, as we can see the same thing in the funnel of a steam engine, both being the expenditure or product of heat. And our engineers tell us that only about four per cent. of the total energy becomes effective; in muscular structures only about twelve to fifteen per cent. is produced. It has been demonstrated that the lungs, by which the oxygen of the atmosphere penetrates into the organism, is not the seat of combustion, because the blood which comes out of that organ in health is colder than that which had gone into it, and it is admitted that it is in the capillaries situated in the muscular structures and the glands, while in an active state of secretion, that the production of heat takes place.

When we say that an animal is overheated or chilled, we mean that the loss of heat in cold weather is greater than its production. The heating of the body, which accompanies muscular activity in the horse, or by taking hot drinks in the human subject, produces the acceleration in the superficial circulation of the blood, and throws out this excess of heat to the surface by means of the sensible

perspiration or sweat. By this means we are able to understand the manufacture and distribution of heat in the animal organism.

Motion is the most apparent of the characteristics of life, and the very essence of several organisms, and we see the blood circulating the body; how the atmosphere penetrates the lungs, and escapes alternately; how the intestines move, and the glands constantly afflicted by slow and prolonged contraction. All of these motions may be classed as involuntary; that is, without the exercise of the will. Frequently the individual in which they occur is unconscious of these taking place. We can also see that even voluntary motion depends on some mechanical law. The young colt shows by the awkwardness of his infantile movement that he is not in full possession of his muscular functions. He seems to have to study the simplest acts, and performs them badly, whilst the aged animal gauges with precision the exact spot to jump and alight without any apparent effort of the will proportionate to the result. That this is not a method of development few will argue, and it will be our endeavor to show it is always produced as a matter of tuition, and that hereditary descent transmits part of the modification; then we say that development has commenced.

Anyone who for the first time examines the skeleton of an animal, and holds in his hand one of its osseous parts as hard as stone, will naturally look upon the skeleton as the unchangeable part of the organism. The observer, however little he may have a knowledge of anatomy, must perceive on the surface of the bone a number of details that have some use,—little holes or channels for the passage of blood vessels, roughened spaces for the attachment of muscles, and smooth, glistening surfaces for tendons to run through, or muscles to play over. Have these any particular use? The question at once answers itself: Nothing in the animal is superfluous; every point, prominence, projection, depression, cavity or channel, is designed for some especial purpose, either to give attachment to muscle, tendon, ligaments, or blood vessel, it matters not. Yet, under diseased conditions parts may be rapidly absorbed, or disappear entirely under pressure, or developed as a result of necessity; so that we may say development goes on even in the living body, as the result of work or constant use.

As an instance of what constant use or practice will do, let us use a familiar illustration. We have all seen the practiced gymnast at our country fairs, and a common observation is heard: Why, he cannot have any bones in his body! The movements are so varied. One has only to think a moment when they can, by aid of the explanation of development, follow it out in detail. Whilst young, the gymnast is practiced every day week after week and month after month, to stretch and lengthen the inter-osseous ligaments, so as not to allow them to become set, to use a familiar term, and by this means allow of more free movement between the bones that are usually restricted in use in the adult animal. To demonstrate this fact, place two men on a chair or table two or three feet above the ground, one aged twenty and the other sixty; ask both to jump down. Notice the very gingerly way in which the old animal will alight, and with what care he will pitch on a soft spot. The young one does not care; he will feel no jar in his limbs, or any pain as a result of bruised tissue. The inter-osseous ligaments and cartilages are soft and springy, and have not yet been fully developed or changed into osseous growth, so that we can say that the process of tuition for speed in the horse should be a matter of development. The power of doing work may be termed energy. We call all animals who possess much muscular or other power energetic, and we estimate their energy by the obstacles they overcome; in other words, by the work they do. The process of development is by slow, easy stages, and ought at all times to be thoroughly kept in mind to produce energetic, muscular development.

The subject of breeding cannot be ignored. Still, very little will be said on the subject. The most skilful trainer cannot make a slow horse go fast. Within a certain limit he can improve the pace, be it slow or fast, but this limit is inelastic. The observant man is the one who succeeds. Ignorance of the horse's anatomy is unpardonable in a trainer, and is of as much importance as to our engine driver, who always receives his tuition in the machine shop before he is allowed the control of such a valuable piece of mechanism as a locomotive engine.

With respect to breeding, we hold the opinion that in the higher animals inheritance does take place, although it does seem difficult at first sight to be able to explain all the phenomenon as presented in animal life. Let us first take a familiar observation to prove the statement. We all see the young fledgling bird taught by its mother to fly, and they have to practice for some little time, even when full fledged, before they can sustain themselves in the air for any length of time. If such birds were never allowed to use their wings at all for several generations, would they not gradually lose the faculty of flight altogether? The answer is given by our domestic ducks and fowls, whilst, although not altogether prevented from using their wings, they have almost lost the power of flight from want of development or necessity for use. Thus, in the cultivation of domestic animals, no degree of skill or patience in selection will produce improvement in a race, or even maintain its valuable qualities, unless favorable conditions are provided. We can see on some farms conditions that are unfavorable, where

animals cannot be produced in perfection; or, the management is so bad that the stock will depreciate, or, as we say, revert to the original stock, losing their form and mental character in a very few years, and then there is another farm to let and sale of live stock. The buying or selling of horses and live stock is a rare art, and a few minutes at a sale ring will often give a man a life-long experience, especially when he buys a duffer. The horse is always invested with the attributes of a Maud S, and on both sides he traces his pedigree to an imported Ormonde, or legs, some celebrity of the turf; a trifle straight on his but, then, you must remember that some of the best and speediest trotters are a trifle that way, and what a horse he turned out. If he has bad action, don't show too much of it; if he has good, he cannot display it too much. A grand yearling, or two-year-old, steps into the ring head and tail up, eye flashing the fire of courage, scanning the crowd with intelligence. The auctioneer says: "Now, gentlemen, how much for this colt? Shall I say a thousand dollars? Five hundred. Thank you." He wants no selling; there are a dozen men who want him, and think they have a bargain at the price. Yet, how few good judges exist. Excellence is rare in this respect, as in any other profession. The qualities of eye and judgment to make a successful buyer, are as rare, if not rarer, than those of any other art. Lay down all the rules you like as a guide to a buyer or trainer, and yet one man will buy better, or a trainer see more defects than another.

APIARY.

The Apiary.

CONDUCTED BY MR. ALLAN PRINGLE.
FEBRUARY WORK, ETC.

Colonies supposed to be short of stores should now be examined, and, if short, fed. Supply them with comb honey if available, as this is natural food. Wanting that, give them extracted. At this season of the year it will probably be granulated solid. Liquify it and add a little water—one part to 75—to thin. Pour this while warm into empty combs, and supply the needy ones with them. In the absence of both kinds of honey a syrup may be made from No. 1 granulated sugar and used as a substitute. With this the empty combs may be filled. Or a stiff candy may be made from the granulated, and placed on top of the frames in the movable frame hives, or on top of the combs in the old box hives inverted. These directions presuppose the colonies in comfortable repositories. When wintered in the open air the feeding becomes much more difficult. No bee-keeper, large or small, ought to attempt to winter bees that are short of stores outside. They might better be "brimstoned" in the fall in the old-fashioned way. No careful, experienced bee-keeper will be caught in such a fix, and it would be futile for any other to attempt outside feeding in the winter. The only alternative, therefore, for those in such a dilemma is to carry the needy colonies into the cellar, and proceed to feed as above.

THE "SUGAR-HONEY" FRAUD.

It is a matter well known to every experienced bee-keeper that bees will winter very well, other conditions being right, on a syrup made from No. 1 granulated sugar. When the stores of honey in the hives for winter are found in the fall to be short the best bee-keepers in the country have recourse to the sugar syrup to carry their bees through. Mr. D. A. Jones, of Beeton, has told us that he has used scores of barrels of sugar for that purpose. So far there is nothing wrong about that, commercially or morally. But when some of our enterprising American cousins across the lines are proposing to feed sugar to their bees in "poor seasons" to get a crop of honey (?), and are trying to persuade us that the product is the genuine article, honey, we beg to wash our hands clean of any such bee-keeping and all such bee-keepers. And what makes the matter still more astonishing is the fact that Prof. Cook, one of the most distinguished of the apiarists in the U. S., has lent his name and influence to the fraud, and one of their leading journals is doing the same. The feeling amongst Canadian bee-keepers in reference to this proposed blow at their cherished and favorite industry is one, I believe, of universal indignation and condemnation. At the annual meeting of the Ontario Bee-keepers' Association, held recently in Walkerton, the unpleasant subject was taken up and warmly discussed right in the presence of the offending American editor, who had come over to the convention, probably hoping to conciliate the aroused apiarists of Ontario, and calm, if possible, the storm he had raised. The convention, however, passed strongly on the subject, and appointed a deputation to interview the Dominion Government to have the importation or production of the stuff prohibited. Whether or not it was a wise move to go so far as to seek legislation on the question is doubtful. I fear it will give an enterprise too much prominence which would probably soon have died an ignominious death from its own inherent rottenness. I am inclined to think that the better portion of the fraternity in the U. S., constituting the majority, will frown the fraud down.

It is a good deal easier to keep a heavy load moving than to start it when standing still; and so in feeding stock, it is a good deal easier to keep them growing than to start them up after they have been still from lack of care and good food.

THE QUIET HOUR.

Coming.

"At even, or at midnight, or at cockcrow, or in the morning."

"It may be in the evening,
When the work of the day is done,
And you have time to sit in the twilight
And watch the sinking sun;
While the long, bright day dies slowly
Over the sea,
And the hour grows quiet and holy
With thoughts of Me;
While you hear the village children
Passing along the street,
Among those thronging footsteps
May come the sound of My feet:
Therefore I tell you, Watch
By the light of the evening star,
When the room is growing dusky
As the clouds afar,
Let the door be on the latch
In your home,
For it may be through the gloaming
I will come.

"It may be when the midnight
Is heavy upon the land,
And the black waves lying dumbly
Along the sand;
When the moonless night draws close,
And the lights are out in the house,
When the fires burn low and red,
And the watch is ticking loudly
Beside the bed:
Though you sleep, tired out, on your couch,
Still your heart must wake and watch
In the dark room,
For it may be that at midnight
I will come.

"It may be at the cockcrow,
When the night is dying slowly
In the sky,
And the sea looks calm and holy,
Waiting for the dawn
Of the golden sun,
Which draweth nigh:
When the mists are in the valleys, shading
The rivers chill,
And My morning star is fading, fading
Over the hill:
Behold I say unto you, Watch!
Let the door be on the latch
In your home;
In the chill before the dawning,
Between the night and morning,
I may come.

"It may be in the morning,
When the sun is bright and strong,
And the dew is glittering sharply
Over the little lawn;
When the waves are laughing loudly
Along the shore,
And the little birds are singing sweetly
About the door:
With the long day's work before you,
You rise up with the sun,
And the neighbors come in to talk a little
Of all that must be done:
But remember that I may be the next
To come in at the door,
To call you from all your busy work
For evermore;
As you work your heart must watch,
For the door is on the latch
In your room,
And it may be in the morning
I will come."

As He passed down my cottage garden
By the path that leads to the sea,
Till He came to the turn of the little road
Where the birch and laburnum tree
Lean over and arch the way:
There I saw Him a moment stay,
And turn once more to me
As I wept at the cottage door,
And lift up His hands in blessing—
Then I saw His face no more.

And I stood still in the doorway,
Leaning against the wall,
Not heeding the fair, white roses,
Though I crushed them and let them fall:
Only looking down the pathway
And looking towards the sea,
And wondering and wondering
When He would come back for me—
Till I was aware of an angel
Who was going swiftly by,
With the gladness of one who goeth
In the light of God Most High.
He passed the end of the cottage
Towards the garden gate—
(I suppose he was come down
At the setting of the sun,
To comfort some one in the village
Whose dwelling was desolate)—
And he paused before the door
Beside my place,
And the likeness of a smile
Was on his face:
"Weep not," he said, "for unto you is given
To watch for the coming of His feet
Who is the glory of our blessed heaven:
The work and watching will be very sweet
Even in an earthly home,
And in such an hour as you think not
He will come."

So I am watching quietly
Every day:
Whenever the sun shines brightly
I rise and say—
"Surely it is the shining of His face,"
And look into the gates of His high place,
Beyond the sea,
For I know He is coming shortly
To summon me,
And when a shadow falls across the window
Of my room,
Where I am working my appointed task,
I lift my head to watch the door, and ask
If He is come;
And the angel answers sweetly
In my home—
"Only a few more shadows,
And he will come."

What will happen to-day I know not, but I hope.
The ignorance of coming happiness constitutes its
charm. This is so true, that God has made a my-
stery of Paradise. Those who would know all, know
not how to be happy.—*Mlle. Eugenie De Guerin.*

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES:—

Without doing a gross injustice to ourselves and family, we cannot wholly ignore the claims of social life. Fitting associates go a long way towards equipping our growing sons and daughters to do battle with the world, into which they must go sooner or later. It should never be a woman's excuse that she is too busy to enjoy social life or cultivate friends, for it is simply an acknowledgment that she prefers the monotonous routine of domestic drudgery to bright and happy hours with her friends. Indeed, parents are hardly free agents in this matter, for they owe it to their children to make a social standing for them which shall lead to friendship, pleasure and profit. No mother should wholly ignore her social duties, nor allow herself to be bound so entirely to her domestic obligations as to become dull, listless and indifferent; but she can be bright, well dressed and refined, and it will cost her nothing either to be these, and still mingle with her fellow creatures, as it was intended she should do; for to live without an interchange of ideas with others tends to make us narrow, cranky, and self-opinionated. A little planning and a little setting aside of the household routine will secure the necessary leisure; and what a delight to plan and prepare for our friends; what pleasant anticipations to indulge in, and how it lightens the hearts of all the family at the prospect of giving others this pleasure; then what bright memories it leaves, renews your faith in humanity, and convinces you there is pleasure to be had outside of your own family circle. Above all, do not copy other people's festive gatherings; be original, for something novel either in decorations or amusement goes far towards the success of it. Mothers should observe a good appearance regarding their apparel, for children are very sensitive to appearances in those they love, and they present their friends to "mother" with pride at her neat and handsome dress, and the family finances need not be seriously embarrassed either. Keep within your means, and provide just what you feel you can afford. A gracious manner, bright and cheerful surroundings, and a special interest in every and all your guests will leave a pleasant reflection in the minds of all, which will last longer than lavish expenditure. MINNIE MAY.

Self-Sacrifice—A Talk with Mothers.

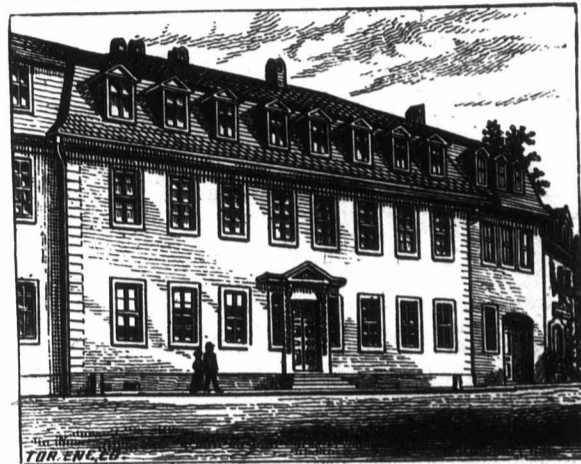
BY A. M. C.

Self-sacrifice has been extolled by orator, preacher and writer till it verily seems they would have us believe that the continuous laying of our rights, our privileges and enjoyments at the feet of others, was the noblest action on earth. True, self-sacrifice is the manifestation of a generous, obliging spirit; but it may be carried too far. There is, as Arnold says, "A borderland dim 'twixt vice and virtue"—a limit, beyond which generosity becomes prodigality; justice is frozen into severity; economy degrades into stinginess, and self-sacrifice passes into blind indulgence. This is peculiarly the case with mothers. For instance, one woman of my acquaintance had five daughters, three of which were grown up. The mother allowed those girls to idle their time in the parlor, playing, singing, reading novels, riding around the country with men, visiting through the village, while she cooked, washed, sewed and scrubbed for a family of ten. Some of these girls have gone to homes of their own, without knowing the first thing about housekeeping. Did not that gentle, patient mother do her family a palpable injury?

Another country couple slaved and pinched to leave a grand farm, provided with good buildings, stock and implements to their son. They succeeded, though the effort cut years from their lives. The son was an ignorant, lazy fellow, who allowed the farm to slip through his fingers. He was granted abundance of pocket-money, left to choose his own companions, permitted to attend every place of amusement, allowed to spend his leisure hours and also his cash in the tavern, while his parents toiled and saved at home. That son-to-day is almost penniless—a common laborer. It was the old, old story of throwing away with a shovel what the parents gathered with a rake. The same reckless indulgence is bearing like fruit with one of my rich neighbors here. But how often do the sons of the poor make such failures of life? There are countless parents who dress shabbily themselves that the young folks may wear luxurious clothes; who stay at home from places of amusement that the children may attend; who frequently deny themselves of dainty food that the youngsters may have a double share. Yes, unwise self-sacrificing fosters laziness, selfishness, greed. There are so many people whose motto is, "Grab all you can, and hold fast all you get," that it is cheering to meet with one of a different spirit. But be careful, lest when you give an inch someone takes a span. Self-sacrifice is a praiseworthy virtue—an imperative duty, so long as it is necessary to the well-being of others; but when it retards the physical, mental or moral development of the recipient, it should be withdrawn.

Weimar.

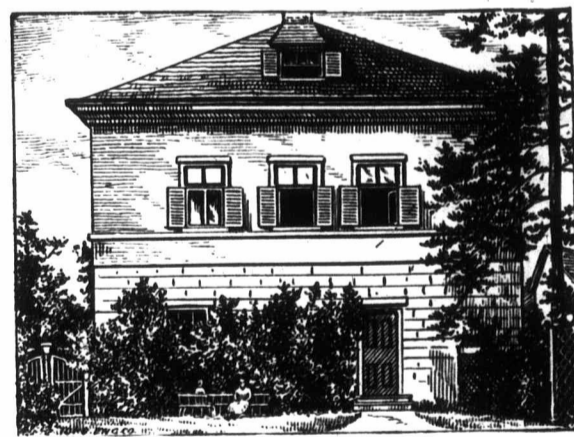
The small but interesting town of Weimar, in Germany, stands in a pleasant valley on the left bank of the Ilm. The town itself is irregularly built, but is chiefly of interest from its historical associations. The town church, dating from the year 1400, has an altar piece by Cranach, and contains a number of memorable tombs, among which are those of the brilliant soldier, Bernard of Weimar, and of Herder, the philosopher and critic. The ducal palace is a handsome building, some of the apartments of which are decorated by frescoes illustrating the works of Goethe, Schiller, Herder and Wieland. The public library contains busts of these men of genius, and a number of relics, as the gown worn by Luther when a monk, and Gustavus Adolphus's leather belt pierced by the bullet that caused his death at Lutzen.



GOETHE'S HOUSE.

The first view of Weimar is very pretty, and one is prepared for a repetition of something of the feeling one experiences on first visiting Stratford-on-Avon, the birth-place and home of Shakespeare. But this is not realized. Weimar is a very cultivated and beautiful town. A great many people seem to have settled here who live in a quiet way upon their income. But it is not permeated with Goethe as Stratford is with Shakespeare. Goethe's house is cut up into little bits for money-making purposes. Each person is charged a mark (twenty-five cents) on entering, and then the by-no-means large house is divided and one man shows one half and another the other, in order to make two fees instead of one. The house itself is exceedingly interesting from its plainness, its simple furnishings, its lovely shaded and flower-laden garden, and the work shop, which exhibits so marvellously the many-sidedness of Goethe's interests and genius in its scientific (chemical) apparatus, its books, manuscripts and plans. It stands in a near street to the house of Schiller.

In 1849 the great pianist, Franz Liszt, settled at Weimar, and, giving up his career as virtuoso, accepted the post of conductor at the Court Theatre. Here many works were produced that were unable to obtain a hearing elsewhere, and Weimar became the Mecca to which flocked musicians from all quarters of the globe. Poets and philosophers, as well as musicians, found inspiration in the genial sunshine of this noble man's presence. Liszt's influence upon music has been very great, not so much through his compositions as through his personality. There is probably not a great, or even mediocre pianist living, who has not studied with Liszt. He never received a cent for lessons. His instructions were given through the determination to inspire musicians with high aims and devotion to this most beautiful and elevating of all the arts.



LISZT'S HOUSE.

Some idea of his wonderful playing may be gathered from a newspaper account of his first appearance at the age of twelve:—"He is a true artist; and what an artist he is! And only twelve. They do not lead him to the piano; he flies to it. His eyes are bright and vivacious, gleaming with playfulness and joy. His little arms can scarcely stretch to both ends of the keyboard; his little feet can scarcely touch the pedals. It is impossible to comprehend how ten little fingers, which cannot span an octave, are able to multiply themselves in so varied a manner, and bring forth such difficult chords, and so skillfully moderate or accelerate all the masses of harmony. He is the first pianist in Europe, and Moscheles himself would not feel offended at this affirmation. He executes an exceedingly difficult piece of music with such precision, assurance, calmness, with such bold elegance, and feeling, that he drives to despair the most skillful artists, who have studied and practised the piano all their lives."

PRIZE ESSAY.

What Constitutes Happiness? Does it Depend on Ourselves or Our Surroundings?

BY MISS A. BERYL COULTER, PINE VIEW, ISLINGTON, ONT.

"But foolish mortals still pursue
False happiness in place of true;
A happiness we toil to find,
Which still pursues us like the wind."

Writers of every age have endeavored to show that pleasure is in us, and not in the object offered for our amusement. If the soul be happily disposed, everything becomes capable of affording entertainment, and distress will almost want a name. The fountain of content must spring up in the mind, and he who seeks happiness by changing anything but his own disposition will waste his life in fruitless efforts, and multiply the griefs which he purposes to remove. Man is, in all respects, constituted to be happy; hence it is that he sees goodness around him in proportion to the goodness that is within him, and it is also for this reason: That when he calls the evil that is within him outside of him it also appears so. If man, therefore, chooses that which does not seem to him good, he can in a measure enjoy it. One of the most evident differences between the enjoyment of what is good and true, and that which is false and evil, is that the first leaves something to be reenjoyed in memory and in after life, while the latter leaves only regret, disappointment and suffering.

Great part of the infelicity of man arises, not so much from situations and circumstances, as from his pride, vanity and ambitious expectations. In order to be happy these dispositions must be subdued. We must always keep before our eyes such views of the world as shall prevent our expecting more from it than it is designed to afford, we destroy our joys by devouring them beforehand with too eager expectations, we ruin the happiness of life when we attempt to raise it too high. Menedemus being told one day that it was a great felicity to have whatever we desire, replied: "Yes, but it is much greater to desire nothing but what we have."

The idea has been transmitted from generation to generation that happiness is one large and beautiful precious stone—a single gem, so rare that all search after it is all vain efforts, for it is fruitless and hopeless. It is not so. Happiness is a mosaic, composed of many smaller stones; each taken apart and viewed singly may be of little value, but when all are grouped together and judiciously combined and set, they form a pleasant and graceful whole—a costly jewel.

Trample not under foot the little pleasures which a gracious Providence scatters in the daily path while in eager search after some great and exciting joy. We are so apt to overlook little things and our own mind, and look for happiness in large external matters, but not find it.

How closely allied to happiness is cheerfulness, that social trait which stand over and above every other. What the sun is to nature, what the stars are to night, what God is to the stricken heart who knows how to lean on Him, are cheerful persons in the home and by the wayside. Man recognizes the magic of a cheerful influence in woman more quickly and more willingly than the potency of dazzling genius of commanding worth, or even of enslaving beauty.

If we are cheerful and contented all nature smiles with us, the air seems more balmy, the skies more clear, the ground wears a brighter green, the trees have a richer foliage, the flowers are more fragrant, the birds sing more sweetly, and the sun, moon and stars all appear more useful. There are a few noble natures with whose very presence comes sunshine wherever they go; a sunshine which means pity for the poor, sympathy for the suffering, help for the unfortunate, and benignity toward all. How such a face enlivens every other face it meets, and carries into every company vivacity, joy and gladness.

Look at the bright side, keep the sunshine of a living faith in the heart, don't let the shadow of discouragement and despondency fall on your path. However weary you may be, the promises of God will never cease to shine like the stars of night to cheer and strengthen. Let us learn to wait as well as labor. How far borrowing of trouble tends toward unhappiness we cannot tell. But we know this looking into the future and foreseeing calamity, predicting ill which in ninety-nine cases out of one hundred never comes, and doubting and despairing of what to-morrow may bring—all this burden-bearing is a sin, and most sinful in its results. A hopeful spirit will discern the silver lining in the darkest cloud, for back of all planning and doing, with its attending discouragements and hindrances, shines the light of silver promise and help. Be cheerful, for it is the only way to be happy. It is the sunshine and not the cloud that makes the flower. The sky is blue ten times while it is black once. You have troubles, you say; so have others. Perhaps it is well that none are free of them. They give sinew and tone to life, fortitude and courage to man. That would be a dull sea, and the sailor would never get skill, where there was nothing to disturb the surface of the waters. It is the duty of every one to expect all the happiness and enjoyment he can without and within him, and above all he should look on the bright side. Half of our trouble is not real trouble at all. It is only a whim harbored and petted in the heart until it assumes astonishing proportions. There is more virtue in one sunbeam

than in a whole hemisphere of cloud and gloom. Cultivate what is warm and genial, and not the cold and repulsive, dark and morose. Don't neglect your duty, live down prejudice.

The cheerful are the busy; when trouble knocks at your door or rings your bell, he will generally retire if you send him word, "engaged," and a busy life cannot be otherwise than happy. Frogs do not croak in running water, and active minds are seldom troubled with gloomy forebodings. They come up only from the stagnant depths of a spirit unstirred by generous impulses or the blessed necessities of honest toil.

If you go to the creature to make you happy, the earth will tell you that happiness is not found in the furrows of the field; the sea that is not in the treasures of the deep. Crows will say: "It is too precious a gem to be found with us; we can adorn the head, but we cannot satisfy the heart." Happiness is in us, not in things about us.

If happiness consisted in things only, there is no end to the numberless kinds of it. It was in this point of view the erudite Roman writer, Barro, enumerated seven hundred kinds of happiness. So also the learned Turkish doctor, Ebn Abbas, maintained that the number of grievous sins is about seven hundred, thus balancing the accounts between good and ill. Le Droz, who wrote a treatise on happiness, describes the conditions necessary for it as consisting of the greatest fortitude to resist and endure the pains and ills of life, united with the keenest sensibility to enjoy its pleasures and delights.

"Health, peace and competence" is a popular definition of happiness. Yet thousands and tens of thousands possess these great blessings, and are not happy. Many will not allow that they have the means to be happy. Madame de Staël, in her "Delphire," defines happiness to consist in absence of misery. How many human beings are without any real evil, and yet complain of their fate?

There is so little real happiness on earth, because we seek it not aright—seek it where it is not, in outward circumstances and external good, and neglect to seek it where alone it dwells, in the close chambers of the bosom. We would have a happiness in time, independent of eternity; we would have it independent of the Being whose it is to give, and so we go forth each one as best we may to search out the rich possession for ourselves. But disappointment attends every step in the pursuit of happiness until we seek it where alone it can be found. The cherubims with flaming swords still guard the gates of paradise, and no man enters therein.

If you would be happy, if you would enjoy the deepest depth of happiness, live to make others happy. Selfish happiness is a sin. There is no joy so sweet as that which comes from the kindly deed to make others happy, by casting a ray of sunshine in their pathway, and reflecting the divine light in soul mirrors, which light will change others into the "same image."

Patience Pays.

If you want a good appetite, don't worry. If you want a healthy body, don't worry. If you want things to go right in your homes or business, don't worry. Nervousness is the bane of the race. It is not confined to the women by any means, but extends to the men as well. What good does fretting do? It only increases with indulgence, like anger, or appetite, or love, or any other human impulse. It deranges one's temper, excites unpleasant feelings towards everybody, and confuses the mind. It affects the whole person, unfits one for the proper completion of the work whose trifling interruption or disturbance started the fretful fit. Suppose these things go wrong to-day, the to-morrows are coming in which to try again, and the thing is not worth clouding your own spirit and those around you, injuring yourself and them physically for such a trifle. Strive to cultivate a spirit of patience, both for your own good and the good of those about you. You will never regret the step, for it will not only add to your own happiness, but the example of your conduct will affect those with whom you associate, and in whom you are interested. Suppose somebody makes a mistake, suppose you are crossed, or a trifling accident occurs: to fly into a fretful mood will not mend matters, but help to hinder the attainment of what you wish. Then, when a thing is beyond repair, waste no useless regrets over it, and no idle fretting. Strive for that serenity of spirit that will enable you to make the best of all things. That means contentment in its best sense, and contentment is the only true happiness of life. A pleasant disposition and good work will make the whole surroundings ring with cheerfulness.

Plain.

Said James Whitcomb Riley the other day to a group of reporters: "I wish you newspaper men wouldn't be quite so careless in your remarks about my looks. I was served with a notice several years ago that I wasn't very handsome, but the reporters take a kind of delight in reminding me of it. It seems to me that you might at least be as considerate as the old auntie who went to the menagerie and saw the hippopotamus. She was staggered for a moment, but her breeding got the better of her impulses. She didn't want to say the animal was ugly, so she turned to one of her friends with the exclamation, 'Sakes a massy, but aint' he plain!'"

New York Tribune.

UNCLE TOM'S DEPARTMENT.

The Child Musician.

He had played for his lordship's levee,
He had played for her ladyship's whim,
Till the poor little head was heavy,
And the poor little brain would swim.

And the face grew peaked and eerie,
And the large eyes strange and bright;
And they said—too late—He is weary;
He shall rest for at least to-night!

But at dawn when the birds were waking,
As they watched in the silent room;
With the sound of a strained cord breaking,
A something snapped in the gloom.

'Twas a string of his violincello,
But what's the good of wishes?
Make room for a tired little fellow,
Kind God—! was the last he said.

AUSTIN DOBSON.

H. St. Clair, Jellett.

A Morning Grievance.

I like to dust, and I like to sew,
And I like to water the fishes;
I like to weed, and I like to hog,
But, oh, how I hate to wash dishes!

I wish a dish had never been made!
But what's the good of wishes?
Mamma is calling, and—I'm afraid
I must do those breakfast dishes!

—Youth's Companion.



DEAR FATHER.—I have found work at last—even sooner than I expected, and with a friend that sticks to me always, and with whom I spend many hours.

My work is a little confining, but I have my evenings to myself. You will be pleased to hear that I am thrown with men who have been in the custom of handling money and valuables, and also that my presence was earnestly sought after. Your loving SON.

P. S.—My friend has a well-rounded character. —[Brooklyn Life.

His Curiosity Gratified.

"Travel on this road party often?" inquired the passenger with the long, slender, pointed nose.

"Yes," replied the sleepy-looking passenger on the same seat.

"Come to town most every day, I reckon?"

"Yes."

"In business of some kind, like as not?"

"No. I work for another man."

"Dry goods business?"

"No. Wet goods."

"Saloon?"

The inquisitive passenger was quiet a moment. Then he came at him again.

"Find it cheaper to live out o' the city?"

"No; dearer."

"Rent's are cheaper, ain't they?"

"Yes."

"Groceries and things don't cost any more, do they?"

"No; cost less."

"Have to pay out too much for railroad fare?"

"Railroad fare don't cost me \$75 a year."

"Then what makes it dearer?"

"Running for trains. Wear and tear of shoe leather."

The long-nosed man ruminated on this a few moments, and then said:

"They pay bigger wages in the city than they do in the suburbs, don't they?"

"Yes."

"What might it be worth, now, to hold a job like yours?"

"The man I'm working for pays me \$20.00 a week."

"Always makes the exact change?"

"Always."

"What's the idea of makin' it just \$20.00?"

"He pays me \$20 for my work, and the ninety-nine cents for minding my own business."

And the sharp-nosed man went to the other end of the car and took a seat on the coal box. —[Chicago Tribune.

TWO MISCHIEVOUS BOYS.

"You and Jack sit next to each other in school don't you, Wallie?"

"Part of the time."

"Only a part?"

"Yes, sir. Jack's standing in the corner most of the time."

"And what do you do then?"

"Oh, I generally stand in the other corner."

Harper's Young People.

Going to Leave Home.

BY DOROTHEA HODGES.

In the big, comfortable kitchen, John Grey, his wife, and her sister, Ruth Bates, were sitting around the table. The children, with the exception of the eldest son, who had gone to the village, were in bed. The farmer was reading the paper, his wife was putting a patch on the knee of Eddie's knickerbockers, and Ruth was knitting a stocking for one of the little ones. There was silence in the room save for the snapping of the fire, the ticking of the clock, and the rustle of the newspaper; and when Mrs. Gray sighed deeply, both her husband and sister looked up in surprise.

"What's the matter, Mary?" asked her husband. "Has anything gone wrong? You look troubled." "I am," answered his wife. "There is great trouble in store for us. Will is going to leave home."

The paper fell to the floor, and for a moment Mr. Gray looked at his wife, too much surprised to utter a word.

"Going to leave home!" he repeated at last. "Mary, you must be dreaming."

Mrs. Gray shook her head sadly. "I wish I were," she said. "No John, it is true. Will has made up his mind to leave us. I've noticed for months past that he seemed dissatisfied and restless, and since you sold Bess he has grumbled a great deal about the work, and the dullness of his life; and to-day I heard him tell George Wood that he would not be here a month from now; that he had had enough of farm life, and if we would not consent to his leaving that he would run away and take his chances."

"I'll see about that," said Mr. Gray, angrily. "Consent to it! I rather think not! I won't consider it for a moment. He'd fall in with all sorts of rascals in the city, and get us into trouble. Besides, I need him here. It'll be nine years at least before Eddie can take his place, and he's got to stay; that's all there is about it."

"Why don't you make him wish to stay, John?" asked the gentle voice of his sister-in-law.

"If he's got the city fever on him, all the talking in the world wouldn't do any good," rejoined the farmer. "He wouldn't listen to a word."

"Don't talk. Don't let him ever suspect that you are aware of his desire to leave you. Try my plan, John."

"The best plan I know of is to tell him my mind freely, without any beating about the bush; and the sooner it's done the better."

"Now, John, don't be above taking a woman's advice. Let me tell you how to deal with Will. I have been here six months, and have taken a deep interest in the boy. I have seen his dissatisfaction, and recognized the cause. I have overheard him talking to George Wood more than once, and only yesterday I heard him say that if he went to the city what he earned would be his own, but that here he worked from dawn to dark, and was no better off at the end of the year than at the beginning. He said that Jim Howard, who clerks in a shoe store in N., gets ten dollars a week and is only seventeen."

"If you want Will to stay on the farm, give him an interest in it. He is eighteen years old, and has worked faithfully for you ever since he was large enough. He has had his food, lodging, and clothes, to be sure, but all he actually owns is his little dog, which is always at his heels. You even sold the only horse you had that was fit for the saddle; and Will was very fond of Bess."

"It seemed a pity to keep a horse just for Will to ride," said Mr. Gray, "and she was too light for work. I could not afford to keep her."

"You can better afford to keep an extra horse than to have your son leave you, John. Whom could you get that would take the interest in the work that Will has? You have thought it only right that he should do his share toward running the farm, and have considered your duty done in giving him a home. You are disposed to think him ungrateful, because he wants to leave you now that every year makes his services more valuable; but the boy is ambitious and wants to get something for himself, and it is only natural."

Mr. Gray leaned his head on his hand, a look of deep thought on his grave face. Ruth's plain speaking had given rise to thoughts which had never before entered his mind.

"I believe you're about right, Ruth," he said, at last. "I'll think it all over to-night, and make up my mind what it is best to do."

Just at daybreak, Ruth was awakened from a sound sleep by the noise of horse's hoofs in the yard. Looking out, she was surprised to see John trotting away on old Fan. "Where can he be going at this hour?" she thought. When she went downstairs at six o'clock, Will was standing by the kitchen table, having just come in with two pails of milk. A few minutes later, his father entered.

"You were out early, John," said Ruth. "I heard you ride away this morning."

"Yes, I went to Mr. Scott's on a matter of business."

"That's the man you sold Bess to, isn't it, papa?" asked little Eddie.

"Yes, my son." Then turning to Will, he said, "Will, you'll find Bess out there, hitched at the gate; she belongs to you now."

"Bess, mine! Oh, father, thank you! thank you! I'd rather have little Bess than anything else in the world." Out he went and patted and caressed her, until called in to breakfast by his mother.

"You've been a good son, Will, and now you are getting old enough to begin to lay aside something for yourself. I wish I could give you a good start, but you know I am not a rich man, and I have your mother and the four little ones to provide for. This is the plan I have thought of: you may have the use of that west forty-acre field; it is every part good land, as you know, and the team of young boys that I bought of Smith to farm it with. All you raise will be your own. If you make good use of this, I intend giving you the team and a deed to the land when you are twenty-one."

"This—this seems too much," stammered Will. "I don't know how to thank you."

"I am glad you are pleased," said his father. "I can better afford to do this than to let you work for someone else, as many young men have to. Your own work won't require near all your time and I need your help very much, and could get no one who would fill your place. I'll board and clothe you, of course, just as I have always done."

That ended Will's desire to leave home. He was never again heard to mention the subject, and he grumbled no more about the hard work, and the monotony of his life, but in every way tried to show his appreciation of his father's kindness.

It Was Mean.

THE PART A BULL CALF PLAYED IN ONE MAN'S LIFE.

"The meanest adventure I ever had happened down in Arizona a couple of weeks ago," said Dr. S. O. Young, who was setting the pace for a coterie of commercial pilgrims in the Lindell corridors. "My best girl lives a couple of miles from town, and I had written her that I would help her hold down the old arm-chair Saturday night. The train was delayed, and by the time I got supper at the hotel, shaved and had my mustache curled, it was pretty late. All the livery rigs were out, but I was determined to keep my engagement. I set out afoot, and was within half a mile of the house when I saw an animal come tearing down the side of the mountain at a Nancy Hanks gait. It was too dark to see it clearly, but I got a crank in my head that it was a mountain lion, and that it would like a nice, fat drummer for supper. I lit out for the house, but the animal gained on me rapidly. Suddenly it lifted up its voice in the most unearthly roar that ever caused goose pimples to bud and blossom on the backbone of mortal man. It echoed through those canyon like the cry of a lost soul. I knew then that it was a lion, and a mighty hungry one. Right ahead of me was a shellbark hickory, and up that I shinned in a hurry, spoiling a \$60 suit of clothes and rubbing off about a square mile of cuticle. I didn't know whether mountain lions could climb trees or not, but I thought in any event I might delay the obsequies a trifle. The animal came up to the tree, stopped, and emitted another heart-breaking bellow that nearly caused me to fall off my perch. Then it walked around the tree a few times, shuffled about and lay down. It seemed to think it had a sure thing of it and could afford to wait. I staid up there all night in the frosty air, chilled half to death. Along toward morning I fell into a doze, from which I was aroused by the voice of my own prospective father-in-law. I looked down and there was the whole family in the old red wagon, en route to town. On the other side of the tree lay a red bull calf, complacently chewing his cud."

Some Easily-Made Bits of Furniture.

Here is something for your sitting-room. It is called an ottoman, but will answer for a wood-box. Make a box three and a-half feet square, three feet high, or less; put hinges on the lid; now for the covering. For the top, strong canvas should be cut five inches wider than the lid all around; tack three sides down at the edges, then fill in with wool, hair, feathers, or corn husks, then close the edge. This stuffed top should slightly project. A cover of chintz, heavy sateen, worsted, plush, or velvet must cover the whole box. The seams following the lines and angles should be corded. Tasseled fringe is often added.

A convenient receptacle for madamoise'le's starched dresses, or other wear, is made in the following way:—Make a box about 5 feet long, 2½ wide, and about 2 feet high. It must have a hinged lid. Make a cushion out of ticking about 2½x5 feet; stuff it with wool, horse hair, feathers, or corn husks. Cover the top with chintz, sateen, or velvet, and make a curtain to go around three sides of the box and reaching the floor; have it gathered full. This, with a few cushions, answers the double purpose of a lounge and trunk. It's well worth its room anywhere.

Puzzles.

1—CHARADE.

While hovering round the winter's fire,
One cold and blustering day,
And setting in a rocking chair,
My thoughts took shape this way.

My thought as how in olden time,
(Not many years ago,
The ADVOCATE I chanced to spy,
PRIME puzzles in, Ho! Ho!!

Now I, a poser from my youth,
(Comes natural, so they say)
Thought how as I a con, would send,
So bid it haste away.

That con, Ha! Ha!! appeared at once,
It gave me courage new;
I tried again, this time I failed—
No, it was published too.

From this time forth, Dear "Uncle Tom,"
(Who's always at the helm),
Found me a constant visitor,
COMPLETE his puzzling realm.

Now let us for a moment see,
Who did comprise the crew:
"Miss Armand" down at "Pakenham,"
And "Harry Albro" too.

We had two "Reeves" from "Highland Creek,"
"E. Manning" from "Bond Head";
"Miss Dennie" off would come from "Bath,"
But now, alas! she's—dead.

From "Chesterfield" came "R. J. Risk,"
From "Athol" "Russell Boss";
"Miss Redmond" came from "London, Ont.,"
And "Snow Bird" quite a loss.

"A. Howkins" was a "Lorneville" lad,
"Miss Rilance," where is she?
And then we had "A. Shaver" too,
And "Arthur H. Mabee."

Let's see, there was "Mabel," "Amy" and "Jess,"
"Flora" "Eulalie," too;
"Angus" and "Mary" and "Anna K. Fox,"
With "Elinor" formed the crew.

Where are they all? not many, I think,
Are left who manned the yacht;
LAST days gone by, 'cept "Ada" and "I";
And we—are competing not.

FAIR BROTHER.

2—CHARADE.

Am I TOTAL, Uncle Tom,
To a place within the Dom?
Now I LAST, let me see
How FIRST received I will be.

EDITH FAIR BROTHER.

3—CHARADE.

While walking FIRST the street one day,
I spied a ragged, homeless boy;
I gave him work—to SECOND it well,
Was what I told him; he said he would try.

Some clothes he bought with money LAST,
Then ran away and ne'er came back;
He left undone my little task,
This TOTAL boy was named JACK.

LILY DAY.

4—DECAPITATION.

Dear cousins, I've given up puzzling,
I have really got to go,
Because I have other work to do
That takes up my time, you know.

I have worked just FIRST year at puzzling
And found I had great success;
But now, as I have no time to spare,
My puzzling is WHOLE, I guess.

The department will never miss me—
You won't know that I'm away,
Because of the other good puzzlers,
Geo. Blyth and Lily Day.

Perhaps I may write again,
So none of you need cry;
I hate to leave you all now,
But I must say "good bye."

CHARLIE S. EDWARDS.

5—DECAPITATION.

Our friend, Henry Reeve,
I'm pleased to perceive,
Intends in our ranks to remain;
And I think it but meet
(Since he now can compete),
That friend Woodworth should join us again.

Does our old Uncle Tom
Think to shut from the "dom"
Cousin Ed, A. Fairbrother and me?
He may, perhaps, try,
But he'll need to be sly,
For we'll get FIRST all right, you shall see.

To our circle so gay,
Master Hall called one day;
He's welcome SECOND, yet I would crave—
When next he feels merry,
And tries proverbs to bury,
He'll not find such a deep hidden grave.

LAST I close, Mr. Reeve,
Like you, I believe,
That puzzling cannot be called treason;
The absence of rhyme,
Of course, is no crime,
But pray let our puzzles have reason.

ADA ARMAND.

6—ENIGMA.

I'm used of various forms and size,
And in me mostly comfort lies;
I may be high, I may be low—
By cart or van or tram can go.

I'm seen with women and with men—
When good, remarked on; ay, and then
The soldier you at once discern
In every gesture, every turn.

ADA SMITHSON.

7—PUZZLE.

I sent 20 cents for 20 pencils, the prices being 4 cents each, for a cent and 4 for a cent. How many of each kind will the shop man send me?

HENRY BECK.

8—ENIGMA.

I pass along the street
Around, around with varied sounds;
But if beheaded I am found
To run along the ground
At every body's feet.

FRED. HALL.

9—PUZZLE.

Two men have an eight (8) quart vessel of water, and want to divide the water equally between them, but have only a three (3) quart vessel and a five (5) quart vessel to measure with. How can they do it?

HENRY BOBER.

Answers to January Fifteenth Puzzles.

- 1—Sensationalism. 3—Surprise. 5—Withdraw.
- 2—Useful. 4—Treason, Reason. 6—Ada Armand.
- 7—The letter E. 8—Nothing venture, nothing have.

Names of Those Who Have Sent Correct Answers to January 15th Puzzles.

Henry Reeve, Josie Sheehan, A. Howkins, Geo. W. Blyth, A. R. Borrowman, Lily Day, Addison and Oliver Snider, I. Irvine Devitt, Ada Smithson, Emma Brown, Henry Beck, Edith Fair Brother.

PEDIGREED BARLEY FOR SALE.

I have 500 bushels of Pedigreed Duckbill Barley for sale. The stock from which my grain was grown has been carefully selected each year for the last twenty years. It is a heavy yielder; should average from 45 to 60 bushels per acre on soil suitable for barley growing; have known even larger yields. The grains are large and plump, straw abundant, stiff and bright. No more apt to lodge than Fyfe wheat. It is an upright grower; will outyield six-rowed or any other variety of two-rowed barley on same land from 5 to 10 bushels per acre. Is far superior to any other variety of two-rowed or six-rowed barley in both straw and grain, also for feeding purposes. English experts have reported it an excellent malling variety. Single bushels, 80c. per bushel. In ten bushel lots, 70c. per bushel. Twenty-five bushels and over, 65c. per bushel. Bags 20c. each. All grain put free on board C.P.R. or G.T.R. Cash must accompany all orders. Address H. H. SPENCER, Broodwin P.O., Ontario Co., Ont. 328-c-om

9 CORDS IN 10 HOURS. RUNS EASY. SAVES DOWN TREES. FOLDED. BY ONE MAN. Send for free illustrated catalogue, showing testimonials from thousands who have saved from 5 to 9 cords daily. It saws down trees, folds like a pocket knife, weighs only 41 lbs., easily carried on shoulder. One man can saw more timber with it than two men with a cross-cut saw. 57,000 in use. We also make large-sized machine to carry 7 foot saw. No duty to pay, we manufacture in Canada. First order secures the agency. FOLDING SAWING MACHINE CO. 61 to 65 So. Jefferson St., Chicago, Ill. 328-b-0

Standard-Bred Stallions AT OTTER PARK, NORWICH, ONT. Premier Stallion, Lexington Boy 2.23, by Egbert 1136, sire of Egthorne 2.12; Temple Bar 2.17, and forty-three others in thirty list. Other Standard-bred Stallions in stud. For particulars send for announcement. 315-2-y-om CORNWELL & COOKE, Proprietors.

ATTRACTIVE PUBLIC SALE OF HIGH CLASS SHORTHORN CATTLE AT MAPLE LODGE STOCK FARM, ON WEDNESDAY, MARCH 8, 1893.

On the above date we will sell by public auction 18 CHOICE SHORTHORNS, consisting of 12 cows and heifers and 6 young bulls. A very superior lot. Fourteen of the number were got by Conqueror = 8227 =, a grand Cruickshank bull and wonderfully uniform sire. Several show animals are in the offering, and most of them from our best milking strains. Bates and Cruickshank and other Scotch families represented.

TERMS:—Nine months' credit, or eight per cent. per annum off for cash. TRAINS.—The morning and evening trains from both ways on G. T. Railway, and also on L., H. and B. Railway, will stop at Lucas Crossing Station, one mile east of our stables. The one o'clock mail train from the east on G.T.Ry. will stop at our farm on day of sale to let passengers off. Send for a catalogue and come to our sale. 327-b-om JAS. S. SMITH, Maple Lodge P. O., Ont.

STOCK GOSSIP. In writing to advertisers please mention the Farmer's Advocate.

Mr. Hugh Thompson, St. Marys, Ont., reports the following sales of bulls, viz.:—One roan bull calf to Mr. Val. Ficht, Oriol P.O.; one roan to Mr. Walter Murray, Avonton P.O.; and one red to Mr. Harry Greeson, of East Nissouri. They are all very fine animals, well calculated to improve any herd.

John A. Duff, Myrtle, Ont., recently sold to Mr. Samuel McArthur, Oro Station, his two-year-old filly, Sunrise. She was awarded first prize and silver medal at the Toronto Industrial Exhibition, in 1892, for best heavy draught mare any age, and was recommended for a place in the live stock exhibit to be sent from Ontario to the World's Fair.

Mr. Neil Smith, Brampton, Ont., advertises a public sale of imported Clydesdale stallions and mares and a number of first class Canadian bred mares and fillies, also 20 head of Jersey cows and heifers, on March 7th. Mr. Smith is known to be a first class judge of Clydesdales, and these stallions, which are all in their prime, rising 4 years old, were selected by himself in Scotland, and are well up to the standard in every respect.

MR. GRAND IN FUTURE WILL HOLD HIS SALES OF HORSES AT NEW YORK.

The public sales of high class Canadian horses held in Toronto of late years have been looked upon as one of the attractive events of each year. The enterprise Mr. Grand has displayed in commencing these sales has proved of immense benefit to Canadian horse breeders, and all those who have produced animals for street park and pleasure purposes are much indebted to him for the introduction of this trade. Not only by this means have our horses established a name that will help to sell them in the future, but these sale rings have been of great service in disseminating a vast amount of information among our breeders, and have been the means of showing what sort of horse is in demand. It is, therefore, from the latter standpoint, a matter of regret that Mr. Grand has decided to hold these sales in his newly acquired quarters in New York, from which city so many of these buyers came. He has been the pioneer in inducing purchasers from Eastern cities to come to Canadian sale rings, and he now proposes to sell Canadian horses in New York for Canadians who ship them there for sale.

AUCTION SALE.

Mr. Neil Smith will sell at his farm, 1 1/2 miles from Brampton Station on G. T. R. & C. P. R., ON TUESDAY, MARCH 7th, 1893, 5 Imported Clydesdale Stallions, rising 4 years old, 5 Registered Mares, bred from Imp. sire and dam, A lot of first-class Canadian-bred Mares & Fillies. Also 20 head of Jersey Cows and Heifers. CATALOGUES SENT ON APPLICATION. JOHN SMITH, Auctioneer, NEIL SMITH. 328-b-0 Brampton, Ont. Brampton, Ont.

CANADIAN HORSES

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has made arrangements with the proprietors of the well-known American Horse Exchange to hold a series of sales COMMENCING IN APRIL NEXT

OF HIGH-CLASS

Canadian Horses,

at their extensive and magnificent building, Cor. Broadway and 50th Street, New York City.

MR. GRAND is now ready to receive consignments of really high-class Canadian stock for these great sales; and, from his extensive experience and now large connection, solicits the same with every confidence, knowing the demand for our horses is ever and steadily increasing in all the great American centres.

MR. GRAND particularly wishes to have it understood that after his own spring sale in April, henceforward his whole time and attention will be devoted exclusively to the interests of consignors, having fully made up his mind to abandon entirely dealing on his own account, and by this guarantee Canadians generally should and undoubtedly will give their hearty support towards establishing a depot at all times open and known in New York as

THE MARKET FOR CANADIAN HORSES

and certainly this arrangement will have untold advantages to the genuine Canadian trade. It is a thoroughly established fact that never in the past at any season has the supply of really choice horses been equal to the demand in this great metropolis, and large as the demand has been in the past for our best Canadian horses, this year will witness a still further increase, owing not only to so many American families remaining at home on account of the World's Fair, but also the great influx of foreigners from all nations, will give a greater impetus to the trade than ever.

MR. GRAND being an extensive and liberal advertiser in the leading influential journals throughout America, combined with a thorough and intimate knowledge of his business in all its details, and with a full determination to spare neither time, trouble or expense in this enterprise, together with his personal supervision and conduct of these sales, consignors will receive every attention and courtesy possible, and will necessarily see for themselves the superior advantages offered in their interests by favoring him with their patronage.

Therefore, breeders and shippers desirous of holding sales under these auspices will kindly communicate to secure dates with as little delay as possible, as by so doing combination sales can be arranged for parties wishing to send small as well as large lots.

Correspondents will receive prompt attention by addressing

W. D. GRAND, Toronto.

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SHIRE HORSES.—A grand young imp. stallion for sale at a low figure. IMPROVED YORKSHIRES.—Young stock of all ages at farmers' prices. WHITE HOLLAND and BRONZE TURKEYS.—Orders booked for young birds for fall delivery. Correspondence solicited. Prices on application. 318-2-y-om WM. MULLEN, Hillsburg, Ont.

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Imported Prince Royal and cows bred by S. Campbell, Kinellar, and James Bruce, of Burnside, together with their descendants by imp. bulls. Seventy head to choose from; also Cotswold sheep. Farm close to station. J. & G. Taylor, Rockwood, Ont. 317-2-y-om

If you want a well-bred Shorthorn Bull for use on Grade Cows, or a Heifer to start a herd with, at a price that your pocket can stand, write me. I can suit you. C. G. DAVIS, Woodlands Terrace Farm, Freeman P.O., Ont. 318-2-y-om

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I offer at right prices six promising Scotch-bred bull calves, from 8 to 12 months old, sired by pure Scotch bulls. Among the lot are calves that were winners at Guelph and other local and county shows. Colors red and roans. Also some grand Shropshire ewes in lamb to imp. Bradbourne (6). Come and see them. Corwin Station, C. P. R., two miles, and seven miles east of Guelph. Write or wire me when to meet you. W. B. COCKBURN, 320-2-f-om Greenhouse Farm, Aberfoyle, Ont.

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I now offer superior young SHORTHORN BULLS at reasonable prices. For full particulars address, JOHN DRYDEN, 314-2-y-om Brooklin, Ont.

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Reports his recently imported Cruickshank-bred safely at home, seven young bulls and six females, all of which will be sold at moderate prices. I have also exceedingly good young bulls and heifers of my own breeding for sale. Send for Catalogue, Greenwood P. O. and Telegraph Office, Claremont Station on the C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see my cattle. 323-2-y-om

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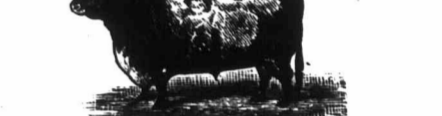
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Chief-13674—, he by the famous Indian Chief-11108—, and was highly successful in the various Western Ontario fairs of the past season. We have for sale 3 young bulls, 6 heifers, and a Cleveland Bay mare and gelding, at reasonable figures. Also registered Berkshires and a few extra choice Cleveland Bay mares, the get of Bismarck, Dalesman, etc. Write for prices, or come and see us. A. J. C. SHAW, Camden View Farm, Thamesville. 318-2-y-om

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—AND—
Improved Large Yorkshires.

AT PRICES TO SUIT THE TIMES.
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Have for sale HOLSTEINS of any age, both sexes. Young stock bred from the best milk and butter strains, viz., "Jewel," record, 100 lbs. milk in one day and 31 lbs. butter in seven days, and Pieterje 2nd, record, 30,318 lbs. milk in one year. SPECIAL OFFERING.—Yearling Bulls, viz., "Sir Jewel Pieterje," "Jay Jewel" and "Duke Pieterje"; also two-year-old, "Combination Pieterje," first prize winner at Montreal and Ottawa. Prices right. Write. 327-

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We are making a specialty of breeding Holsteins of the following strains—Aaggies, Barington and Mercedes. Our last importation comprised nineteen head from one of the leading herds in the United States. Our herd now numbers close to 30 head. Young bulls and heifers for sale. Prices right and terms reasonable. E. M. S. & C. S. MOTT, The Gore Farm, Box 95, Norwich, Ont. 318-2-y-om



Holstein-Friesians.
I have several choice young Bulls of the Aaggie and Barington strains, which I will sell cheap to quick purchasers. Also several choice Cows and Heifers, of Bonnie Queen and Aaggie breeding, will be sold at greatly reduced prices, if taken soon. Write for prices and breeding. H. BOLLERT, Cassel, Ont. 318-2-y-om

Holstein-Friesians.

Owing to an important change in business between now and spring, our herd will be reduced one-half. Stock the choicest. Breeding the highest, and prices the lowest. All young bull bred from Silver Medal and First Prize-winning stock. See us at once. New Dundee P. O., Waterloo Co., Ontario. 318-y-OM
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Read This!

I have over 50 Holstein cows due to calve in February and March. I will sell the bull calves at TEN DOLLARS each if taken before two weeks old. If desired, will register the calves, purchaser paying the registration fee. These cows are all good individuals, many of them with records back of them.

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PROPRIETOR,
Box 577,
328-a-om
KINGSTON, ONTARIO.

Holstein-Friesians
OF THE CHOICEST MILKING STRAINS.
Extra individuals of both sexes for sale.
J. W. JOHNSON,
313-2-y-om SYLVAN, P. O.

HOLSTEINS & YORKSHIRES
None but the best are kept at
BROCKHOLME FARM, Ancaster, Ont.
R. S. STEVENSON, Proprietor.

Write me for prices if you want first-class stock at moderate figures. Holsteins in the advanced registry. Yorkshires all recorded. 319-2-y-om

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.
SMITH BROS., Credit Valley Stock Farm,
CHURCHVILLE, PEBL COUNTY, ONT.,
(24 miles west of Toronto).



This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 316-2-y-om

For Sale, Jersey Cow
four years old. Calves in April. Registered in A. J. C. C. Sire Otolie. Wm. Lewis, Mount Forest, Ontario. 328-b-om

Jersey Bull.

First prize and first-class; two years in December last; sire 1st prize Toronto Exhibition; dam an imported cow and an extra good one. Come and see, or address
326-a-om **J. C. SNELL, Edmonton, Ont.**

JERSEYHURST FARM, MARKHAM, Ont.
ROBT. REESOR, importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the St. Helier bull Otolie 17219 at the head of the herd. Stock of all ages on hand and for 320-2-y-om

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WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert horse a specialty. Also registered Clydesdale Horses. 321-2-y-om

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JONATHAN CARPENTER
offers for sale at very reasonable figures a number of very fashionably bred Jerseys, bulls and heifers, of all ages; also standard-bred colts and fillies from such sires as Gen. Stanton, sire of thirteen in the 30 list, and Almont Wilkes, trial in 2.16. "Good individuals with gilt-edged pedigrees." Come and see them. 319-2-y-om

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Three Ayrshire Bulls for sale, including the grand stock bull, Robbie Dick 1257, bred by the late Thomas Brown, and two young bulls fit for service; also Bronze Turkeys. Stock winning at both Montreal and Ottawa. **R. REID & CO.,** Hintonburg, near Ottawa. 324-y-om

Prize-Winning AYRSHIRES FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand. **MAGGIE OF**
JAS. McCORMICK & SON,
ROCKTON, ONT. 323-2-y-om

DOMINION PRIZE HERD OF AYRSHIRES.

This herd has taken all the first prizes where ever shown in Quebec and Ontario since 1887 to 1891. From imported stock. Young stock for sale at liberal prices.

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315-2-y-om PETITE COTE, MONTREAL, P. Q.

PRIZE-WINNING AYRSHIRES FOR SALE.

GURTA 4th
(1181)
Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address
THOMAS GUY,
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HEREFORDS, STANDARD-BREDS AND YORKSHIRES.—Headquarters for the famous Tushingham blood. Tushingham (19450) sold for \$5,000. Also standard-bred colts and fillies and pedigreed Yorkshires.

Herefords, Leicesters, Imp. Yorkshires and Poland-Chinas.
First-class young stock for sale at moderate prices. **DAN REED,** The Spruces, GLANFORD P. O., ONT. 318-2-y-om

Ingleside :-: Herefords.

Herd headed by the Medal Bull of Canada. Young Tushingham 2nd (23598). All stock registered and from prize-winners, combining the desirable blood of
HORACE ANXIETY
THE GROVE 3rd
BRADWARDINE.

Choice young stock of the above strains for sale at reasonable prices.
IMPORTED CLYDESDALES.
Prince of Wales and Darnley strains. Saddle horses and stylish drivers for sale.
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two miles, G.T.R. Ingleside Farm, 321-2-y-om
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MAPLE GROVE FARM.

Cotswold and Leicester Sheep, also Improved Large Yorkshire Swine, are my specialties.
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for sale at reasonable prices. A choice lot of ram lambs and yearlings sired by my imp. Thomas ram from imp. and home-bred ewes; also 5 young bulls, from 6 to 18 months old. **W. G. PETTIT,**
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THE GLEN STOCK FARM.

Clydesdales, Shropshires and Berkshires. Choice young registered stock for sale. Telegraph office, Innerkip. Farm 3 mile from Innerkip Station on C.P.R., and 6 miles from Woodstock, G.T.R. **WHITESIDE BROS., Innerkip, Oxford Co., Ont.** 316-2-y-om



IMPORTED SHROPSHIRE

My stock was selected by myself, and consists of Shearling Ewes and Ewe Lambs from the leading flocks of England, and of the highest quality and breeding. Stock of all ages for sale.
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Paris, Ontario. 327-y-om



SHROPSHIRE, CLYDESDALES AND POLLED-ANGUS CATTLE.

Two imp. stallions, one yearling bull and eighty choice Shropshires rams and ewes of all ages. Prices reasonable. Write quick. All registered. **JAS. McFARLANE & SON,**
319-2-y-om CLINTON, ONT. G.T.R. Station 1/2 mile.

1881--SHROPSHIRE--1881

My flock is one of the oldest in Canada, my first importation being made in 1881. My present stock of ewes were imported direct from the flocks of Bradburn Bros. and H. Parker. Write for prices. **JAS. COOPER,**
319-2-y-om KIPPEN, ONT.

W. S. HAWKSHAW,
Glanworth Post Office.
326-y-om

Having reduced my flock by recent sales I intend visiting Great Britain early in the spring to bring out my annual importation, when I shall endeavor to select the best, size and quality combined



CHOICE REGISTERED SOUTH DOWNS.

Messrs. Telfer & Sons, Springfield Farm, Paris, Ont., have been breeding Southdowns for thirty years. A fresh importation just arrived. Stock for sale. 321-2-y-om

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Jerseydale Farm, Uxbridge, Ont., Midland Division, G.T.R., importer and Breeder of
DORSET HORN SHEEP.

DORSET HORN AND SHROPSHIRE SHEEP, Jersey and Holstein Cattle, SHETLAND PONIES, CHESTER PIGS.

ALL THOROUGHBRED.
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T. W. HECTOR, Importer and Breeder
The oldest and largest flock of Dorset in Canada. First Prize Toronto and Montreal Exhibitions, 1891, for flock. Sheep of all ages for sale, ewes and rams not akin. T. W. HECTOR, The Cottage, Springfield-on-the-Credit P. O., Ont. Stations, Springfield and Cooksville on the C.P.R., Port Credit on G.T.R. 314-2-y-om



COTSWOLD SHEEP!

WM. THOMPSON, Mt. Pleasant Farm, Uxbridge, Ont., Importer and Breeder, takes pleasure in intimating to the public that he is importing a large number of show sheep, which are expected to arrive early in August. Call and inspect personally. Visitors always welcome, and met at Uxbridge Station, Mid. Div. G. T. R. 315-2-y-om

ADVERTISE IN THE ADVOCATE

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.
Mr. Thos. Russel, Riverside Farm, Exeter, Ont., writes us that he has sold to Mr. Peter Toles, Mt. Brydges, his prize-winning bull Nonsuch = 13200 =. He is a roan, calved Dec. 14th, 1890, and was sired by Riverside Hero = 12013 =, a noted prize winner, and has for dam Jane Grey = 9327 =. Jane Grey was awarded first prize at Toronto, London, Hamilton and South Huron as a three-year-old. Nonsuch was awarded second at London in 1892, and headed the herd that was awarded the gold medal at the same fair. Jane Grey is an extra good milker. He has also shipped Bracelet 6th = 18148 = to W. B. Cockburn, Esq., Aberfoyle. Bracelet 6th was awarded first prize at Toronto, 1892, and was bought with the expectation of being shown at the World's Fair. Sire by Grey Mariner = 12012 =; dam Bracelet 2 (imp.) = 2115 =.

Mr. W. J. Boynton, proprietor of Zumbra Valley Farm, a large stock ranch near Rochester, Minn., U.S.A., recently made extensive purchases of Shropshire sheep in Ontario, having secured five ewes from Mr. Telfer, Paris; twelve imported ewes and twenty-four ram lambs from Mr. Miller, Brougham; six ram lambs from Mr. Hamner, Mt. Vernon. He also secured the stock ram Royal Marquis from Mr. J. Smith, Paris. This ram has been used largely on Mr. Hamner's flock, and was the sire of many of his prize-winning lambs; he was afterwards sold to Mr. Smith, who used him in his flock. From Mr. W. S. Hawkshaw, Glanworth, he secured the largest number from any one owner. This flock consisted of 45 imported two and three-shear ewes, which were imported in the years 1890-91, from the best known English flocks, the greater number being from old Ombury flock of Messrs. F. Bach & Sons. They are mostly in lamb to Mr. Hawkshaw's celebrated ram Wool Merchant, and Mr. Boynton is to be congratulated upon having been able to obtain a flock which for uniformity of character and general excellence would, indeed, be hard to beat. Altogether the shipment numbers 97 head, and will be a chance to obtain choice blood which the farmers of Minnesota should not neglect.

Mr. Arthur Johnston, of Greenwood, Ont., writes this office as follows:—The farmers of Ontario, with whom I have wide acquaintance, are thinking very little indeed about the burning questions of annexation, federation, or independence—questions that burn principally, if not exclusively, in the breasts of struggling politicians, party hacks, and newspaper writers. They (the farmers) are, however, thinking very carefully and very anxiously about the best means of getting a good living out of our most excellent soil; and I believe the general conclusion reached by the most intelligent among them is that that living can best, and with greatest ease and comfort, be had by raising stock of the various improved breeds of live stock. The prevalent feeling among the cattle breeders is one of confidence and hopefulness. They are not enjoying a boom in any of the breeds, but just a steady and improving demand for the best individuals of all the breeds. The Greenwood herd is in fine form at the present time. It is larger than ever before and increasing weekly. The Indian Chiefs are coming fast and strong, and the very best of colors. The young bulls recently imported are now doing exceedingly well, though the recent cold weather was very trying on them. They are now all fit for a limited amount of service. They are big, healthy and vigorous fellows for their ages, though still only in moderate condition. The young cows and heifers have gone on remarkably well. Sunray, Minnie and Rosalind are all due to calve in March to the Cruickshank bull Sittiny Yet. Send for catalogues.

Dr. J. Y. Ormsby, Manager Isaleigh Grange Farm, Danville, P. Q., in sending us a list of sales, writes that their stock has so far come through the winter in fine order. The Shropshires, which number over one hundred head, are looking especially well; and there is every hope of a fine crop of lambs, the two stock winners principally used having been the Royal winner St. Ledger, whose cut appeared in the December number of the ADVOCATE, and a grand shearling; the other one, bred by Mr. Geo. Thomson, of Wroxall, and the highly commended and reserve number at the Shropshire and West Midland Show. This sheep was pronounced by that eminent judge, Mr. T. J. Mansel, one of the best shearlings of the year. We would call our readers' attention to the change in the Isaleigh Farm's advertisement. Sales during the past four months:—Guernseys—To A. Guy Goodacre, Grand Pre, N. S., the bull calf "Isaleigh Prince." Mr. Goodacre writes us that this calf far exceeded his expectations, he having purchased by letter. Shropshires—To W. H. Webber, Lakelet, Ont., an imp. ram lamb, which weighed in ordinary store condition 150 lbs. at 10 months old. Yorkshires—Wilfred Quimet, Ste. Rose, P. Q., one boar, 6 months old; T. C. Douglass, Galt, Ont., one sow in pig; A. Brown, Bethel, Ont., one boar, 6 months old; H. Gagnon, Danville, P. Q., one boar and one sow; Alex. Ames, Sherbrooke, P. Q., one boar; C. McDougall, Sherbrooke, P. Q., two sows; A. P. Hillhouse, Knowlton, P. Q., one pair; J. & P. Krauss, Frelighsburg, P. Q., one boar; P. H. Dumais, Chambord, P. Q., four boars and one sow; J. H. Taylor, Richmond, P. Q., one sow; C. H. McNish, Lynn, Ont., two sows; Geo. Westman, Marbleton, P. Q., one boar; Chas. Bennett, Danville, P. Q., one sow.

NOTICES.

THE LINCOLN PEAR.
Extract from ad-interim report by A. C. Hammond, Secretary of Illinois State Horticultural Society:—At Lincoln, Ill., the Lincoln Pear was inspected under the leadership of W. E. Jones, the propagator and discoverer of its merits. The original tree is still standing, grown from seed planted in 1835; it is as fine a specimen of pear tree as the writer ever saw; about 40 feet high, and, though nearly 60 years old, is vigorous and healthy, and this season made a fine growth; has never failed of a crop. Another tree 15 or 20 years old, but closely crowded with other fruit trees that it only made a moderate growth, was carrying 7 or 8 bushels of fine looking fruit, while other trees of popular varieties bore only a few specimens.

EUROPEAN ADVERTISEMENTS.

Astwood Hill SHROPSHIRE the most famous flock in England. We led in the show ring at the Royal and the Bath and West of England in 1891.



Shropshires, Shorthorns, Shire Horses, Yorkshires The Ruyton-11-Towns flock always winning at R. A. S. E. and other shows. Last win: The Champion Cup at the Royal Liverpool, Manchester and North Lancashire Show for the best ram, all ages and all breeds.

Richard Brown, Ruyton-11-Towns, Shropshire, Eng. 322-2-y-om

DORSET HORN SHEEP!

CULVERWELL BROS., Durling Farm, Bridgewater, Somerset, Eng. Breeders and Exporters of Improved Dorset Horn Sheep. Sheep and wool from this flock have won many first prizes at all the leading shows in England and Canada.

In Canada and U. S. A., apply to JOHN TAZEWELL, Uxbridge, Ont., G.T.R. 315-2-y-om

LINCOLN SHEEP

I always have for inspection and sale a large flock of pure Lincoln Long wool Sheep, including many prize-winners, having taken 80 prizes the last two years at the Royal and other shows, for both rams and ewes; also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor show last year, which proves the character of this flock, which is most famous for their great size and 120 years' good breeding.

Henry Dudding, Ribby Grove, Gt. Grimsby, Lincolnshire, Eng. 319-2-y-om

BLAIRTUMMOCK CLYDESDALES.

Prof. McCall invites inspection of his Stud of Clydesdales by American and Canadian buyers. Among the many good ones bred at Blairtummock may be mentioned Col. Holloway's renowned Cedric, acknowledged the greatest breeding horse in America.

Address: Prof. McCall, The Veterinary College, Glasgow, Scotland. 317-2-y-om

CLYDESDALES & AYRSHIRES

WALTER PARK, Halton, Bishopston, Scotland, the breeder of the world-renowned "Lord Erskine," has always for sale a choice lot of Clydesdale Colts and Fillies; also pure-bred Ayrshires of the best milking strains. Visitors welcome. 317-2-y-om

THE HOME OF SPRINGHILL DARNLEY. Clydesdale dealers when in Scotland should not fail to visit Messrs. R. & J. Findlay's Stud. Breeders and owners, amongst others, of the famous H.A.S. winner, Chrystal 5387. Address: Springhill, Baillieston, Glasgow. 317-2-y-om

THE HOME OF SIR EVERARD

Wm. Taylor, Park Mains, Paisley, Scotland, calls the attention of American and Canadian buyers to the fact that his stud of Clydesdales and Hackneys is one of the best in Scotland. Inspection solicited. No trouble to show horses. 317-2-y-om

CLYDESDALES AND AYRSHIRES. Parties visiting Scotland to purchase the above should call on the undersigned, who always has a choice selection bred from the best strains of blood. ROBT. WILSON, Manswraes, Bridge of Weir, Renfrewshire, Scotland. 317-2-y-om

W. G. BUTCHER, The Chestnuts, Needingworth, Hunts, England, offers for sale a grand selection of

HACKNEY and SHIRE-BRED COLTS and FILLIES of the choicest breeding, and good individually. All registered. Visitors welcome. Station: St. Ives, Hunts. 317-2-y-om

LARGEST SHEEP EXPORTER.

1,272 Pedigreed Sheep, including many winners of all breeds, landed at Quebec without loss, July 26th, 1892, by

E. GOODWIN PREECE, Live Stock Exporter, Shrewsbury, Eng., who has thorough personal knowledge of all the best British flocks, herds and studs, great experience in shipping and the privilege of obtaining choicest specimens of any breed for show or breeding. American buyers supplied with selected stock at lowest rates. Those visiting England conducted to inspect the leading stocks, to compare merits and prices before buying, also assisted in selecting and shipping FREE OF CHARGE. (5% commission paid by seller.) Flock-book certificates and all documents supplied, as required by U. S. Government. Highest references from leading Canadian and American importers supplied 1889, 1890, 1891, 1892. All buyers should communicate. Information free. 318-2-y-om

SHORTHORNS



TO BE SOLD AT AUCTION IN MARCH. (Date given next issue.)

14 Females and 3 Young Bulls of Rare & Choice Breeding

The sires in the pedigree are bred by such notable breeders as Duke of Richmond and Gordon, Mr. Pawlett, the noted Booth breeder, and Mr. Linton, of Sheriff-Hutton, from whose herd the later crosses have come, making a pedigree rarely met with, viz., several choice Booth crosses on several as choice Cruickshank. Fow have it, and all need it. A bona fide sale, as we have too many females for our farm. Catalogues will be ready soon. N.B.—We never have bulls left on our hands. Two of the young bulls to be sold are good enough to head any herd. For Catalogue address

D. ALEXANDER, Bridgen, Ontario.

NONE BUT THE VERY BEST ARE KEPT AT ISALEIGH GRANGE.

This is what we claim and our customers endorse. GUERNSEYS, SHROPSHIRE AND IMPROVED LARGE YORKSHIRES. Seventy-five beautiful ewes in lamb to our imported rams, winners at England's greatest shows. In Yorkshires we imported last year the cream of the English winners at the Royal, the Liverpool and Manchester, and the Royal Cornwall and other large shows, including the first-prize boar at the Royal. Do not forget that like produces like, and send in your orders for young pigs early. Address, 322-2-y-om J. Y. ORMSBY, Manager Isaleigh Grange Farm, Danville, P. Q.

Fruit Trees and Plants

Every class of Trees and Plants that is hardy in a Northern climate, is available at LOW PRICES. Fruit, Ornamental, Nut and Flowering

OUR CATALOGUES THE MOST ELABORATE IN THE WORLD. PUBLISHED BY A NURSERY HOUSE, AND QUOTING PRICES 1/4 THOSE ASKED BY SOLICITORS.

250 ACRES OF NURSERY

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We successfully ship to all parts of the world. J. T. LOVETT CO., Little Silver, N. J.

The Dale PIVOTED LAND ROLLER

(PATENTED.) A STEEL ROLLER, THE DRUMS OF WHICH OSCILLATE ON PIVOTS AND ADAPT THEMSELVES TO THE UNEVENNESS OF THE GROUND.

Its points of advantage are too many to enumerate. Some of them are:

The bearings are the only wearing parts and are guaranteed to last from Ten to Fifteen Years, and can be replaced at a nominal cost.

It rolls all the ground, no matter how rough. There is no axle shaft, no strain, and consequently no wear. It is easily oiled between the drums.

THE DEMAND IS STEADILY INCREASING. IT IS UNANIMOUSLY RECOMMENDED BY THOSE FARMERS WHO HAVE USED IT.

Orders are now being booked for the spring trade. Description and price furnished on application to

T. T. COLEMAN, SOLE MANUFACTURER, SEAFORTH. 320-2-y-om

BUY ONLY PEARCE'S SEEDS!

PLANT ONLY PEARCE'S SEEDS!

A SURE CROP FROM PEARCE'S SEEDS!

BIG MONEY IN PEARCE'S SEEDS!

SEND FOR CATALOGUE. ADDRESS: JOHN S. PEARCE & CO. London, - Ontario.



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To Stockmen & Breeders. LITTLE'S PATENT: FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange, and all insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc. Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy.

"MAPLE SHADE" HERDS AND FLOCKS. BROOKLIN, ONT., Sept. 4th, 1890. DEAR SIR,—I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested, I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders.

Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc. to

ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT. Sole Agent for the Dominion. 315-2-y-om

Gotswold Sheep.

The gold medal flock established in 1854. All bred straight from imported stock. Three imported Rams in use. Young stock for sale. Berkshires. Herd established in 1865. Imported and bred from imported stock. Sows in farrow

and young stock for sale at all times. Spring pigs now ready to ship. We ship to order, guarantee satisfaction. Com and see, or write.

Jersey Cows, Halfers and Calves; registered; pure-bred unregistered and high grades, bred from rich butter stock.

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Mapleview Farm, - THORNDALE, ONTARIO, Importer and breeder of Ohio Imp. Chester White Swine and Dorset Horned Sheep. Breeding stock recorded. Young stock for sale at moderate prices. Write for particulars. 322-2-y-om

TAMWORTH SWINE, SHROPSHIRE, CLYDESDALES AND SHORTHORNS.

John Bell, Clydesdale Farm, Amber, Ont.

A number of prize-winning Pigs in pairs, unrelated, from imported stock bred by the best breeders in England. Orders booked. Fifteen Breeding Sows due to farrow during spring. Shropshires bred from stock imported by such importers as John Miller & Sons, Brougham; R. Canilcott, Tyrone, etc. A few of the best Clydesdales on the continent—The Granite City and Eastfield Chief at head of Stud; also Shorthorns of choice breeding. Correspondence solicited. Visitors welcome. Milliken Station (Midland Division), G.T.R. 325-y-om

THE MARKHAM HERD, LOCUST HILL, ONT.

(Farm one mile from Locust Hill St., C.P.R.) Registered Improved Large Yorkshire, Berkshire and Suffolk Pigs. Stock selected from the best herds in Canada. Am booking orders for Spring Pigs.—LEVI PIKE, Locust Hill, Ont. 325-y-om

ISRAEL CRESSMAN, New Dundee, Ont.

Breeder of Large English Berkshires. Young Hogs always on hand; got by imported stock. 328-tf-om

FOR SALE.

A choice lot of young Berkshire Pigs, from two to three months old, from imp. and prize-winning stock; also a few choice boars fit for service. I have also some Yorkshire Pigs fit for show purposes, boars and sows from six weeks to six months old. Prices reasonable. Address H. J. DAVIS, Breeder of Berkshires, Yorkshires and Shorthorns, box 290, Woodstock. 318-2-y-om

S. COXWORTH, CLAREMONT, ONT., Breeder and Importer of Berkshire Hogs.

Young stock of different ages constantly on hand. Pairs supplied not skin. Stock won at leading shows in 1892-18 first, 11 second, 7 third, including Toronto, Montreal and Ottawa. Prices moderate. Satisfaction guaranteed. Station and Telegraph Office.—CLAREMONT, C.P.R. 316-2-y-OM

FIRST SWEEPSTAKES HERD

IMPROVED: YORKSHIRES IN CANADA,

selected from the well-known herds of the Earl of Ellesmere, Prescott Union, and C. E. Duckering, England, by James Main, who is considered one of the best judges of pigs in America; also one imported sow and several other Canadian-bred sows and boars of the well-known herds of Sanders Spencer and F. Walker-Jones, England.

REGISTERED SOWS AND BOARS MATED NOT AKIN. JOSEPH FEATHERSTONE, P.O. and Telegraph. PINE GROVE FARM, 321-2-i-om STREETSVILLE.

IMPROVED PEDIGREED LARGE YORKSHIRES

I am booking orders for spring pigs from imported and home-bred sows at reasonable prices. J. H. S. BARBOUR, King P. O., Ont. 318-2-y-om

J. M. HURLEY & SON

Kingston Road Stock Farm, Belleville, - Ont. Offer for sale pedigree Improved Large Yorkshire Pigs of both sexes. Herd founded in 1887. OUR AIM is to make our pigs advertise us. 321-2-y-om

IMPROVED LARGE YORKSHIRE PIGS.

Thirty-five choice Breeding Sows from the best English breeders. Young stock of all ages, stock supplied for exhibition purposes, registered and guaranteed to be as described. Personal inspection solicited. J. E. BRETHOUR, Burford, Brant Co., Ont. 327-y-om

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Importer and Breeder of
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The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price. Write for prices. 317-2-y-om



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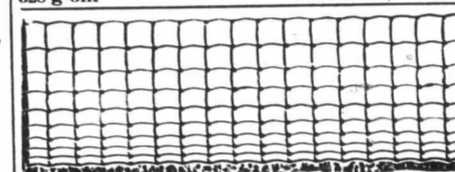
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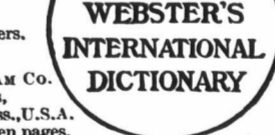
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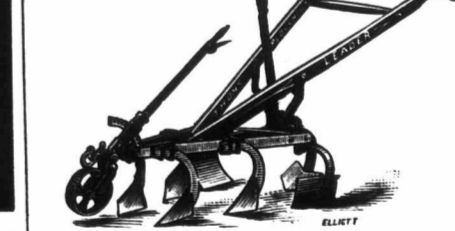


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