

**PAGES
MISSING**

FARMER'S ADVOCATE

AND HOME MAGAZINE

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

VOL. XXXIII.

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

No. 448.

EDITORIAL.

Agricultural Possibilities.

It is calculated that some \$10,000,000 will be brought out of the newly discovered gold fields of our Yukon country this year, and the world has gone wild over the prospect. Millions will be spent in the mad rush for more, with the certainty that to the great majority failure will be their fate. But supposing the most hopeful calculations are realized, what does it amount to when compared with what is within easy reach upon the farms of the Dominion and is assured to the worker in perpetuity as long as the seasons continue to revolve and seed time and harvest meet the willing and faithful husbandman? The Province of Ontario alone on its eight and a half million acres of grain-growing land produced last year one hundred and fifty million bushels of grain, worth, at a moderate estimate, \$40,000,000. The grain crops of Manitoba last year would probably run up to nearly as large if not a larger amount, besides what all the other provinces contribute, making a total of probably \$300,000,000. Our exports of live stock and live-stock products, including cheese and butter, in 1896 were valued at nearly \$35,000,000, and the value of our exports of other agricultural products was \$14,000,000. These figures, it is safe to say, were largely exceeded in 1897, and the prospect for the present year is that all former records will be broken, since prices of all farm products have substantially advanced.

That it is in the power of the farmers of this country, under ordinary conditions, with little outlay, to increase the yield of their crops from ten to twenty-five per cent. by the use of well-selected seed of the best varieties and better cultivation is practically certain. Dr. Saunders' letter in this issue gives a useful epitome of Experimental Farm experience. The returns of the Bureau of Industry of Ontario for 1897 give the average yield in bushels of the different cereals as follows: Fall wheat, 25; spring wheat, 15; barley, 26; oats, 35; peas, 18; and the season was a good average one. Does this showing leave the impression that our farmers, occupying as good land as lies under the sun, are living up to their privileges? We trow not. Is it not reasonable to claim that the average yield of farm crops could be increased ten per cent. by sowing only the best selected seed of the best varieties and another ten per cent. by improved cultivation, making a total addition of twenty per cent. to the grain yield, which applied to the Ontario returns would be equal to \$10,000,000 in value? Multiply these figures by the grain acreage of all the other Provinces in the Dominion and the sum total will be found to be equal to the brightest dreams of the gold miner. There are in Ontario six million bearing apple trees, which, owing to inferior varieties and insect pests, yield only an average of fifty cents per tree. By top grafting with good varieties and spraying for the destruction of insect life and fungous growth, at a cost of five cents per tree, an average of two dollars per tree might well be reached. By the application of improved methods to grain-growing, dairying, poultry and fruit raising the returns from the farms of Ontario might be increased by twenty millions annually, or double the amount of the estimated output of the Klondyke gold mines.

The value of the live stock on the farms of Ontario, at a moderate estimate, judging by the returns of the Bureau of Industry, is over one hundred million dollars. Over fifty per cent. of these animals are ill-bred and of inferior quality and scarcely pay for the cost of raising. By the introduction of good blood, by the use of pure-bred sires, the value of our live stock could be increased by two dollars a head, at a moderate calculation, and the product of our cows by breeding and selection is capable of being increased by twen-

ty-five per cent., and by liberal feeding will more than pay for the extra feed and at the same time enrich the farms and make them produce still larger crops to feed more cattle, to make more money, to buy more land, to feed more cattle, and so on *ad infinitum*.

Farmers' Meetings in Quebec.

Hon. Sydney Fisher, Dominion Minister of Agriculture, has inaugurated during the present season in the Province of Quebec a series of meetings of which fifty or sixty will be held at intervals on the Farmers' Institute plan. Our readers will remember that at the session of Parliament a year ago Mr. Fisher's proposal to bonus creameries putting in a cold storage plant on plans approved by the Department was authorized and provision made therefor. In Quebec these arrangements did not appear to be understood thoroughly or appreciated, very few taking advantage of them. Consequently, the Minister felt that their importance should be more thoroughly emphasized in this particular way. Mr. J. C. Chapais, Assistant Dairy Commissioner, being French, takes a leading part in these meetings, assisted by Mr. Peter Macfarlane, Inspector of Cold Storage for the Agricultural Department, who also speaks French fluently. They give addresses upon stock-keeping and other agricultural topics as well. Mr. V. T. Daubigny, V. S., who is charged with work for the Minister in connection with bovine tuberculosis, attends some of the meetings, discussing that subject and the hygiene of stock, and Mr. Castel, Secretary of the Provincial Dairy Association, represents that body on the delegation and illustrates the addresses of Messrs. Chapais and Macfarlane with magic lantern views. Mr. Chapais has general charge of the work and holds meetings in the most important places where audiences of farmers can be got together.

The Law of Specialization Applied to Agriculture.

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

In these days of intense scientific curiosity it is a fashionable practice to investigate the condition of institutions in the light of their past progress and development. There is no subject to which the idea of evolution is not being fitted and applied. Certain laws are found to be constantly illustrated in evolution. In following the development either of life or of institutions it is found that the attainment of higher ends is always accompanied by a specialization of energy, or, stated conversely, higher and more complex products result from specialization. The jellyfish is a lower form of life than the insect. Organs are attained by the performance of functions, and the performance of different functions means a complex animal. The growth of manufactures has led to a specialization of the functions of men and has made a finer and higher and more complex and perfect product possible.

One would not be conveying startling information in saying that the product-in-chief of Canadian agriculture twenty years ago was grain, ten years ago beef, and at the present is cheese. One cannot tell the farmer any better than he knows himself that he could get a good price for wheat at one time, for beef at another, and for cheese at a later time. But if it could be shown that these changes illustrated the operation of a scientific law that perhaps would continue to operate it might prompt investigation into the probable changes, and so ideas might be acquired for future guidance.

In viewing the progress of agriculture even within the short period indicated it will be readily seen that grain production is simple and primitive in character compared with beef production, that beef is a higher and more complex product than

grain, because, from being the end in itself, grain has descended into a means simply for a higher end. It will be seen likewise that beef is built up on grain, that grain is the foundation for beef. Again, in the third stage cattle are the foundation for another product. They are not grown for themselves, but for what can be made through them, viz., cheese. This is exactly parallel to the attainment of the previous stage. It will readily be seen that milk is a higher and more complex product than either grain or beef, as grain and cattle are simply means to its production. Milk is a product of a special character compared to the other two. We have reached the stage at which agriculture stands at present. The question that naturally arises is: "Is it possible to make any forecast of the development following present conditions; is there any product obtainable from what we have now that would be in the direction of specialization?" Cheese consists principally of butter-fat and casein. Is it possible to make a more special use of milk than that of yielding these products? The finer of these two constituents is butter-fat, and it is found to be the chief constituent of butter. It is evident, then, that butter is a finer product than cheese and that the production of butter from milk is making a higher and more specific use of it than is made of it in the production of cheese. Accordingly, the natural thing to expect is that butter will supplant cheese as the product-in-chief of Canadian agriculture.

The theorist is always subject to more or less ridicule. Some years ago the writer was told that butter would never supplant cheese and that the theory advanced above would have to take a back seat in the face of stubborn facts. At present the stubborn facts seem to be falling in with the theory, though some years behind it. It is generally thought that though all cheese that is produced in Canada has not reached as high a point of excellence as it might (though still of high standard), that it has reached about to its height in profitability. Heavy production in the West and in the States is destined to reduce profits to a minimum. As soon as an article becomes a staple profits decline, except in the places of cheapest production. It seems that the time has come for Ontario to pioneer new fields, and the opening for this seems to be in the direction of butter production instead of cheese. The fact is that this tendency is already being shown in our exports for the present year. Cheese exports reach a value of fifteen million dollars, butter exports over five, which shows both a relative and absolute increase over previous years in favor of the latter product.

It may be urged by some who can never get rid of the idea of the practical that we must produce what the English market calls for. Many say an Englishman uses cheese with his bread and does not make much use of butter. It is true that cheese is a very important part of his diet. It is likewise true that in England, and in every other country under the sun, that each age is more discriminating and nice in its choice of foods than the age preceding it. From this it would appear that fine production and fine living are complementary and mutually dependent laws. It is, besides, evident from stubborn facts that the Englishman has become very fond of bacon of late years, and in such circumstances he will require less cheese. It seems a very apt time to notice that one of the best foods for producing lean bacon is skim milk, the part of it that is especially valuable in this respect being the casein or curd saved in the milk by making butter instead of cheese. So in sending the Englishman our butter and bacon we are keeping his diet much like it was when he got the butter-fat and casein combined in his cheese.

On the whole, it would seem that stubborn facts, together with the laws of specialization and selection that govern both production and consumption, point to a decided rise in the butter industry. The change from the production of cheese to that of butter is not a difficult one. In any change, however, it is well to be pioneers, as first profits are always best. There is no reason to look for a return to beef breeds of cattle, but rather for the cultivation of the breed or breeds of milk cattle yielding the greatest amount of pure butter-fat.

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THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

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Address—THE FARMER'S ADVOCATE, or
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Death of Prof. J. Hoyes Panton.

The cause of advanced agriculture has lost one of its most helpful exponents by the taking off by death of Prof. J. Hoyes Panton, of the Ontario Agricultural College staff, Guelph, Ont. As reported in several late issues of the FARMER'S ADVOCATE, the deceased passed through a long and painful illness, caused by a cancerous affection of the spine, to which he was made a more easy prey by reason of two heavy former sicknesses, followed by severe and self-sacrificing labors in connection with his duties at the College as Professor of Biology and Geology; added to this, work in connection with the study of farm crop and fruit pests, and the best means of avoiding and counteracting their destructive operations. In the field of inquiry he was an enthusiast, as he was in every subject of study that he took up. It was always his desire and effort to do the thing that would benefit his fellows. He was ever anxious to have agricultural science extended to the public schools, and the summer session for teachers at the O. A. College some years ago was largely his work.

J. Hoyes Panton, M. A., F. G. S., son of the late James Panton, Toronto, was born in Cupar, Fifeshire, Scotland, 1847. He was educated at Whitby High School and Toronto University, from which he graduated in 1877 as first silver medallist and McMurrich medallist in Natural Science. Before coming to Guelph, Prof. Panton was assistant master in Oshawa High School. In 1878 he was appointed Professor of Chemistry in O. A. C.; in 1885 appointed Professor of Natural History and Geology, which position he since held. He gave four papers before the British Association, and contributed many articles to agricultural papers, journals and magazines, but chiefly the FARMER'S ADVOCATE. He also wrote two small books—one on Economic Geology and one on Economic Entomology—also many bulletins in connection with the Department of Natural History. He had attended and delivered lectures at every series of Farmers' Institutes since established in 1885, previous to the present one. He was elected Fellow of the Geological Society, England, 1885, and Fellow of the Victoria Institute, England, 1887.

His loss will be keenly felt in his own family, the College halls, his Sunday school (of which he was the esteemed superintendent), his church (of which he has for years been a devoted elder), and the country at large, for which he lived and labored to benefit. More especially is this true when it is remembered that the end seems so uninvited at the age of fifty years, when manhood is then in its prime and vigor of intellect. The funeral was very largely attended, at which services President Mills

said that: "He was a true man—as true as steel—and it always gave him the greatest pleasure to associate with him and discuss the affairs of the College. His life was the nearest to the Christian standard that he had ever met, and he hoped it would be an example to the students of the College whom he had so long instructed."

Professor Panton was married first to Miss Cattanach, of Glengarry, by whom he had one son, Leonard. His second wife was Miss Harrison, daughter of Professor Harrison, Virginia College, Virginia, U. S. They have one son, Harrison. The surviving members of his father's family are Rev. E. W. Panton, pastor of St. Andrew's Presbyterian Church, Stratford, and two sisters at Oshawa, Ont.

Leasing Farms on Shares.

We have in the last few weeks had several enquiries as to the terms on which it is usual to lease a farm on shares. Renting farms has for various reasons in many sections become unsatisfactory, chief among which is the tendency for tenants to prefer grain-growing and the sale of grain as the readiest means of realizing on their season's work, a system which of late years, on account of the low prices that have prevailed for grain, has proved so unprofitable that it has in many cases been impossible to pay the reasonable amount of rent stipulated, a system which is also unsatisfactory as a rule to the landlord, since stock is not fed to any considerable extent on the farm, and as a consequence little manure is returned to the land to keep up the fertility. For these and other reasons it is considered by some landowners safer where a reliable man is available to let the farm on shares so that the owner may control the manner in which the farm shall be worked and cropped. The lessee under this plan is also interested in securing the best results by a careful attention to the details of the work on the farm, having an equal share with the lessor in the profits. Not having had personal experience in this way of letting a farm, we have decided to invite discussion on this subject in our columns and shall welcome suggestions. In the meantime we have, through the kindness of a friend, secured a copy of a lease prepared and used by a successful farmer and landlord in Central Ontario, a summary of which we herewith present, hoping that others may give their opinion of its merits or demerits and say in what respect they consider it may be improved.

This indenture in brief provides for a lease of the farm for a term of years under which the lessee or tenant agrees to pay for the use and privileges of the farm the sum of one half of everything raised and grown on the farm, to pay one half the taxes, to keep up fences, not to cut down timber, to use his best endeavors to keep down all noxious weeds. If not so done lessor may do so and charge the expense of so doing to lessee by giving three days' notice. Lessee to pay all necessary wages for help to work the farm, to cultivate, manure and crop the same by a regular rotation of crops in such manner as lessor and lessee may deem best for their mutual benefit, and to seed down in timothy and clover a certain number of acres in each year and have seeded down an agreed number of acres at the expiration of the term, the expense for so doing being borne equally between the two parties to the lease. The preservation of orchard and fruit trees, ornamental trees, shrubs and plants growing or to be planted is agreed to and the employment in a husbandlike manner on the premises of all straw and manure, and to allow the lessor or any incoming tenant to plow the land after harvest of the last year of the term and have stabling for a certain number of horses and bed room for one or more men. All grain to be threshed when wanted by the lessor and divided on the premises or at the elevator or storehouse where the parties agree to sell the grain.

A clause is inserted for the protection of the landlord in case of seizure or a writ of execution against the tenant, or in case he takes advantage of an insolvent act, makes an assignment or absconds.

Provision is made for the re-entry by the lessor on non-payment of rent or non-performance of covenants. Lessor and lessee agree to find one half of all seed and feed required for the first year. After the first year feed and seed should be kept out of grain and seed grown on the premises. Lessee shall do all labor and furnish all implements and repairs and horseshoeing at his own expense. It shall not be lawful for lessor or lessee to purchase or sell any stock or grain owned by said parties without the consent of both parties. Everything grown on the premises shall be sold by both parties and the money equally divided. The parties covenant to terminate and cancel the lease and yield up quiet possession to lessor by either party giving one year's notice in writing. A memorandum is made of stock and grain supplied by each, and which is owned jointly by the parties at commencement of lease on shares between the two, and a note is given for the balance or difference in value of the stock and grain supplied by each, said stock to be owned equally by the parties when the note is paid and satisfied, the lessee's stock to be given as a lien until the same is paid for as aforesaid. In the case cited the value of stock, etc., supplied by the lessor was \$291, and that by the lessee \$212. A note to balance of \$83.19 was given.

STOCK.

Shorthorn Prospects.

BY RICHARD GIBSON, DELAWARE, ONT.

A trip of over 4,000 miles through the States of Illinois, Wisconsin, Minneapolis, Iowa, Nebraska, Colorado and Wyoming has given me opportunities of meeting many of the most prominent stockmen of both the breeding and feeding grounds. The feeding States are Nebraska, Kansas, Iowa, Illinois and Missouri. The breeding are those States where corn does not do well and where cotton seed is not found. While the districts of breeding and feeding are becoming more clearly defined, so are the breeds used and the systems of management. The probabilities are that the breeder will confine his attention more to breeding proper, while the feeder will attend to the finishing. They are, in fact, two quite dissimilar industries and can be better carried on separately. For instance, Nebraska and Missouri are fairly groaning under the weight of their corn crops, hence they become the feeding grounds.

Banks, railways and commission firms all combine to give cattle feeders opportunities that are unheard of in Canada. For instance, both banks and commission firms will advance money to buy cattle, and sometimes the feed as well if necessary. They charge six per cent. per annum interest for time in use. The railways give intending purchasers passes to purchase and then a "feed in transit" rate. For instance, I met Peter Hopley at Denver. He had a pass from Iowa and wanted 1,000 steers. As he did not find what he wanted in Denver, he got a pass to Salt Lake City, Utah. Suppose he bought there he would consign to Chicago, getting the benefit of the long haulage; and with a "feed in transit" permit he could unload at home and forward to Chicago when fat.

To show the big scale upon which some of the operations are carried on, I met with a Mr. Rankin, Mo.; he grew over 800,000 bushels corn last year, is feeding 13,000 steers and 18,000 to 20,000 head of swine. The Standard Cattle Co. is going out of breeding in Wyoming. This year they are feeding 11,000 head, 3,000 of which are under one roof. Another gentleman with whom I got acquainted is feeding 297,000 sheep. He has four feeding yards in Nebraska and four in Kansas. These sheep are bred in New Mexico, Oregon, Idaho, Wyoming and Utah, the best, however, coming from Montana. I mention these to show the immensity of their undertakings and to enable you to judge of the possibility of taking some part in the great work. There is not only a possibility, but a great opening for a trade in thoroughbred bulls. Shorthorns and Herefords are decidedly in favor, while the Blacks have no friends on the range. They refuse to herd with other cattle, and also leave a smaller percentage of calves than other sorts. Their place is evidently by themselves and within fences, and they must not be asked to "feed thyselves." In Texas the Hereford has got a great hold, and on the high-grade Shorthorn cow he is working wonders. Calves have sold this year for as much as \$20 each. How much of this is due the Shorthorn dam is not recorded; in my opinion, more than half at that age. In Utah, Montana, the West and N. W. States the Shorthorn is favorite. Prices are improving and the demand increasing. One man modestly informed me that he only wanted 500 thoroughbred bulls this season, but should want more next.

Yearly I have tried to encourage you, and though my sanguine anticipations have not always been fulfilled, still the little rift in the clouds that I thought I saw last year has become bigger until the silver lining is indeed plain to see; and this year I bid you be of good heart, stick to your flocks and herds, the market will surely spring up. So thoroughly convinced since my return am I that this is to be the thoroughbred center for this continent that I have no hesitation in writing these words of encouragement. Why do I say this will be the center? For several reasons. First: The day of the eight-year-old ox is gone; I saw thousands of five and six years old on feed. If early maturity is desired it can only be accomplished by the use of bulls of the improved breeds. Again, we understand the art of breeding better, we are willing to do things in a small way, and we have the patience to attend to the little thousand and one trifles, apparently of slight consequence, but in reality they make the difference between failure and success. While we are satisfied to sell a single bull, our neighbors, on the contrary, want to sell by the carload, and while we are content to have a few of the best, comfortably provided for, they would have them covering a thousand acres. Then let us set our house in order, looking for a better trade. Let us not be covered with the mantle of conceit and be satisfied with our past successes. Now that the quarantine is removed, fresh blood must be instilled into our herds. And with a fair wind the good old ship that has been springing leaks for the past eight years will again round-to and make port with the red, white and roan flag nailed to the masthead, and signals flying, "Shorthorns, and no surrender after a century's experience!"

[NOTE: Paper read before the annual meeting of the Dominion Thoroughbred Breeders' Association, in Toronto, Feb. 26th.]

The annual Breeders' Assoc. 28th in the o Toronto. The part of the eve Crossley, in th Beith, M. P. meeting was c

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ANNUAL MEETINGS OF STOCK BREEDERS' ASSOCIATIONS.

The Hackney Breeders' Association.

GRAHAM BROS. ARE CLEARED—OFFICERS ELECTED FOR 1898—AMALGAMATION WITH AMERICAN SOCIETIES IS NOT ENTERTAINED.

The annual meeting of the Hackney Horse Breeders' Association of Canada was held January 28th in the office of the Ontario Jockey Club, Toronto. The chair was occupied during the early part of the evening by the vice-president, Mr. H. N. Crossley, in the absence of the president, Mr. R. H. Beith, M. P., who, however, arrived before the meeting was closed, and took the chair.

After some discussion the following resolution was passed by the Association:

Charge of Fraud Resented.—Whereas, we, the members of the Hackney Horse Breeders' Association of Canada, in meeting assembled, have had brought under our notice a resolution passed by the Illinois State Board of Agriculture regarding the conduct of the Messrs. Graham Bros., of Claremont, Ont., in entering their horse Royal Standard in the Hackney classes at the horse show held in the Coliseum building at Chicago from November 1st to November 6th, 1897, inclusive, and

Whereas, we have reason to believe from the explicit statement made before us this day by Mr. Robert Graham, of the firm of Graham Bros., of Claremont, Ont., that the facts are as set forth, namely: That the firm had no intention of entering at the said show in Chicago until they were approached by an agent thereof; that they assured the agent that under the printed heading of the class the horse Royal Standard was ineligible; that the agent requested to be shown the certificate of entry in the English Hackney Stud Book; that this same certificate was forwarded to the agent, and he showed it to the duly appointed manager of the show; that the certificate was returned with the information that instead of horses being required to be registered in the American Hackney Stud Book, as stated in the prize list, they were eligible if entered in any recognized Hackney stud book, and that the conditions in the catalogue so read, and that with this detailed information came an assurance that Royal Standard was eligible, and that his entry would be accepted;

Therefore, be it resolved, that we desire to express our utmost sympathy with the Messrs. Graham, of Claremont, Ont., and to assure them that we are satisfied that they have been grossly wronged and slandered by the said State Board of Agriculture of Illinois; that our confidence in their integrity is undiminished; that their conduct in our opinion has been straightforward and above suspicion throughout, and that at all times we shall be prepared to give them such support as lies within our power to establish the honesty of their intentions in their dealings with the Executive of the recent horse show at Chicago.

It is also resolved that in our opinion, formed on evidence submitted to us this day, the charges of fraud, of suppression of particulars as to breeding, and of dishonorable conduct made in the resolution adopted by the State Board of Agriculture of Illinois, are entirely unwarranted, and, being such, are slanderous, libellous, and unworthy the said Board.

It is hereby further resolved, that the Secretary of the Hackney Breeders' Association of Canada be instructed to have copies of the foregoing resolutions of this Association struck off and forwarded to the State Board of Agriculture of Illinois, one to each member thereof, to the known Hackney breeders throughout Canada and the United States, and to the local papers and to the Associated Press.

Officers Elected.—The following officers and delegates to fair boards were elected for the current year: President, Mr. Robert Beith, M. P., Bowmanville (re-elected); 1st Vice-President, Mr. H. N. Crossley, Rosseau and Toronto (re-elected); 2nd Vice-President, Mr. John Macdonald, Toronto (re-elected); Secretary-Treasurer, Mr. Henry Wade, Toronto (re-elected).

Vice-President for Provinces.—Ontario, Mr. A. G. Ramsay, Hamilton; Quebec, Mr. James A. Cochran, Hillhurst; Alberta, Mr. A. M. Rawlinson, Calgary; Manitoba, Mr. A. J. Moore, Swan Lake; Nova Scotia, Hon. J. H. Black, New Brunswick; Mr. J. R. Frink, St. John; Prince Edward Island, Mr. James Clowe, Murray Harbour; British Columbia, Mr. S. F. Tolmie, Victoria.

Directors.—Messrs. Robert Davies, Robert Graham, Robert Miller, Robert Bond, Adam Beck, Dr. Andrew Smith, Messrs. O. Sorby, John Holderness, and George Pepper.

Delegates to Fair Boards.—Industrial Exhibition, Messrs. Henry Wade and John Macdonald; Western Fair, Messrs. Adam Beck and A. G. Bowker; Ottawa Central, Mr. John Holderness; Montreal Exposition, Mr. James A. Cochran; Woodbridge Fair, Messrs. John Macdonald, John Holderness, and Robert Bond; Horse Breeders' Association, Messrs. Robert Beith, M. P., and John Macdonald; Auditor, Mr. C. F. Complin.

Canadian Horses Victorious.—The annual report for the year ended December 31st last stated that twenty-two Hackneys were recorded during the year, which was ten less than in 1896. One

hundred and fifty-one are now recorded, besides inspected mares. Fourteen gentlemen paid fees for 1897, the same number as during 1896. Canadian Hackneys, the report went on to say, have not been shown at American shows except the Hillhurst Hackneys at Boston in the spring, and those of Graham Bros. and R. Beith at the Chicago Horse Show, where all were victorious, and where Royal Standard also beat all the coaching horses as well, "and if Graham Bros. do not get the money," concluded the report, "they have the satisfaction of knowing that the horse was victorious." The financial statement appended showed the receipts for the year to have been \$276, and a balance on hand of \$133.

Amalgamation Declined.—A letter was received from Mr. W. S. Ward Webb, Secretary of the American Hackney Horse Society, stating that at the last meeting of the Board of Directors of that Society a letter was received from Mr. J. A. Cochran, suggesting that the Western Hackney Association, the Canadian Hackney Association, and the American Hackney Society should be amalgamated. Mr. Webb wrote asking for conditions of entry to the Canadian Association, a copy of the stud book, and other information. The Secretary was instructed to reply that the Canadian Association does not wish to amalgamate.

The Spring Show.—No action was taken in regard to the holding of a spring show, but the Government grant having been assured, the question will be dealt with at the annual meeting of the Horse Breeders' Association, to be held Feb. 6th.

It was decided to recommend Mr. A. McLaren, of Aurora, Ill., to the Horse Breeders' Association as a judge of Hackneys at the spring show, and also at the Industrial Exhibition.

Annual Meeting of the Holstein-Friesian Association.

The annual meeting of the Canadian Holstein-Friesian Breeders' Association was held at the Albion Hotel, Toronto, Feb. 1st. The attendance of members was large, considering the stormy weather. The president, R. S. Stevenson, Ancaster, presided. The reports presented and the discussions engaged in showed a prosperous condition of the affairs of the Association, and a cheerful view of the present aspects and future prospects of business. Breeders reported a good demand for stock and at improving prices, while the records of cows of the breed in the public tests had been well maintained during the past year. Among those present were R. S. Stevenson, Ancaster; G. W. Clemons, St. George; Alfred Rice, Currie's; G. A. Gilroy, Glen Buell; A. C. Hallman, New Dundee; W. G. Ellis, Toronto; A. Hoover, Emery; W. Shunk, Sherwood; Wm. Suhring, Sebringville; J. H. Patten, Paris; C. H. Curtis, Newmarket; J. W. Lee, Simcoe; P. E. Paunabecker, Hespeler; S. R. Beck, South Cayuga; E. Adamson, Toronto; M. Richardson, Caledonia; T. W. Charlton, St. George; and Henry Welsh, Weston.

The financial statement showed that the receipts for the year amounted to \$1,174 60, made up as follows: Balance from last year, \$421.43; for fees and herd books \$655.50; membership fees, \$85 00; interest, \$12 67. Disbursements for the year were \$579 60, leaving a balance on hand of \$595.

A discussion, in which every member present took part, occurred over a motion introduced by Mr. Alfred Rice, of Currie's Crossing, to the effect that until January 1, 1899, the registration fee for animals over one year old be 75 cents to members and \$1 50 to non-members, and that after that date the fees be doubled. This motion was defeated by a narrow majority.

A long discussion took place over the number of judges to be appointed for the Toronto Fair. On motion it was decided to recommend that two judges be appointed, one an American, the other a Canadian, and that there shall be a referee who shall also be a Canadian.

The election of officers and delegates resulted as follows:—President, W. G. Ellis, Bedford Park; 1st Vice-President, A. C. Hallman, New Dundee; 2nd Vice-President, T. W. Charlton, St. George; 3rd Vice-President, Alfred Rice, Currie's; 4th Vice-President, G. A. Gilroy, Glen Buell. Directors—Wm. Shunk, Sherwood; Wm. Armstrong, Locust Hill; H. Bollert, Cassel; and R. S. Stevenson, Ancaster. Sec. Treas., G. W. Clemons, St. George. Auditors—Wm. Suhring, Sebringville, and J. H. Patten, Paris.

Board of Inspection of Imported Cattle.—Messrs. Bo lert, Stevenson, Shunk and Hallman. Delegates to Fair Boards—Toronto Industrial, Wm. Shunk and W. G. Ellis; Western Fair, London, Ed. Scatchard and J. W. Johnson; Ottawa, G. A. Gilroy and Jos. Fletcher; Winnipeg, James Glennie and J. T. Hutchinson; Montreal, Neil Sangster and G. A. Gilroy. The expenses of the delegates are to be paid by the Association.

The following list of judges were nominated, from which fair boards may make selections: Messrs. Edward Huidekoper, Meadville, Pa.; S. Burchard, Hamilton, N. Y.; J. D. Hinkley, South Brookfield, N. Y.; Wm. Suhring, Sebringville, Ont.; Jos. Fletcher, Oxford Mills, Ont.; and Wm. Shunk, Sherwood Ont.

Two hundred and fifty dollars was appropriated as special prizes for public dairy tests at Toronto, Ottawa, Winnipeg, and the Ontario Provincial Dairy Show during the coming season.

Ayrshire Breeders' Meeting.

The annual meeting of the Dominion Ayrshire Breeders' Association was held at the Albion Hotel, Toronto, February 10th. In the absence of the President, Mr. John Crosby, the Vice-President, Mr. W. M. Smith, Fairfield Plain, took the chair. The attendance of members was probably the largest in the history of the Association, and the proceedings of the meeting were marked by much enthusiasm, while the discussions upon points of interest were very keenly conducted. Among those present were: W. W. Ballantyne, Stratford; Wm. Stewart, Menie; James McCormack, Rockton; Robert Davies and F. W. Hodson, Toronto; Joseph Yuill, Carleton Place; J. C. Smith, Hintonburg; J. R. Alexander, and R.

Brooks, Brantford; John Laurie, Malvern; William Baldock, Mount Charles; Andrew Spear, Cobourg; David Crawford, Brown's Corners; Alexander Hume, Burnbrae; A. Kains, Byron; H. E. Eyre, Harlem; H. F. Caldwell, Orchard; J. R. Campbell, Vernon; F. G. Boyver, Georgetown, P. E. I., and C. A. Archibald, Truro, N. S. The Secretary, Mr. H. Wade, read his report for 1897, which indicated that the Association had had an uncommonly good year. Thirteen new members have been enrolled, and \$192 more was received in fees during the year as a result. The membership was reduced to \$2, and a still larger increase of membership is expected. Five hundred and sixty-two animals were registered in 1897, as against 445 in 1896. The financial statement showed receipts and expenditures to the amount of \$1,184.49.

A lengthy discussion took place on the subject of the amalgamation of herd books in order to have but one record for the Dominion, there being up to this time a herd book in Quebec and one in the Maritime Provinces, as well as one in Ontario. A motion was adopted to appoint a committee to confer with a committee of the Quebec breeders with a view to amalgamation. The committee named consists of Messrs. W. W. Ballantyne, F. W. Hodson, Joseph Yuill, J. C. Smith, and H. Wade.

A motion to discontinue the registration of animals in the appendix to the herd book was also adopted. The appendix has been a place of refuge for the registry of animals supposed to be thoroughbred, but whose pedigrees could not be traced in all lines to known imported ancestors, and therefore were ineligible to the herd book proper.

A resolution was passed that the registration of the Ayrshire cattle of the Maritime Provinces which are eligible should be transferred to the Dominion Herd Book, and free registration granted for one year.

The following grants were made as prizes for Ayrshires in the various Provinces: To each of the Maritime Provinces and under two years; to the Winter Dairy Show, \$50 for Ayrshires; to the Toronto, London, and Ottawa fairs, \$10 each, for bull calves under six months.

The following officers were elected for 1898: President, W. M. Smith, Fairfield Plain; Vice-President, A. Kains, Byron; 2nd Vice-President, J. C. Smith, Hintonburg; Vice-Presidents for other Provinces—Quebec, W. C. Edwards, M. P. S. B. M. Archibald, N. S.; G. A. Archibald, P. E. I.; Wm. Miller, Manitoba, Geo. Steel, Assiniboia, C. H. Mannors; British Columbia, A. C. Wells. Directors—Messrs. Yuill, Davies, Hodson, Stewart, Steacy, Ballantyne, Brooks, McCormack and Hume. Delegates to fair boards—Toronto, W. W. Ballantyne and Wm. Stewart; London, A. Kains and R. S. Brooks; Ottawa, Jos. Yuill and J. C. Smith.

Judges.—The following list of judges was nominated, from which boards may make selections: J. H. Douglas, Campbellford; D. Benning, Williamstown; W. W. Ballantyne, Stratford; Wm. Stewart, Menie; Jos. Yuill, Carleton Place; Alex. Hume, Burnbrae; James Beiden, St. Anne's, Que.; D. Drummond, Petite Cote, Que.; J. C. Smith, Hintonburg; A. Kains, Byron; R. Hunter, Lachine Rapids, Que.; John Crosby, Campbellford; R. Robertson, Nappan, N. S.; R. Ness, Howick, Que.; R. Robertson was specially nominated for the Maritime Provinces shows.

Clydesdale Breeders' Meeting.

The twelfth annual meeting of the Dominion Clydesdale Association was held at the Albion Hotel, Toronto, Feb. 8th. In the absence of Mr. Robert Davies, president, the chair was taken by Mr. J. C. Snell. There were also present Messrs. J. M. Gardhouse and John Gardhouse, Highfield; Robert Graham, Claremont; H. N. Crossley, Toronto; J. Henderson, Belton; O. Sorby, Guelph; A. Doherty, Ellesmere; A. Innis, Clinton; James Hunter, Alma; F. G. Boyver, Charlottetown, P. E. I.; John Vipond, Brooklin; C. A. Archibald, Truro, N. S.; Henry Wade, Secretary-Treasurer, Toronto; and others.

The annual report of Mr. Wade was submitted. It showed that the year had been a prosperous one in nearly every respect. There were 99 registrations during the year, and 13 transfers. The financial statement was good; a substantial balance being on hand. The report was adopted, along with the suggestion that the annual membership fee should be reduced from \$3 to \$2.

A letter was read from Mr. David McCrae, of Guelph, advising the appointment of a committee to confer with the American Association with a view to the amalgamation of the stud books. The suggestion did not meet with approval, and no action was taken.

The Secretary was instructed to publish the ninth volume of the Clydesdale Stud Book, and breeders will be notified to send in all their registrations before July 1.

The following officers were elected: President, Robert Davies, Toronto; 1st Vice-President, Robert Graham, Claremont; Vice-President for Ontario, D. Sorby, Guelph; for Quebec, Robert Ness, Howick; for Nova Scotia, Col. Blair; for New Brunswick, A. S. Murray, Fredericton; for Prince Edward Island, W. P. Balderson, North Wiltshire; for Manitoba, J. E. Smith, Brandon; for the Northwest Territories, John A. Turner, Calgary; and J. M. McFarlane, Saskatchewan; Secretary-Treasurer, Henry Wade, Toronto.

The following directors were elected: Robert Beith, M. P., Bowmanville; John Davidson, Ashburn; Geo. Cockburn, Baltimore; Robert Miller, Brougham; John Vipond, Brooklin; Geo. Clayton, Peepabun; Alex. Doherty, Ellesmere.

The following delegates to exhibitions were appointed: To the Industrial, John Davidson, Ashburn, and O. Sorby, Guelph; to Western Fair, A. Innis, Clinton, and J. Henderson, Belton; to Ottawa Exhibition, Robert Beith, M. P., Bowmanville, and J. G. Clark, Ottawa; to Montreal Exhibition, R. Ness, Howick.

The delegates appointed to the Horse Breeders' Association were R. Miller, Brougham, and Robert Davies, Toronto. Judges for exhibitions were nominated as follows: Wm. Graham, St. Mary's; R. Beith, Bowmanville; R. Ness, Howick; John Lee, Highgate; Robert Miller, Brougham; Joseph Hall, Arkona; J. M. Gardhouse, Highfield; John Vipond, Brooklin; James Evans, St. Mary's; C. C. Gardner, Charlottetown; Peter Christie, Manchester.

Shire Horse Breeders' Meeting.

The ninth annual meeting of the Shire Horse Breeders' Association of Canada was held at the Albion Hotel, Toronto, Feb. 8th. The President, H. N. Crossley, Toronto, presided; and among those present were: W. E. Wellington, Toronto; John Gardhouse, J. M. Gardhouse, and H. J. Smith, Highfield, and H. Wade, Secretary, Toronto.

The President in his address took a cheerful view of the horse trade and of the business of breeding heavy horses, the future of which he considered bright with promise and stated that already a decided improvement had been experienced in the price of horses of all sorts, and especially of the heavy classes. Viewing the situation from all standpoints, he waxed to the conclusion that the present increase in the price of horses would not only be maintained, but that they will advance, and that before long we shall see the breeding of horses again a profitable industry.

The Secretary-Treasurer in his report said that there was reason to hope for a better account from the Association in the near future, judging from the improved prices and increasing demand for horses. The financial statement showed a balance on hand of \$30 68.

The officers were elected as follows: President, H. N. Crossley, Toronto; Vice-President, W. E. Wellington, Toronto. Directors—John Gardhouse, Highfield; Wm. Herdrie, Jr., Hamilton; Wm. Wilkie, Toronto; H. J. Smith, Highfield; James M. Gardhouse, Highfield; George Garbutt, Thistle-town; John Semple, Tottenham. Delegates—To Industrial Exhibition, John Gardhouse, Highfield; to Western Fair, H. Wade, Toronto; N. H. Crossley, Rosseau. Secretary-Treasurer, H. Wade, Toronto.

The membership fee was reduced from \$3 to \$2.

Shorthorn Breeders' Meeting.

The twelfth annual meeting of the Dominion Shorthorn Breeders' Association was held in Shaftesbury Hotel, Toronto, Feb. 9th. The President, Mr. Arthur Johnston, presided, and there was a much larger attendance of members than for several years past, and much enthusiasm prevailed. The general revival of interest, due to the rapidly increasing demand and improved prices for Shorthorns, has given encouragement to breeders, and all are feeling its influence in a gratifying measure. The President in his address congratulated the members on the brightness of the outlook, and thanked them for the honor done him in his election three years in succession as president.

The report of the Secretary, Mr. Henry Wade, shows an encouraging increase in members and registration fees. The registrations of animals during 1897 numbered 4,123, against 2,957 in 1896. This increase in registrations had resulted in a corresponding increase in registration fees and a corresponding increase in office work. There are on record now in the 15th volume of the Herd Book 55,923 registered pedigrees. The 15th volume, which will appear this year, will contain the records for 1898. The paid-up membership roll has increased 113 in the last year, and the income for members' fees shows a gain of \$326.

The financial statement shows receipts for the past year amounting to \$11,152.34, balanced by expenditures to the same amount. The receipts show that there was on hand on January 1st a balance of \$6,731.18.

A new departure during the year was the awarding of premiums at different Provincial exhibitions, both in the Maritime Provinces, the Northwest Provinces, and in Ontario and Quebec. This plan proved very popular.

The report of the Board of Directors recommended the amalgamation of Herd Books, and a deputation consisting of Messrs. C. A. Archibald, of Truro, N. S., and Mr. F. G. Boyer, of Georgetown, P. E. I., representing the Maritime Provinces breeders, was heard on the subject, with the result that a motion was passed in favor of amalgamation, on the terms proposed by the Commission, giving to the breeders of Shorthorns in the Maritime Provinces the right to register free of charge, during the term of twelve months, all animals now registered in their herds that are required to record animals eligible for registration in the Dominion Herd Book, and that the penalty fees imposed in the case of animals not recorded before two years old be suspended, so far as the cattle of the Maritime Provinces are concerned, during the period of one year. The annual membership fee was on motion reduced from \$5 to \$2. Eight hundred dollars was voted to be offered as prizes for Shorthorns and Shorthorn grades at Provincial exhibitions, as follows: \$50 to each of the Maritime Provinces and Quebec, \$150 to Manitoba, \$50 to British Columbia, \$50 to each of the Northwest Territories, and \$300 to the various shows in Ontario, to be awarded by the executive committee. These prizes to be awarded only to animals or herds owned by residents of the province in each case.

The election of officers for 1898 was then taken up, the following being elected: President, James Russell, Richmond Hill; 1st Vice-President, John I. Hobson, Guelph; 2nd Vice-President, Robert Miller, Brougham, Ont.; ex-Presidents, life members, Hon. John Dryden, Brooklin, Ont.; Richard Gibson, Delaware, Ont.; Arthur Johnston, Greenwood, Ont.; Vice-Presidents from the Provinces, Wm. Linton, Aurora, Ont.; F. G. Boyer, Georgetown, P. E. I.; J. H. Ladner, Ladner's Landing, B. C.; James A. Cochrane, Hillhurst, Que.; Geo. A. Foster, Sackville, N. B.; J. A. Turner, Millerville, Alta.; C. A. Archibald, Truro, N. S.; F. Green, Moose Jaw, Assa.; Board of Directors—List A, Edward Jeffs, Bondhead; H. Smith, Hay; T. E. Robson, Iderton; F. I. Patten, M. D., St. George; John Gardhouse, Highfield; list B, W. J. Biggins, Clinton; David Rae, Fergus; James Tolson, Walkerton; Wm. Dawson, Victoria; John Davidson, Ashburn; list C, H. Cargill, M. P., Cargill; Alex W. Smith, Maple Lodge; John Isaac, Markham; W. G. Pettit, Freeman; C. M. Simmons, Ivan, Delegates—To the Industrial Exhibition, the Hon. John Dryden and John I. Hobson; to Western Fair, Henry Smith, Hay, Ont., and C. M. Simmons, Ivan, Ont.; to the Halifax Exhibition, C. A. Archibald, Truro, N. S., and E. O. Chase, Church St., N. S.; to the New Brunswick Exhibition, Geo. W. Fawcett and Senator Josiah Wood; to the P. E. I. Exhibition, F. G. Boyer, Georgetown, P. E. I., and F. I. Hazard, Charlottetown, P. E. I. Secretary and Editor, Henry Wade.

The meeting then adjourned, and a meeting of the Board of Directors was called to appoint the Executive and Finance Committee. The following were elected: Chairman, James Russell, Richmond Hill; Committee, Robert Miller, Brougham; John I. Hobson, Guelph; Arthur Johnston, Greenwood; Wm. Linton, Aurora.

Horse Breeders' Association Meeting.

The third annual meeting of the Canadian Horse Breeders' Association was held at the Albion Hotel, Toronto, Feb. 9th. The President, Robert Davies, occupied the chair. The following were also present: John Macdonald, H. N. Crossley, John Holderness, Geo. Pepper, W. E. Wellington, Dr. A. Smith, Robert Bond, Toronto; John Vipond, Brooklin; John Davidson, Ashburn; J. C. Snell, London; S. Fuller, Woodstock; F. G. Boyer, Georgetown, P. E. I.; C. A. Archibald, Truro, N. S.; W. J. Biggins, Clinton; A. Sorby, Guelph; J. M. Gardhouse, Highfield; Robert Miller, Brougham; James Henderson, Bolton; A. Innes, Clinton; and others.

The financial report showed a surplus of \$389 from the spring horse show of last year, which was divided equally between the Country and Hunt Club and the Horse Breeders' Association. The financial statement of the latter shows that the receipts for the year were \$949.16, which were balanced by expenditures.

Messrs. Alex. Innes and James Henderson were received as representatives from the Dominion Draft Horse Breeders' Society at the Horse Breeders' Association meeting.

The following resolutions were then passed: Moved by John Vipond, "That Robert Miller and Robert Davies be the representatives from the Clydesdale Horse Association to the Canadian Horse Breeders' Association."

Moved, that Messrs. H. N. Crossley and W. E. Wellington be the representatives from the Shire Horse Association to the Canadian Horse Breeders' Association.

Moved by Robert Davies, "That Robert Beith, M. P., and John Macdonald be representatives from the Hackney Horse Society to the Canadian Horse Breeders' Association."

Upon motion of Robert Davies, it was resolved that, in view of the fact that the foreign horse trade of the Dominion for the last two years has shown a falling off, whereas that of the United States has increased, and that the Government of that country is making strenuous attempts to further improvement, we do petition the Government at Ottawa to appoint a commission of inquiry as to the best steps to be taken to develop the trade in horses with foreign countries, and encourage the breeding of the same. This resolution was coupled with the following one: "That we, the mem-

bers of the Horse Breeders' Association of Canada, do petition the Legislature of Ontario at its next session to establish an inspection and licensing system for all horses standing for service in Ontario, and that Messrs. Dr. Smith, Davies, Innes, Miller, Graham, Beith, Sorby, Wilkie, Crossley and Hendrie be a committee to that effect to consider the details of a bill in the Legislature founded thereupon."

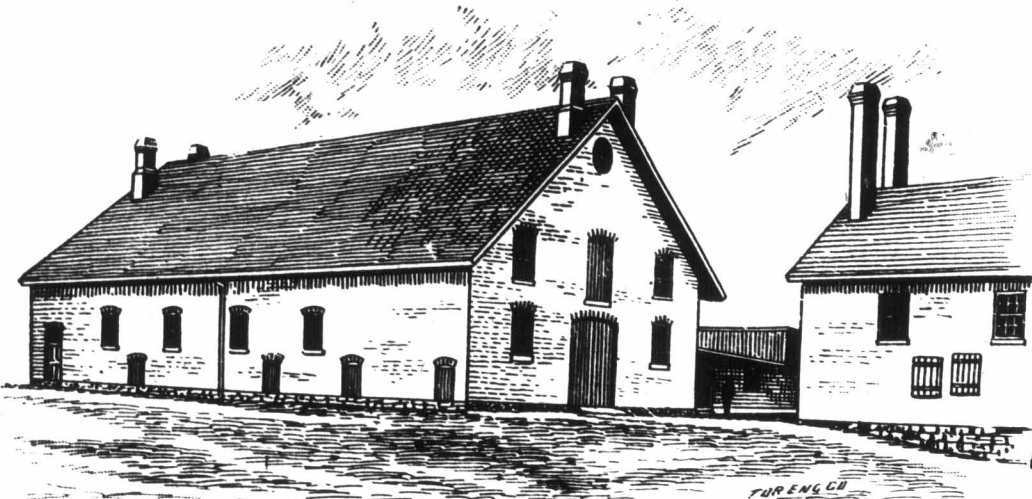
A resolution was passed endorsing the resolution of the Hackney Breeders' Association of Canada concerning the Messrs. Graham and their "shameful treatment" by the Illinois State Board of Agriculture in connection with the Horse Show held in Chicago in November, 1897, and "that we will do all in our power to aid the Messrs. Graham in any action they may take to justify themselves and to compel the said State Board to retract their 'odious charges' and undeserved condemnation."

A resolution was passed pledging the members of the Association to thoroughly support the annual Horse Show, whether it be held during the last week in April or the first week in May.

The following officers were elected for the incoming year: President, Robert Davies, Toronto; First Vice-President, Dr. A. Smith, Toronto; Second Vice-President, Robert Beith, M. P., Bowmanville; Secretary, H. Wade, Toronto. Committee to meet the Hunt Club—Robert Davies, Dr. A. Smith, Toronto; Wm. Hendrie, jun., Hamilton; R. Beith, M. P., Bowmanville; H. N. Crossley, Robert Bond, John Macdonald, Toronto; Robert Miller, Brougham; W. E. Wellington, Toronto; O. Sorby, Guelph; George Pepper, representing the Hackney Association, Robert Beith, M. P., Bowmanville, and John Macdonald, Toronto. Representing the Shire Horse Association, H. N. Crossley, W. E. Wellington. Representing the Draft Horse Breeders' Society, Alex. Innes, Clinton, and James Henderson, Bolton. Representing the Clydesdale Association, Robert Davies, Toronto. Representing the Thoroughbreds, Dr. A. Smith, Toronto, and Wm. Hendrie, jun., Hamilton. Representing the Pacing and Trotting Association, H. Cargill, M. P., Cargill, and E. W. Cox, Toronto. Delegates to the Industrial Fair, Robert Beith, M. P., Bowmanville, and H. N. Crossley, Toronto. Delegates to Western Fair, R. M. Ewen, Byron, and O. Sorby, Guelph. Delegates to Ottawa, Mr. Hutchison, M. P., Ottawa, and Robert Graham, Claremont. Delegates to Montreal, James A. Cochrane, Hillhurst, P. Q., and Robert Neis, Howick, P. Q.

Guelph Fat Stock Club Annual Meeting.

The annual meeting of the Guelph Fat Stock Club was held on February 2nd, and there was a fair attendance, considering the stormy weather.



MR. E. D. TILLSON'S NEW PIGGERY.

The Directors in their report congratulated the members of the Club on the unqualified success of the Christmas Fat Stock Show, and suggested the advisability of holding a large show next year, and also of giving a number of liberal prizes to farmers who have never exhibited before, so as to give them encouragement to compete. The financial statement showed that \$1,084.92 had been paid out in prizes by the Fat Stock Club and the Poultry Association, leaving a good balance on hand for next year's show. The officers elected for this year are: President, James Miller; Vice-President, John I. Hobson; 2nd Vice-President, J. M. Duff; Secretary-Treasurer, J. McCorkindale. A motion to hold a show some time in December was carried.

Worth More than a Book that Cost Four Dollars.

To the Editor FARMER'S ADVOCATE:

GENTLEMEN,—I am in receipt of your binder, and have placed in it the copies of 1897, which makes a book worth more to me than one which cost me \$4.00 and I got it at half-price. I must say the binder is just what every subscriber needs. Your Christmas number is better than ever, and as for the ADVOCATE, I have taken the *Rural New Yorker*, *Thrifty Farmer*, *American Farmer*, and others, and would rather have the ADVOCATE than all the rest put together. If more of our farmers would read and follow the FARMER'S ADVOCATE instructions they would not be twenty years behind the times, nor would they have to ask what are silos when they hear someone else talking about them, and many other things in the same way. It is worth what it costs to the man who only keeps one cow or one pig, and everything in that line. As for myself, I keep a general stock, and for my poultry alone it has paid me well, and I could not well do without it.

Peterboro' Co., Ont.

L. B. E. DILLMAN.

Mr. E. D. Tillson's New Piggery.

The new piggery just at completion on the dairy farm of Mr. E. D. Tillson, of Tilsonburg, Ont., and illustrated in this issue, is quite in keeping with the magnificent brick barn and stables erected by Mr. Tillson in 1893, and illustrated in the FARMER'S ADVOCATE in July, 1896. The piggery, also of brick, is 80 feet long by 60 wide. The 20-foot annex on the east side, as shown in the engraving, has a tar and gravel roof. The main building, 40x80 feet, has a roomy loft, separated from the pen below by a double pine floor with tar paper between. The loft is for the storing of corn and other food. Near the roof is laid an inch floor of slats, where seed corn is stored. The main building has ten pens, a feed room and passage, as indicated by the ground plan. The floors of feed room and passage are of cement, made from rock cement for foundation and finished on top with Portland. The pen floors, also of cement, are covered with two-inch pine plank. Half this pine flooring was treated with three coats of oxide of iron paint, and the other half with hot coal tar. Mr. Tillson will watch the effect of each with interest. The gutters are contained in the passage, and are 14 inches wide and 6 deep. The floor of the pens slopes slightly to the gutters. Litter of an absorbing nature will be kept constantly in the gutters, so as to take up the liquid manure. Each gutter has an opening into a drain, which is kept closed except when the pens and gutters are being flushed out by water pressure from the waterworks or steam from the creamery boiler. The circle marked ven. in the center of the passage is the opening of the ventilation shaft. It is of 2-foot sewer pipe, and is brought about 10 rods underground. Its mouth is well above the surface and fitted with a wing which keeps it facing the breeze. The outlets of ventilation are through chimneys at either end of the building, as shown in the illustration; also, by four ventilating shafts through the ceiling and up the rafters to peak of roof.

The five pens marked B. P. are now being used for brood sows with little pigs. S. P. represents the location of the sleeping pen, which is separated from the remainder of the pen only by a low scantling to hold the bedding. L. P. T. represent little pigs' trough, which is separated from the pen by a partition having a small creep through which the little pigs can enter to their food. The posts at the end of partitions next the passage are of 3-inch iron and those between of 2½ inch. The doors marked S. D. swing from the top. When these are unfastened the pigs can push them in or out at will. The front partitions also swing from the top, and are held closed by a bolt at the bottom. All the pens are lined 2½ feet up from the floor with galvanized sheet iron.

The feed room, 38 x 13 feet, is well equipped. Besides having bins for chop, etc., it has two feed boxes 9 by 1½ feet, in which feed is cooked by means of steam from the creamery boiler. This steam can also be used for heating milk in the can marked H. M. The circle marked S. M. is a galvanized iron tank, with a capacity of 144 gallons, which lowers beneath the floor some six feet, where it connects with the 1½-inch galvanized skim milk pipe from the separator in the creamery some 30 rods distant. This pipe is conducted underground and enclosed in a wooden box. The tank is raised to the floor of the feed room by means of an automatic hoist. It will thus be seen that the piggery is supplied with fresh skim milk and also steam from the creamery as well as cold water from the waterworks.

The annex, 20 by 80 feet, having six pens 13 by 13 feet, with passage and gutter, is fitted the same as the main building. Its floor, however, is about one foot lower, and the height of ceiling at the west side where it connects with the main building is 8 feet, and is 7 at the east side, the ceiling of the main building being 9 feet high. At each end of the passage in the main building there is a 7-foot door, and at the end of the narrow passage 4½ feet. The wide doors can be driven through with a horse and cart, for cleaning out the pens or for bringing in feed. The swing doors for the pigs are 2½ feet high by 2 feet wide. The windows of the annex are 20 by 26 inches, and of the main building 30 by 40 inches, admitting an abundance of light.

Mr. Tillson is trying three styles of troughing: ordinary V plank troughs covered with galvanized sheet iron, square metal troughs having rod partitions about two feet apart, and half circle boiler iron one foot wide fitted into plank ends covered with galvanized iron. The last named has the preference and will likely replace the others.

As shown by the illustration, there is a covered yard at the east side 24 feet wide, separated into pens the same as the inner pen. The pigs of the annex have access to these by the swing doors. Along on top of the partitions there is a board walk the entire length of the building. It is fitted with side windows and skylights. The roof pro-

jects three feet which catches the smaller birds south in the feet, floored with The upper passage and passage floor is Mr. Tillson's of this an having a roof the manure of Mr. Tillson about 250 dig from his 80 nearly every six to eight m on an excellen such a well-e able industry

That "Royal"

To the Editor F

Sir,—A sens impel me to gi facts in referen State Board of Graham debarred them future exhibitio

Having been General Manag from the princip made an eastern Graham and sev me that while hibiting his H Royal Standar not do so unles ing registry in Hackney Stud laxed, as the ho istered in that b therefor, owing that had been m of that Society, the horse was English Hackn and therefore w compete at any Great Britain, great London E Show; and fur he, Mr. Graham cate from Sec Euren, of the E Society, and th number was 3911 circumstances I he forward tha me at Chicago that I would p before Mr. Log Manager. This after examining and with full k the facts, Mr. hesitation accep and Graham Br accordingly. The duly made, the l ited and proved not only in his cl all other Hackn competition with Coach breeds.

made, and at th the Show Gra returned home and the various silver cups, etc. statement I am to the public t Bros. in the ma Now for the influential but defeat, called u getting the aw Standard did r registration in succeeding with officers of the mediately indu effect to his wis the case or to even to consult content with th was given to the State Board, r integrity of G invited to be January 4th in there learned held in Spring resolution to d exhibits.

Now, was t and injustice t my lifetime ha unfair, outrage the very letter Show managem breeding of th and I therefor any circumstan

jects three feet over a gutter at the east side, which catches all liquid manure from the yards. The smaller brick building, showing in part to the south in the illustration, is a manure cellar, 30 x 30 feet, floored and lined six feet high with cement. The upper part is a piggery divided into four pens, and passage fitted similar to the large building. It is Mr. Tillson's intention to build onto the west side of this an annex covering about the same area, having a roof over which the pigs of the pens above the manure cellar can pass in and out to their yards. Mr. Tillson proposes to keep constantly on hand about 250 pigs to consume the dairy by-products from his 80 cows. Young pigs will be coming nearly every month, and sold when ready at about six to eight months old. With such a milk supply on an excellent corn and root farm, together with such a well-equipped piggery, we predict a profitable industry for the proprietor.

That "Royal Standard" Matter--The Facts in the Case.

To the Editor FARMER'S ADVOCATE:

SIR.—A sense of duty and a desire for justice and truth impel me to give your readers the following statement of facts in reference to the extraordinary action of the Illinois State Board of Agriculture in refusing to pay the prizes awarded Graham Bros. at the Chicago Horse Show and debarring them from acting as judges or exhibitors at any future exhibition held under the auspices of that Board.

Having been engaged by Mr. John A. Logan, Jr., the General Manager of the Horse Show, to solicit exhibits from the principal horse-breeders throughout the country, I made an eastern trip last October and met Mr. Robert Graham and several other gentlemen at Toronto by appointment. Mr. Graham informed me that while desirous of exhibiting his Hackney stallion, Royal Standard, they could not do so unless the rule requiring registry in the American Hackney Stud Book was relaxed, as the horse was not registered in that book nor eligible therefor, owing to a change that had been made in the rules of that Society. He stated that the horse was entered in the English Hackney Stud Book and therefore was entitled to compete at any Horse Show in Great Britain, including the great London Hackney Horse Show; and furthermore, that he, Mr. Graham, had a certificate from Secretary Henry Euren, of the English Hackney Society, and that the horse's number was 3918. Under these circumstances I suggested that he forward that certificate to me at Chicago and promised that I would place the matter before Mr. Logan, the General Manager. This was done, and after examining the certificate, and with full knowledge of all the facts, Mr. Logan without hesitation accepted the entry, and Graham Bros. were notified accordingly. The entry being duly made, the horse was exhibited and proved an easy winner, not only in his class and against all other Hackneys, but also in competition with all the other Coach breeds. No protest was made, and at the conclusion of the Show Graham Brothers returned home to Claremont, Ontario, with their stock and the various trophies they had won in the shape of silver cups, etc. As to the absolute truth of the foregoing statement I am prepared to make affidavit, and will leave it to the public to judge of the innocence or guilt of Graham Bros. in the matter.

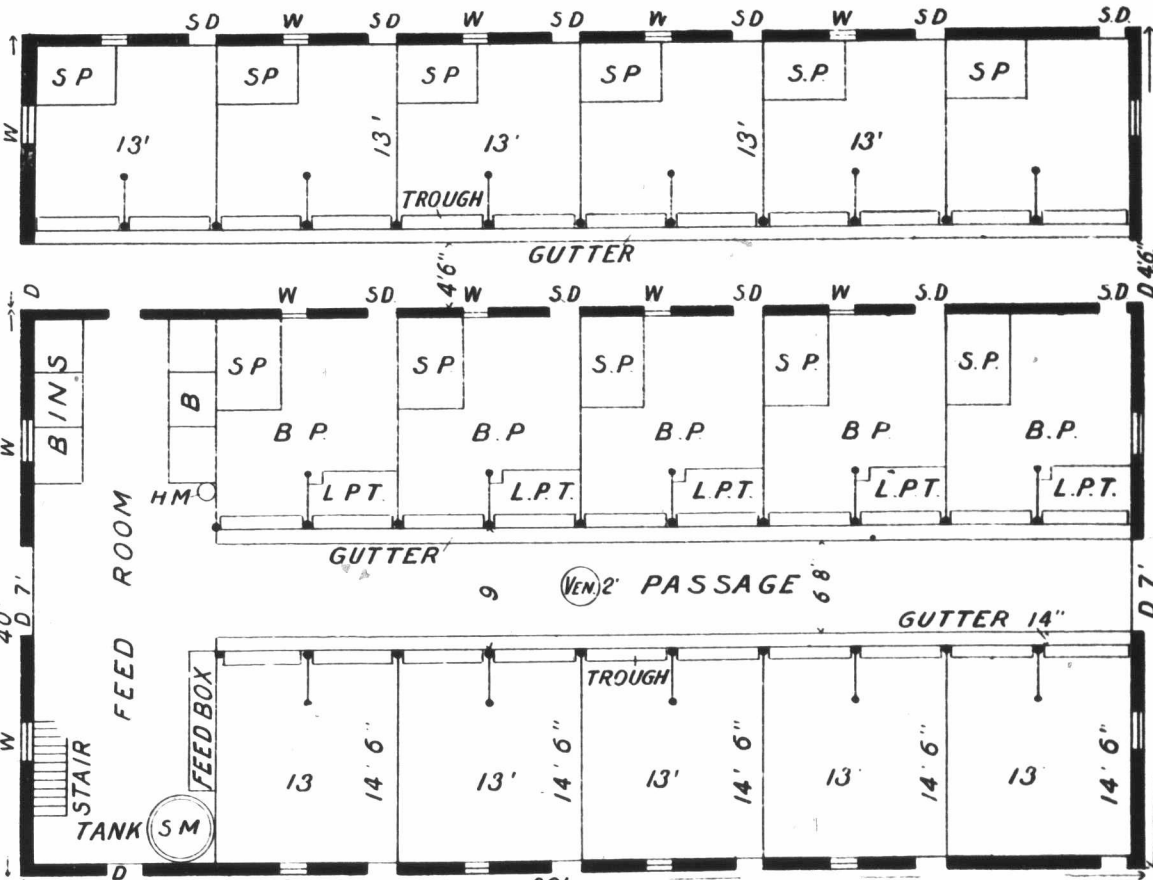
Now for the sequel. A week or two after the Show an influential but disappointed exhibitor, smarting under defeat, called upon the General Manager for the purpose of getting the award overturned on the ground that Royal Standard did not comply with a certain rule requiring registration in the American Hackney Stud Book. Not succeeding with Mr. Logan, that exhibitor went to the officers of the Illinois State Board of Agriculture and immediately induced them to champion his cause and to give effect to his wishes without waiting to ascertain the facts in the case or to hear Graham Bros. side of the question, or even to consult the General Manager on the subject. Not content with this, a false and most slanderous statement was given to the public press by the Secretary of the Illinois State Board, reflecting in the most direct manner on the integrity of Graham Bros. Mr. Graham was afterwards invited to be present at a Board meeting in Chicago on January 4th in order to present his case, and when he came there learned to his surprise that the meeting was being held in Springfield, at which meeting the Board decided by resolution to debar the firm of Graham Bros. from future exhibits.

Now, was there ever a more flagrant case of persecution and injustice toward an innocent exhibitor? Not during my lifetime have I ever seen or heard of such unwarranted, unfair, outrageous conduct to an exhibitor who conformed to the very letter with every condition required by the Horse Show management. They stated clearly and truthfully the breeding of their horse before entering him for the Show, and I therefore submit that no blame whatever can under any circumstances be attached to them, in the matter.

Mr. Logan, as General Manager of the Show, acted clearly within his rights in accepting the entry of Royal Standard; moreover, he acted intelligently and properly and just, as I would have done had I been in his position. He explained to the *Breeders' Gazette* two months ago that the clause requiring registry in the American Hackney Stud Book as printed in the prize list was really a slip on the part of himself, caused by using as a "dummy" an old prize list of the New York Show when preparing the new prize list. His intention was that Rule 5 should be applicable to all breeds, and that no Hackney eligible to compete at the London Horse Show should be debarred from competition at Chicago. Had Royal Standard been imported when a yearling he could have been registered in the American Stud Book, and in point of fact other horses of precisely same breeding were exhibited and awarded leading prizes at the last New York Show simply because they were imported before the present rule was adopted.

The Chicago prize list stated that protests must be lodged within twenty-four hours after the awards were made and would be decided by the Executive Committee, whose decision would be final. It is remarkable that in this case no protest was lodged during the Show and the Executive Committee have never been asked their opinion on the question at all. I understand that the courts will be called upon to determine the extent of the damage Graham Bros. have sustained, but meantime it is only right that your readers should be informed as to the real facts in the case. ALEX. GALBRAITH. Janesville, Wis.

[NOTE.—The above letter was sent by the writer to the *Breeders' Gazette*, Chicago, but they refused to publish it.]



GROUND PLAN OF MR. E. D. TILLSON'S NEW PIGGERY.

Farmers' Institute Meetings.

To the Editor FARMER'S ADVOCATE:

SIR.—I would like to say a few words in regard to our Farmers' Institute meetings that are now being held throughout the Province. I refer particularly to the meeting held in Durham County, Ont. I noticed the fact that the principal speakers were from comparatively distant parts of the Province, where agriculture is carried on under varied conditions. I also noticed the speakers were allowed nearly all the time, leaving very little time for discussion. Now, the thought I had is this: We have practical men in our township, as every township has,—men who have proven their ability by their success. Would it not be just as satisfactory to have the speakers chosen from our own districts, where soil, etc., are similar, and where, by experience, we know what is best adapted for our certain locality. In regard to the time occupied by the speaker, instead of giving him two-thirds or three-quarters of it, change things and give the discussion more time. Quite often questions bring out some valuable information that otherwise would have been overlooked. Durham Co., Ont. CALVIN B. BROWN.

Worth Twenty Times its Cost.

ADJT. DODD, Manager S. A. Industrial Farm Colony, York Co., Ont., writes: "I have great pleasure in renewing my subscription to your very valuable paper. The knowledge I have received from it in the past two years is worth twenty times its cost. I wish you every success."

FARM.

Lessons from the Central Experimental Farm.

ROTATION, PREPARATION AND SEEDING DISCUSSED—GRASSES, CLOVER AND HAY MIXTURES DWELT UPON—RETENTION OF FERTILITY AND MOISTURE.

To the Editor FARMER'S ADVOCATE:

SIR.—I take pleasure in forwarding you the following replies to the questions you recently sent me:

1. In a general way, what rotation of cropping do you follow and what varieties of the different grains (spring wheat, oats, barley, peas, etc.) do you propose to sow this year? What preparation do you give the land for each, and what quantity of each do you sow per acre?

As to the rotation of crops, we have usually followed a five years' course, using manure with a root crop or one of ensilage corn, followed by barley or wheat seeded with clover and timothy, then hay for two years, or if more convenient, hay for one year and pasture the next, plowing under in the autumn, then oats, which completes the series. We have found the turning under of clover so very beneficial to the land that we now sow ten pounds of Mammoth Red clover per acre with most of our fields of grain, such as spring wheat, barley, oats, and rye. Although the oats produce a heavy growth of foliage we have not found this crop to smother the clover to any extent. The young clover plants do not lessen the yield of grain, and after harvest they grow very rapidly, gather much nitrogen from the air, act as a catch crop throughout the season and produce a fine mat of foliage in the autumn, which where cattle are to be fed will furnish a rich pasturage and may be subsequently plowed under with great advantage to the land. By the expenditure of one dollar per acre for clover seed one may thus add to his land as much nitrogen as can be had from ten tons of barnyard manure.

The varieties of grain we propose to sow in field crops this year at the Experimental Farm will be selected from those sorts which have given the largest average returns for the past three years. The names of these will be found in Bulletin 20, just issued, with full particulars as to what they have done with us, and copies of which may be obtained by any one on application to the Director of Experimental Farms, Ottawa.

[NOTE.—According to the Bulletin referred to the best producing varieties of oats, barley and wheat for three years at the Central Farm are the following: Oats—Banner, Golden Beauty, American Triumph, Columbus, White Russian, and Abundance. Two-rowed barley—Sidney, Newton, Bolton, and Canadian Thorpe. Six-rowed barley—Odessa, Mensury, Royal, and Trooper. Spring wheat—Preston, Monarch, Colorado, White Russian, and Goose. Peas (best varieties in order of yield in 1897)—Canadian Beauty, Oddfellow, Arthur, Creeper, King, Macoon, and Prussian Blue.—Ed. F. A.]

In preparing land for grain crops our practice is to plow in the autumn, disk harrow in the spring, and harrow once or twice with the smoothing harrow before sowing. We find the following quantities of seed per acre to give the best results: Spring wheat, 1½ bushels; barley, 1½ to 2 bushels; Oats, 1½ to 2 bushels; and peas, from 2 to 3 bushels per acre, the larger quantity to be used when the peas are large.

2. How do you select and prepare your various kinds of seed grain in order to secure the highest per cent. of vigorous plants?

For seed the grain should be a plump, heavy and sound sample. We prepare our seed with the fanning mill, arranging it so as to blow out all light grain. Every sample is then tested as to its germinating power. We find this very important, as it occasionally happens that a handsome, plump sample will be injured in harvesting and thus lose a considerable proportion of its vitality. In such cases the grain is rejected. Farmers can have such grain as they propose to use for seed tested at the Central Experimental Farm without cost by sending samples, which go free through the mail, or they can carry on these tests themselves by sowing the grain in moist earth in boxes or pots in the house.

3. What grasses, clovers or other crops do you find most satisfactory for hay, pasture, etc.? In what proportion do you mix these for the different purposes? With what crops do you sow them and how do you cover the seed?

For our principal hay crop we have used timothy and clover, in the proportion of twelve pounds of

timothy to eight pounds of clover. To seed down with barley, spring rye or spring wheat are preferred, and the best success for this purpose has been had with the common red clover. We have lately tried the awnless Brome grass and find it very satisfactory, but have not yet tested it with clover in place of timothy. From one acre of Brome grass sown with barley in 1896, eighteen pounds of seed to the acre, we cut last year 1 ton 1,210 pounds of cured hay, which was about 200 pounds more per acre than was produced on an average from the timothy and clover. This grass matures very early and is very leafy, and the hay is eaten readily both by horses and cattle. We are feeding Brome grass hay at the present time to a group of fattening steers in a comparative test with timothy. Grasses and clovers are sown here with the usual attachment for this purpose on the grain seed drill, placing the attachment in the rear so that the small seeds drop behind the grain spouts. The land is rolled immediately after sowing. The rolling covers the seed sufficiently and ensures a condition of moisture at the surface which is favorable for the prompt germination of the seed. We have also sown mixed crops of grain for hay. Among the best mixtures tried here the following is recommended: Banner oats, Canadian Thorpe or Duck-bill barley and Golden Vine or Mummy peas, using one bushel of each per acre. These all reach the best stage for cutting for hay about the same time, and the mixed fodder should be cut as soon as the oats are well headed. Any farmer who has dairy cows will find it a great advantage to have a small field of mixed grain to cut green, and should the season be dry and the pasture become poor he will have a most useful lot of fodder which he can feed to great advantage either green or cured. If, however, the season be wet this is a very difficult crop to cure. Mixed grain crops for hay have been found particularly useful in Manitoba and the Northwest Territories.

4. What means do you adopt to maintain the fertility of the land and keep it free from weeds, and what would you suggest as the best means of preserving the moisture in the soil for the various classes of growing crops?

I know of no method by which the fertility of the soil can be maintained so economically as by the sowing of clover with cereal crops every year and plowing under in the fall. If, in addition to this, the land can get a dressing of good barnyard manure of eighteen to twenty tons per acre once in five years, or, still better, ten or twelve tons every three years, and a judicious rotation of crops be followed, land under such treatment may be expected to give good crops and to increase in fertility from year to year. In the use of barnyard manure, it should always be applied fresh from the barnyard as far as is practicable; such a course is much more economical than that of composting the manure. It has not been found necessary in this locality to treat the land in any special way to preserve moisture for grain crops. We have found the Breed weeder a most valuable implement to use to destroy young weeds just as they are coming up. This weeder dragged over the land when the grain is three or four inches high scratches the surface of the soil and roots up the young weeds and destroys them. A man with one horse and a twelve-foot weeder will get over twenty acres or more per day. The weeder should be used not less than two or three times at intervals of three or four days, especially if the weather be showery, so that the work may be done thoroughly. This weeder cannot be used to advantage when the surface of the ground is wet. The scratching and loosening of the surface with the Breed weeder will also conserve the moisture in the soil. With fruit and corn crops we keep the soil in a good condition of moisture for the young plants by early and frequent cultivation with a "Verity" or "Planet Junior" cultivator.

5. What have you to say for or against mixed grains for forage or for feed grain, and sowing flax or rape with oats or barley? If you would use any mixture, state quantities of seed per acre?

Reference has already been made to the usefulness of a limited area of mixed grain for fodder or for hay. I might say that other varieties of oats, barley and peas, or other varieties of grain besides those named, will serve the purpose very well, but we have had the best results from using the several sorts named. The six-rowed barleys usually reach that stage of maturity when they should be cut before the oats and peas are ready, and for this reason a two-rowed sort is preferred. The two-rowed varieties also stool more freely, and produce a thicker mass of foliage.

We have tried the sowing of mixed crops for grain, and have had fairly good returns in bushels per acre, but it is a difficult matter to select varieties which will ripen exactly together, and hence it is not easy to avoid serious waste in the harvesting of such cereals. We have not tried flax or rape with oats or barley, but have tried the flax with mixed crops of grain, and the results have not been satisfactory; flax has given much better results, in our experience, when sown by itself.

WM. SAUNDERS.
Central Exp. Farm, Ottawa, Ont.

[NOTE—Professor Saunders' letter should be of great interest to the farmers of Canada, as the subjects covered have a peculiar value to every farmer at the season of the year almost upon us. We hope to hear from others upon these or kindred subjects, so that by an exchange of views, based upon years of experience, we may all be mutually benefited in the way of more economical methods and larger returns in 1898 and future years.—ED.]

Our Scottish Letter.

At the time of writing the talk is all of Clydesdales. The great Clydesdale week of the year is just closing. There has been a splendid show of entire horses at Glasgow, and in spite of the fact more than forty of the best horses of the day were under hire for the ensuing season before the show opened. Quite a choice exhibition of heavy draft horses entered the arena. The show is held under the auspices of the Glasgow Agricultural Society, and has been long established as the great Clydesdale hiring fair of the year. In this respect it is not so famous as it used to be on account of the prevailing practice of hiring many horses by private treaty before the show opens. This year forty-nine horses were hired in that way, while as far as has been announced twenty-two were hired at the show, and of the forty-nine not less than twenty-two are the property of Messrs. Andrew and William Montgomery. The consequence of this great trade is to deprive the show of the presence of many of the best horses, only two of the forty-nine horses competing for the premiums offered on Friday. This, of course, detracts greatly from the interest attaching to the event, but there does not appear to be any remedy, as owners will not feed their horses, for the mere sake of winning a prize, when they can have them let and kept in ordinary thriving condition without the risks attending preparation for the showyard. It will be of interest to Canadians as well as Americans to learn that amongst the 71 horses secured to perpetuate the fair name of the Clydesdale there are at least seven stallions bred by Colonel Holloway, Alexis, Ill., and got by Cederic 1087. The winner of the Cawdor Cup, the blue ribbon of the Clydesdale world, this year is Mr. Matthew Marshall, Stranraer, with his six-year-old horse, Hiawatha 10067, a gay and handsome horse, whose sire was Prince Robert 7135, and his dam Old Darling 7365, by Tom 877. This horse has marvellous quality of feet and legs, is a very straight mover, and carries himself with great gaiety. His great merit lies in the quality of his feet and legs, the breadth and flatness of his bone, the style and gaiety of his movement, and the general excellence of his parts in that which is most important in the draft horse, his wearing qualities on the street. Hiawatha is rather narrow and shallow in his top piece, but Clydesdale men will sacrifice much to secure the kind of feet and limbs they want. A son of Macgregor 1487 was placed next to Hiawatha in his own class. This was Mr. William Dunlop's Montrave Mac 9958, a five-year-old horse which got the same position at the H. & A. S. show in July last. He is a lovely horse, except for colour, and his dam, Montrave Maud 11786, is, possibly, the best mare in Scotland to-day. Mr. Riddell followed with Good Gift, a sweet, well-balanced horse, which stood first at the H. & A. S. show in July. This horse goes away beautifully—keeping his hocks together, and showing great style and gaiety. He is not so close in front as he ought to be, but the truth is if that could not be said against him no adverse criticism of his merits is possible. Mr. James Kilpatrick's Cawdor Cup 10045, a gay and gallant big horse, followed, and then came three sons of Prince Alexander 8899, one of the best breeding horses in the country. They are all of one type, and it is a good type.

The class for three-year-olds was well filled, and there was considerable excitement connected with the judging, on account of one set of judges placing Lord Londonderry's horse, Chastelard 10179, first, and Mr. Richard Dunn's horse, the Gay City 10194, second, while another set of judges reversed the order and put Gay City first and Chastelard second. It made things a bit lively, and there was plenty of cheering and counter-cheering from the respective patrons of both horses. They are horses of a somewhat different type. Chastelard is an upstanding, gay, handsome horse—a better trotter than Gay City, but not as good a walker. Gay City is a typical short-legged draft horse, with a fine, swinging tread, and he has great weight and substance. Both horses can be supported as of the best, and the division of opinion amongst the judges was fairly reflected amongst the public. Gay City, it may be worth mentioning, is out of an own sister of the horse Tinwald Chieftain, which took a good many prizes in Canada, and his sire was the noted Cawdor Cup champion horse, Prince of Carruchan 8151, which he greatly resembles. Gallant Robert, a stylish young horse, by the same sire as Hiawatha, was placed third, and the fourth was Royal Carrick 10270, a horse of excellent quality, bred in Scotland, but owned by an English gentleman near Birmingham. The fifth horse, Prince Thomas 10262, also from England, was a hot favorite with many for first place. He is a very handsome horse, of a good color, and was bred by Lord Londonderry. A son of Prince Alexander was sixth, and a Clydesdale bred in Ireland was seventh. In the two-year-old class the most notable fact was the success of the sons and grandsons of Sir Everard 5353.

The annual meeting of the Clydesdale Horse Society was held on Thursday evening, when fairly satisfactory reports were submitted. At the dinner which followed the meeting, some remarks were made regarding the relative weight of the Clydesdale and the Shire, but in view of the fact that the geldings of the Clydesdale type at the Royal Manchester beat the Shires even when patrons of the Shire were judging, it is evident that

the Clydesdale can hold his own with his Southern rival in respect of weight, and greatly excels him in quality and activity. It was also stated at the meeting that while the average life of a London dray horse on the streets was seven years, the Clydesdale working alongside the Shire, and doing the same work, in spite of an apparent absence of the grossness of the other, lasted longer. This was not a theory, but an ascertained fact in the stable of a large brewery which had been visited. The Shire is being splendidly supported by wealthy patrons, and that is where it has a great "pull" over the Clydesdale. Horse for horse, however, the Clydesdale can more than hold his own.

"SCOTLAND YET."

DAIRY.

Wise, Systematic Management of the Dairy Herd Brings Good Results.

SIR,—As the milk record year of Mr. E. D. Tillson's Annandale Farm herd of cows has not yet ended, the following only have completed their milking period: Twenty-one cows gave 224 053 pounds milk, an average of 10,669 pounds, producing 448 pounds butter per cow. The crack cow of the herd gave in eleven months 17,731 pounds of milk, totaling up 785 pounds of butter. This same cow last year recorded 647 pounds of butter, although for a time "under the weather."

Cows are fed a ration per day of ten to twelve pounds grain, composed of wheat bran, pea meal or pea and oat chop, oil cake or cotton-seed meal, from 40 to 55 pounds ensilage, clover hay and occasionally cut cornstalks, balanced so as to give a nutritive ratio of 1:5 or 1:6, or as near this standard as is consistent. In selecting above foods the market price governs the selection in determining the foods to buy. A supply of fresh water and a quantity of salt are always before the cattle. In every case individuality of cow must be carefully considered and fed accordingly. Heifers are bred, as a rule, to come in when two years and two months old, and their first year's milking extended to fourteen months thereafter. Ten to eleven months constitute their milking period, the average being about ten months. Each cow has tag name and number, with corresponding number in register, with date of service, name of bull used, etc. Each cow's milk is weighed separately once a week, and the whole herd has a periodical test by Babcock tester. Cattle are fed clover hay at 5:40 a. m.; ensilage and grain at 7:30 a. m.; and at 4 p. m. again grain and ensilage; 6 p. m., clover hay. Occasionally added to this ration is a feed at noon of cut cornstalks. We make it a rule to disturb cattle as little as possible, and any rough handling means instant dismissal to employee.

JOHN D. MACLEAY, Manager.

"Annandale Farm," Norfolk Co., Ont.

A Year's Complete Record.

All up-to-date dairymen keep records of the milk and butter product of their cows, but in order to know the exact profit obtained from feeding each one a record of the food she consumes is also required, and to make this demands more time and trouble than most people can give. The following record includes both food and product.

The imported Guernsey cow, Bretonne 3660, was tested for one year, from Oct. 20 '93—when she was 9 yrs. 10 mos. old—to Oct. 19 '94. The grain was weighed every day, and the ensilage and hay occasionally. Her milk was carefully weighed each milking. The butter-fat determinations were made by the Babcock tester the middle of each month, each test being of a composite sample of eight consecutive milkings. The values assigned the various foods in the following table are those used in the Holstein-Friesian Association's recently issued instructions for "food tests" of the cows of that breed. They are supposed to represent a fair average of the market prices in various parts of the country. In the 365 days Bretonne ate:

Ensilage, 11,655 lbs., at.....	\$ 2.00 ton—\$11 655
Hay, 1448 5 lbs., at.....	8 00 " 5 794
Bran, 3750 lbs., at.....	10 00 " 18 750
Corn meal, 2242 lbs., at.....	12 00 " 13 452
Cotton seed meal, 358.5 lbs., at.....	20 00 " 3 585
Oil meal, 406.5 lbs., at.....	18 00 " 3 659
Ground oats, 166 lbs., at.....	13 00 " 1 079

Total cost of one year's food.....\$57 974
Product: 11,218 1/2 lbs. milk, containing 602.91 lbs. butter-fat, = 709 lbs. butter, 85% fat. Cost of butter per pound, 8.176 cents; 709 lbs. butter at 25 cents per pound would have brought in \$178.25, or \$120.28 net profit.

When fresh of course she made her butter considerably more cheaply than the average for the year. Thus, in November, 1893, she made 79 lbs. at 6 7c., and in February, 69 lbs. at 6 9c. per pound. Highest percentage of fat, 6.1; lowest, 5.2.

W. S.

G. H. BECKETT, Grey Co., Ont.:—"I received my 'Binder' in first-class condition. I am well pleased with it and your valuable magazine. I have taken the FARMER'S ADVOCATE for fifteen years, and would not like to do without it."

The plan of the fine structure owned by Mr. the merit of the well lighted, high on level ground is intended only changed slightly and the box st run back under large pen for same general pl adapted to a one of the la copied. The d x 54 feet. The barn proper high and the making the sto large by the ing over the dr lifter is used loads of hay moved from or er on a perman purpose. A ge the center of b pose of grind straw, gulping water, etc. drive floor and and walks behi putting down and also for v lating shafts r stables to ea not proved effe tended to have to the cupolas roof. In addi indicated in th there are fanl terior doors.

GARDE

Ever

To the Editor FA SIR,—The ti preparations f Unless for larg as a few hundr house. Last y for myself, wit toes, celery, o pansies, etc. M low milk pans with holes for soil. The small sown on the su sprinkling of s was sown a litt Until the seed t the pans may kitchen stove place. They sh warm (not hot) kept moist, but never be allow cold. I someti stove to warm them there lo young and te not advisable. in a short time is required wit thicker the se quickly it will plants begin should be set and when the transplanting ters must tak again becom should be set three inches ap convenient if t screws, which the time for tr ground has arr cut in squares center of each be taken out nizing the fact too deep sowing Middlesex C

Ren

Rotation of and practical diseases. It m leaf-blight by year, and to stroying the p been harvested

GEO. A. CL without liked y

Barn Building.

The plan of barn illustrated in this issue is that of the fine structure built by Mr. J. C. Snell, and now owned by Mr. J. G. Snell, Snelgrove, Ont. It has the merit of the stabling being roomy, dry and well lighted, the basement walls being ten feet high on level ground, without the usual bank. It is intended only for cattle, but the plan might be changed slightly so as to stable horses at one end, and the box stalls in the center at each end might run back under the driveway bridge, making a large pen for feeding loose cattle or colts. The same general plan of basement stabling may also be adapted to a barn with side drives. It was from one of the latter class that this basement was copied. The dimensions are 120 x 54 feet. The corner posts of the barn proper are twenty feet high and the roof is hipped, making the storage capacity very large by the use of scaffolding over the drive-floor. A rack-lifter is used for elevating the loads of hay and grain, and is moved from one mow to another on a permanent track for that purpose. A geared windmill on the center of barn serves the purpose of grinding grain, cutting straw, pulping roots, pumping water, etc. Chutes at side of drive floor and over feed-passages and walks behind cattle serve for putting down hay and bedding, and also for ventilation; ventilating shafts run from ceiling of stables to eave of roof, but have not proved effectual, and it is intended to have others running up to the cupolas on the ridge of the roof. In addition to the windows indicated in the basement plan, there are fanlights over all exterior doors.

Annual Meeting of Nova Scotia Fruit Growers.

The thirty-fourth annual meeting of the Nova Scotia Fruit Growers' Association was held in Wolfville on January 26th, 27th and 28th, and was largely attended from all parts of the Province. While it was evident from the excellent papers and lively discussion on other subjects, that the Nova Scotia fruit-growers are well posted and keenly alive to their interests, it was equally evident that the San José scale was looked upon by all as the most important factor to be considered in the future of the industry. In his opening address, President Bigelow said: "The San José scale has invaded fruit trees in all parts of this continent, and is the most destructive and most difficult to destroy of any insect pest. It is

of Horticulture is doing excellent work, with an enrollment of 56 students, enabling young men and women to obtain free a thorough and practical knowledge of fruit culture.

A discussion of the black knot of plum brought our many points of interest, especially with reference to spraying as a means of preventing it.

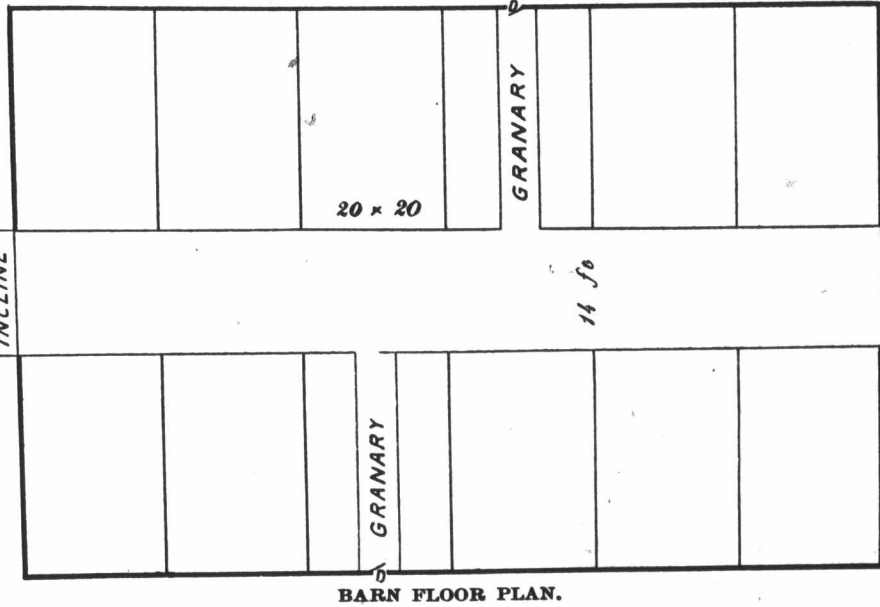
Mr. C. A. Patriquin reported that in his own plum orchard during the past season three sprayings had almost entirely checked it; while in a small portion of the same orchard, which he had sold to a neighbor, and which was not sprayed, it was unusually prevalent. It was strongly urged that fruit-raisers should both spray their trees and cut out all parts showing this disease, since the two methods combined are much more effectual than either can be alone.

The subject of shipping and marketing fruit, more especially apples, occupied the attention of the Association for an entire session, and even then many would have gladly heard more. Mr. John E. Starr, of Port Williams, Nova Scotia, who was appointed by the Dominion Government to investigate the apple trade with Great Britain, introduced the discussion and gave many valuable suggestions as to improvements which are urgently demanded. In his opinion, the principal cause of any unfavorable results in shipping to England is lack of ventilation in the hold of the ship while crossing the ocean. At present all the skill of the experienced stevedore is employed to crowd into the ship as many barrels as possible, his value to the company depending on his success in this respect. As a result, the barrels are packed so closely that it is difficult for a mouse to crawl from one part of the ship to another, and absolutely impossible that there should be any adequate system of ventilation. Some method should be provided in the way of a series of ventilating tubes or chambers throughout the ship's hold, the whole connecting with the outer air. Furthermore, it is not safe to rely on the present bell-mouthed ventilators for forcing fresh air into the hold. They will work well enough when the ship is running against the wind, but when she is running with the wind, and at about the same rate, there is absolutely no ventilation. In such an emergency an exhaust fan should be placed in every ship used for this class of freight, so that the air may be drawn out of the hold and proper ventilation insured.

Mr. Starr stated that apples shipped to England last October, and packed so as to allow a free circulation of air, arrived in as good condition as when they left the orchard. But later shipments, made at a time when there was greater demand for space in the ship, and consequently packed more closely, were very materially damaged by the heat in the hold, both color and flavor being injured.

Some measures should also be taken so secure more careful handling of apples in transit. It might be easily accomplished were there someone to look after the matter. But what is everybody's business is nobody's business, and the result is that in unloading, especially, the only object of the men is to get the barrels out of the ship in the shortest possible time and with the least labor to themselves. Barrels of apples are dropped two, four, or six feet, till the wonder is not that our apples are sometimes injured in transit, but that they are ever in marketable condition when they reach the consumer.

Mr. Starr urged upon growers not to ship their fruit first to this firm and then to that, but to select a thoroughly trustworthy house and then consign to them every year. Customers on the other side, when pleased with a certain grower's apples, would return to the same firm a second time in the hope of securing another consignment of the same fruit, and would not lose the fruit though it were necessary to pay several shillings above the market price. All this is lost if the grower does not ship regularly to the same place. Another point brought out was the importance of shipping each apple in its season. Do not hold back Gravensteins in the hope of getting a better price, and then put them on the market when Kings and Ribstons are also being shipped. The result is disastrous in every way. Varieties shipped in their proper season arrive in such a condition that they may be sold immediately, shipped to other parts of Great Britain or held for better prices, but when held too long they arrive in England in an overripe condition, and the only thing for the consignee to do is place them immediately upon the market and realize what he can for them. Fruit should always



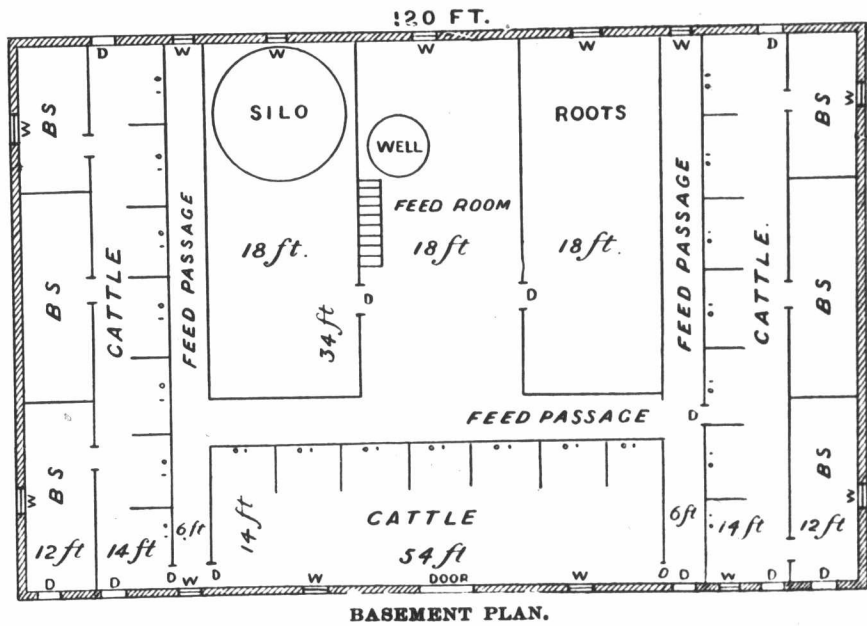
GARDEN AND ORCHARD.

Every Farmer's Hothouse.

To the Editor FARMER'S ADVOCATE:

SIR,—The time has arrived when we must make preparations for our early flowers and vegetables. Unless for large gardens a hotbed is not required, as a few hundred plants can easily be started in the house. Last year I succeeded in raising sufficient for myself, with some over for my friends, of tomatoes, celery, onions, peppers, etc.; also, petunias, pansies, etc. My hotbed was composed of old shallow milk pans; these, being already well supplied with holes for drainage, were filled with light, fine soil. The smaller seed, as celery, petunia, etc., was sown on the surface, being covered lightly with a sprinkling of soil. In other pans the larger seed was sown a little deeper, and all were put in rows. Until the seed shows signs of growth, the pans may be kept under the kitchen stove or in some comfortable place. They should be watered with warm (not hot) water, the soil being kept moist, but not wet. They should never be allowed to remain wet and cold. I sometimes set them on the stove to warm up; in fact, I have left them there long enough to cook the young and tender sprouts. This is not advisable. Tomatoes will appear in a short time, but greater patience is required with celery, though the thicker the seed is sown the more quickly it will germinate. When the plants begin to appear the dishes should be set near a sunny window, and when the second leaves come, transplanting into more roomy quarters must take place. When they again become too crowded, they should be set in light boxes in rows three inches apart. This box is more convenient if the front is secured with screws, which may be removed when the time for transplanting to the open ground has arrived. The soil is then cut in squares with a plant in the center of each square. They can then be taken out and transplanted without their recognizing the fact. The principal causes of failure are too deep sowing, and a cold, wet soil. Middlesex Co., Ont.

not yet known to be in Nova Scotia, and you will be called upon to recommend strong legislation to prevent its appearance here. The man who plants an imported nursery tree in Nova Scotia this year is his own worst enemy, and should be dreaded and despised by fruit-growers generally." This seemed to be the opinion of all present, and the advisability of asking the Dominion Government to pass an act prohibiting the importation of nursery stock of any kind into the Province for at least a year was strongly advocated by many. The motion was finally referred to a committee, which was instructed to draft a bill on the subject and present it to the Government with an urgent request from the Association that it be passed. The President, in reviewing the situation from the fruit-grower's standpoint, stated that while 1896 will be recorded as the most productive fruit year in the history of the Province, 1897 was the least productive in the last ten years; the export in the



former year being about 500,000 barrels, and that of 1897 about 80,000 barrels; the principal cause assigned for the partial failure of last year being the extreme cold and wet weather in June preventing the perfect pollenization of all fruits, and the exhausted condition of the trees from the abundant crop of the previous year; but with the light crop has come the compensation of high prices, so that any grower who had one-fourth of the 1896 crop will net nearly as much as was obtained for that year's crop. Gratification was expressed for the presence of the Hon. Minister of Agriculture at the Provincial Exhibition. "For the first time since Confederation," said the President, "the Nova Scotia farmer has had the opportunity of seeing a Minister of Agriculture." It was also noted with gratification that under the able management of Prof. F. C. Sears the School

Remedy for Plant Fungus.

Rotation of crops is one of the most effective and practical means of heading off fungous diseases. It may be applied to strawberries for the leaf-blight by fruiting the patch but a single year, and to blackberries and raspberries by destroying the patch after two or three crops have been harvested.—*Horticulturist's Rule Book.*

GEO. A. CLAPP, Edmonton, N.-W. T.:—"I have always liked your paper and would not like to be without it."

be carefully sorted and packed; but this is especially true in years of large crops and low prices, since at such times it is sent to many parts of Great Britain not usually reached. In this way new markets are opened, and if the fruit is satisfactory these customers will buy again the following year, even though the price is considerably advanced. Mr. Starr summed up the points to be worked for as follows: Good fruit, honest packing, quick transit, good ventilation, careful handling.

The need of irrigation, even in the comparatively moist climate of Nova Scotia, was shown by the experience of Mr. Henry Shaw, of Waterville. He has been irrigating for the past two seasons, using a twelve-foot windmill and raising the water twenty-four feet. The pump is capable of raising one hundred and fifty barrels per hour. The cost of the whole did not exceed over one hundred and fifty dollars. The water is distributed in ditches to the parts of the orchard where wanted. The trees are principally plums and apples. In the summer of 1906 Mr. Shaw applied water freely to most parts of his orchard; some parts, however, received but little water, and other parts none at all. He raised that year a full crop of fruit, but the same was true of his neighbors who did not irrigate. However, the benefits of irrigating were shown the following year, when all those trees which had received a liberal amount of water gave another full crop. The trees which had received but little water gave, perhaps, a half crop, while those which had not received any water gave practically no fruit at all; and, furthermore, there is a marked difference in the prospects for the next year; the trees on the dry land, after resting the past season, give promise of a fair crop, but the trees on irrigated land, though they have borne two full crops in succession, are far in the lead in the indications for the coming season. Mr. Shaw's land is sandy, so that no doubt he has secured better results than might have been the case on clay soil, but his experience is certainly of interest in its bearing on the vexed problem of how to secure continuous crops in successive years.

Cranberry culture was fully discussed, and the showing for the past year is certainly excellent. The following figures were given as to the profits from a bog of two acres: Yield, 174 bbls.; gross receipts, \$1,135; net profit, \$720, or \$360 per acre. Not a bad showing. The owner of this bog urged the necessity of mixing varieties in planting. He has four different sorts in the bog mentioned. Cross-fertilization, resulting in a larger setting of fruit, is the object aimed at.

Officers were elected for the ensuing year as follows: President, J. W. Bigelow, Wolfville; Vice-President, Peter Innes; Secretary, S. O. Parker, Berwick; Treasurer, Geo. W. Munro, Wolfville.

Grafting.

BY M. BURRELL, LINCOLN CO., ONT.

Although many plants are propagated by means of seeds or cuttings, grafting and budding are the two processes by which nearly all our fruit trees are now propagated. A thorough knowledge of these processes is, of course, necessary to every nurseryman, and a practical familiarity with the subject would often be extremely helpful to every horticulturist, amateur or professional.

Grafting is of very ancient origin, the Greeks and Romans having both practiced it in various forms, and some readers may recall Pliny's description of a tree grafted with olives, almonds, apples, pears, plums, figs and grapes. Like a good many other things in Pliny, we must take this with the proverbial grain of salt. As a matter of fact, there must be some affinity between scion and stock. Varieties of the same species take most successfully, such as apple with apple, and so on. Different species, such as apple and pear, may succeed, though not so well; and different genera, such as cherry and plum, are still less likely to prove a success.

As to the age of the stock, there is hardly a limit. As a rule, the younger the stock the better the result; but in 1891 I put about 100 grafts in a pear tree at least seventy years old, and though union did not take place in all cases, I have since taken a good many bushels of fine "Bartletts" and "Beurré Boscs" from that same old "choke-pear" tree.

Grafting is practiced for a great many reasons, amongst them the following: To induce a dwarf habit of the plant—for which purpose the pear is grafted on the quince; to overcome climatic conditions that are unfavorable, by grafting tender fruits on a hardy and vigorous stock; for the purpose of obtaining a great many varieties of fruit from a very few trees; to hasten the bearing of certain fruits; and lastly—a very important reason for many an unfortunate fruit-grower—to replace poor fruits which have turned out untrue to name after years of growth, by top grafting with desirable kinds.

It is impossible to touch on the many methods of grafting; something like fifty different ones have been practiced. The essentials to success are much the same in all methods. The theory of grafting is based on the power of union between

the young tissues, and for that union to take place it is necessary that the cambium layers should as nearly as possible meet in scion and stock. The cambium layer is that part of the tree lying between the bark and the inner wood. During the earlier part of the season it is a soft, gummy substance, which readily unites wounded surfaces. Later it becomes firmer, the outer part of it forming bark and the inner wood. Root grafting, which is practiced largely by nurserymen on young stocks in the cellars during the winter, need not be discussed here. Top grafting, which is usually performed by cleft grafting, is of immense use to the practical orchardist, and some general suggestions may be thrown out on this subject. The time for top grafting is in the spring as soon as the sap is in motion. The work may be commenced directly the buds of the tree begin to swell, and continue till the leaves are half-grown. These later graftings are not so likely to be satisfactory, and it must be carefully borne in mind that the buds of the scion should be in as nearly a dormant condition as possible. As to the time of cutting the scions, it does not matter very much whether they are cut in the fall, in the winter, or just before they are wanted in the spring. In very cold latitudes it might possibly be better to cut in the fall and place in a dry, cool cellar, under a light covering of sand. If cut in the spring, they must be cut before the buds have begun to swell, as it is all the better if the stock is a little further advanced than the scion. Let the scions be cut to about four buds each, and always take them from good, healthy, vigorous shoots of last year's growth. A fine, sharp saw, a chisel or strong knife and small mallet are all the necessary tools. The branch should be carefully sawn off, and a smooth, clean surface left. If the stub is small, it may be split with a heavy-bladed knife; for bigger branches the chisel will answer the purpose. The chisel itself or a small wedge can be used to hold the cleft open till the scions are inserted. Two scions are usually inserted where the stub is any size. The lower ends of the scions are cut wedge shape, the wedge being about an inch and a half long, and the outer edge of the wedge a little thicker than the inner. Fit the inner bark of the scion carefully to the inner bark of the stock, withdraw the chisel, and carefully cover all the exposed surface and wounded parts with grafting wax. The two specially important points are: First, to see that the scion fits tightly down its whole length; and second, to be sure that every cut or exposed surface is completely covered with wax. A good wax is: Resin, 4 parts by weight; beeswax, 2 parts; tallow, 1 part; or, resin, 6 lbs.; beeswax, 1 lb.; linseed oil, 1 pint. Apply the latter hot with a brush about a quarter of an inch thick or a little less over all the joints. In top grafting large trees, the shaping of the future top must be carefully considered. The old top must be removed gradually, three or four years elapsing before the new grafts entirely take its place. As a rule, it is better to graft on the smaller branches from an inch to two inches in diameter. The scions will usually do better in branches of this size, and the wounds are more likely to heal. Put the scions in at even distances throughout the tree, and graft some of the lower and smaller side branches. In this way a well-balanced, shapely top can be secured.

Meetings of British Columbia Fruit Growers.

During the third week of January three Provincial organizations have held consecutive meetings in the City of New Westminster, viz., the British Columbia Fruit Exchange, the Fruit Growers' and Horticultural Association, and the Dairymen's Association. Representative men from all parts of the Province were in attendance, although the number present was not so large as anticipated.

The British Columbia Fruit Exchange is a co-operative organization for the marketing of home-grown fruits, most of its business being in distant markets, although attention is also given to the local demand. Large shipments were made during the past year to the Northwest Territories, Manitoba and the Kootenays. Its directors met on the 19th inst., and so far as possible wound up the business of the season. This was followed on the 20th inst. by the annual meeting of the Exchange for the election of officers and transaction of general business. The statements of the Secretary showed that the operations of the Exchange were largely in excess of previous seasons, the value of fruit handled amounting to over \$75,000.00. Returns for plums averaged lower than usual, owing largely to the shipping of soft varieties, which did not carry well, and in some measure to overripeness of the fruit and poor packing. Shipments of apples turned out well. The demand was good and satisfactory prices realized, averaging \$1 per box for choice fruit. The returns for small fruits were also considered satisfactory, but pears were in small demand and prices low for anything but first-class fruit.

Although great improvement has been made since the formation of the Exchange in methods of picking, grading and packing fruit, also in the style of the packages used, the year's experience has once more demonstrated the absolute necessity for greater attention to these matters by our fruit-growers to ensure legitimate profits to the producer and satisfaction to the purchaser. On the whole, good progress has been made, markets have been extended and others opened up in the Northwest and Kootenay. The available supply of first-class fruit is far short of the demand, and it was shown that the business of the Exchange is capable of almost indefinite expansion under judicious management.

Mr. E. Hutcherson was appointed manager for 1908, and Mr. T. R. Pearson, secretary.

The Fruit Growers' and Horticultural Society convened

on the 20th inst., and held three sessions, which proved more than usually interesting and valuable.

The address of the president, Mr. T. G. Earl, of Lytton (a noted fruit-grower), was a lengthy one. Special reference was made to the recent developments of the vast mineral wealth of the Province and in the Yukon, with the consequent extended markets for home-grown fruits and farm produce, pointing out the opportunities existing for creating veritable Klondykes in our fields and orchards. The formation of Farmers' Institutes in the Province was referred to, and the hope expressed that they would be a success and work in harmony with existing kindred associations.

The Spokane fruit fair of 1897, at which the Association made an exhibit of fruit which took a number of prizes, was mentioned, and the suggestion made that, having obtained all possible honors there, in the future exhibits of B. C. fruit should be made in the Northwest Territories and Manitoba, where our surplus fruit must find a market.

The idea of holding a grand Provincial exhibition at New Westminster in 1898 was strongly commended; also the action of the Board of Horticulture in preventing the importation of diseased and pest-infested fruit and nursery stock. Fruit-growers were advised to buy their nursery stock from home growers, thus getting clean trees and keeping money in the Province. He expressed his pleasure at seeing present so many talented men to take part in the meeting, and concluded by paying a deserved tribute to the work of the secretary, and urging the fruit-growers of the Province to stand by their Exchange, and so ensure profitable prices for their products in the future.

The report of the Secretary-Treasurer showed the finances of the Association to be in a healthy condition, with a surplus on hand of \$431.49.

Mr. Baker, of Victoria, then gave a practical address on fruit packing and packages, showing samples of boxes and methods of packing. This was followed by a paper presented by Mr. H. E. Dosch, Horticultural Commissioner for Oregon, on Horticultural Problems, giving the results of his experience and observation. This paper caused a great deal of discussion of a practical nature, and furnished valuable information.

Mr. A. McD. Allan, of Goderich, Ontario, was endorsed as a candidate for the position of Canadian Fruit Commissioner to the Paris Exposition in 1900.

Papers on Bird and Plant Life, by Tom Wilson, and on Fertilizers for Gardens and Orchards, by Mr. T. F. Patterson, B. S. A., also gave great satisfaction and created lively discussions; that on birds being well maintained, and showing great diversity of opinion as to their value or destructiveness. The majority of fruit-men were opposed to the importation of song birds as proposed by the Natural History Society of B. C., and it was stated that bluejays and crows had been especially destructive in orchards, also waxwings to cherry blossoms.

Mr. R. M. Palmer addressed the meeting on San Jose scale, urging that any suspected instance of its presence should be promptly reported, when measures would at once be taken to destroy infested trees. He also urged the destruction of plum trees of inferior plum, and the better care of plum trees as one means of preventing plum rot (*monilia furcigera*), which had caused considerable loss in some districts. Resolutions were passed pledging the Association to support the proposed grand Provincial Exhibition at New Westminster, and asking the local agricultural associations to assist in the matter.

It was decided to hold the next annual meeting of this Association at Victoria.

Officers of the British Columbia Fruit Growers' Association for 1898: President, Mr. G. H. Hadwen, Duncan's; 1st Vice-President, Mr. W. J. Moggridge, Surrey; 2nd Vice-President, Mr. Donald Graham, M. P. F., Spallumcheen; Secretary-Treasurer, Mr. T. R. Pearson, New Westminster. Directors—T. A. Sharpe, Agassiz; H. Kipp and A. C. Wells, Chilliwack; A. P. Thompson, Dewdney; T. McNeely and E. Hutcherson, Ladner; T. G. Earl, Lytton; Thos. Kidd, M. P. P., and Jas. Mellis, Lulu Island; L. Fortune, Enderby; G. W. Henry and P. Lazenby, Hatzic; W. Fortune and R. Currie, Kamloops; A. Campbell, D. Stevens, F. L. Sere, A. Ohlson, M. Baker, R. M. Palmer, J. R. Anderson, W. C. Grant, C. E. Renouf, D. R. Ker, Victoria; G. H. Hadwen, A. Robertson, H. O. Wolburn, Duncan's; A. Evans, Chilliwack; M. J. Henry, J. M. Browning, T. Cunningham, Vancouver; C. Pt. Stewart, Lulu Island; A. W. Smith, M. P. P., Lillooet; J. Brethour, W. Thompson, Saanich; A. J. Palmer, C. B. Harris, Salmon Arm; D. Graham, M. P. P., Spallumcheen; Price Ellison, Vernon; W. H. Norris, Midway; J. L. Pridham, T. W. Sterling, Kelowna; N. Butchart, Port Moody; J. W. White, Hector Ferguson, Port Haney; W. J. Moggridge, Hazelmere; T. R. Pearson, Geo. Mead, W. J. Armstrong, T. Lewis, J. R. Kennedy, M. P. P., Peter Latham, New Westminster; S. M. Robbins, Nanaimo; Henry Ruckle, Salt Spring Island.

Hens Without Males.

Eggs are only affected favorably by the absence of cocks. A fertilized egg is a living thing, requiring only warmth to start a process of change in it by which its use for culinary purposes is injuriously affected. Moreover, the hens really lay more eggs when free from the attentions of the cock. I tested this some years ago when in New Jersey, near the City of New York, and selling fresh (dated) eggs to private purchasers, and found I had more eggs and better ones, which kept in good condition in the summer, than from the mated breeding flock. A few days' exposure to July heat will spoil a fertilized egg, while a sterile one is not injured in the least by some weeks' keeping.—H. Stewart, in *The Cultivator*.

H. L. LOTT, Glenasmith, Man.—"I do not want to be without the *Advocate*, for I have had it since it started."

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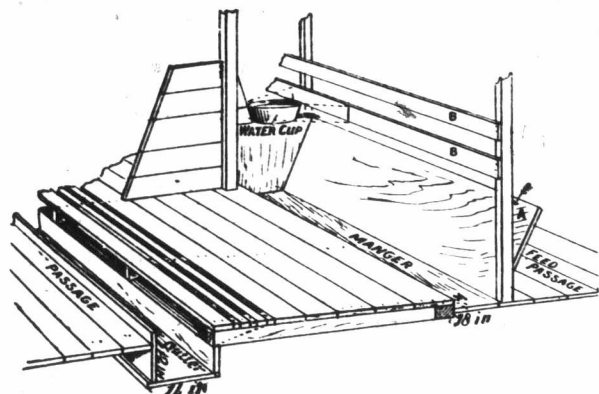


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THE HELPING HAND.

Stall for Keeping Cows Clean.

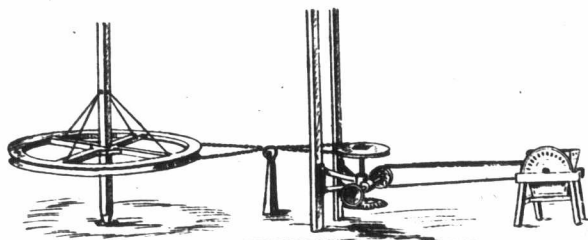
R. McLEOD, Nipissing District, Ont.:—"Having seen so much in the ADVOCATE about cow stable floors and keeping cows clean, etc., I send you a sketch of a floor I have been using for three



winters which is chiefly my own contrivance. It is clean and comfortable for the cows. The accompanying sketch is a double stall. The gutter is 12 inches deep and 14 inches wide. A wooden grate is made by nailing a 2x6 inch plank next to the gutter on joist, and two pieces 2x2 inch, with 1 1/2 x 2 inch blocks 3 inches long over each joist and between the 2x2s, for their hind feet to stand on. Underneath this grate is a board sloping to run the liquid manure into the gutter (see dotted line). The remainder of the floor is made of two-inch plank. The length of floor from gutter to manger is five feet. There is no manger log. The bottom of manger is four inches lower than floor of stall and 18 inches wide at the bottom. A is the front of manger and is sloping from feed alley. B B are two boards nailed to an upright 7 feet from the gutter, and opposite the cows' head when they are standing. This keeps them standing on the 2x6 inch plank and all droppings go into the gutter. The feed is put in over A and under B B. One and a half inch pipe is laid along the top of manger A, but is not shown in cut. A cast-iron water cup, connected to this piping with a one-inch pipe 9 inches long, is placed on the stall over the manger so that two cows can drink out of the one cup. The dotted lines over the cut represent board put in brace fashion from stall to B to protect the water cup and also to keep the cows from fighting."

Cheap Horse Power.

CAMLY CHARLTON, Elgin Co., Ont.:—"Having seen in your valuable paper some different plans of cheap horse powers, I send you the description of the one we use on the farm either for one or four horses. Our barn floor is 12 feet from bay to the



swing beam. From swing beam to the end of the barn is 22 feet on the right, and to the left is a granary 12x12. In the center is the wheel, 15 1/2 feet across; this suits the cutting box in the center of the barn floor. The rim of my wheel is built the same as the one on page 36, Jan. 15th, 1898, issue. Exactly in the center is hole, 4x4, for the upright or axle. The axle is a 4x4 scantling, with 3-inch round gudgeons at both ends. The arms of wheel have 4 half-inch round iron hooks 6 feet long; the hooks are fast in the arms with small eyes. There are also eyes in the axle about 6 feet from floor; the wheel lies on floor when not in use; the horses are put inside the wheel; it is then raised until the hooks can be hooked in the eyes on axle; this brings the wheels about 2 1/2 feet from floor, placing the draft for the horse where it ought to be. When done cutting we unhook the hooks at the eyes in axle; this lets wheel drop to floor. I run my box with a jack which stands on end and is bolted to two upright 4x4 scantling about 8 feet long, fastened top and bottom. In using rods the slip knuckle is used. To make pulley, take two hardwood planks, cut the circle you desire (mine is 16 inches), chamfer the edges on one side, put the chamfered edges together, bolt two pieces of iron, about 6 inches square, one on each side of pulley, with square hole in center to fit shaft on jack. We have an 18-inch pulley on jack that runs to the box, and an 8-inch pulley on box; this runs box plenty fast enough when horses walk slowly. We can cut enough in two hours to last our stock a week. The accompanying plan will give an idea as to how it stands in barn. We run it with a 1/2-inch chain from the wheel to the jack, and from the jack to the box with a 1/2 inch belt. The jack stands under the swing beam, so all I have to move is the box, and the barn floor is clear and ready for drawing anything into barn.

QUESTIONS AND ANSWERS.

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

Veterinary.

Enquiries Without Signatures.

We have recently received two enquiries from persons who failed to sign their names to their letters, who evidently did not notice the rule as published at the head of the Questions and Answers Department, which states that "Enquirers must in all cases attach their name and address in full, though not necessarily for publication." We adhere strictly to this rule.—ED. F. A.

Castration of Lambs.

READER, Wellington Co., Ont.:—"Will someone who has had successful experience in the castration of lambs describe the operation for the benefit of readers of the FARMER'S ADVOCATE. I have seen it stated in a stock paper that it was safe to clip off the entire scrotum with its contents when the lambs are a few days old. Has any reader practiced this method successfully?"

[I have had good success in castrating young lambs by cutting off two-thirds of the scrotum and then drawing the whole testicle and as much of the cord as possible. Just as soon as the testicles are large enough, which is usually when the lambs are nearly three weeks old, is the best time to do this. I have never used the method of cutting off the scrotum and the testicles with shears. It seems to me that it will often be found that both testicles have not descended into the sac soon enough for the operation to be performed this way, and that there will be some lambs left with a testicle unremoved. Such are nuisances in feeding. There is no risk in the method I have described, provided two things are observed: Keep the lambs in a dry place for two days after castrating, and at the end of that time notice the condition of the parts, and if there is any matter in the sac press it out, or if it is hot and slightly inflamed through exposure, rub it well with hot lard. I have castrated lambs up to nine months old in just the same way, excepting that the testicle was not removed whole. The lining of the testicle should in this case be slit and the testicle proper removed. Cut the lining at the point where the testicle is smallest, and it will be found to protrude quickly. Then draw it and cut away the lining so as to allow as much as possible of the cord to come away. In buying feeding lambs this fall I had to take over a hundred that were castrated just before feeding started in October. They were mostly April lambs. We paid less for them because they were uncastrated and because of the risk that more or less attends any operation of the kind. We lost five out of the lot, and these dying from inflammation of the parts or from the loss of blood, as some of them were too weak when we got them to even withstand the effects of this operation. The least cutting and fumbling insures the healthiest healing. JOHN CRAIG. Iowa Agricultural College.]

Liver Trouble in Fowls.

M. H. B., Waterloo Co., Ont.:—"I have had trouble with fowls this long time, and would like to know or find out a remedy for them. About a year ago they started to get sick and mope around and die, and then I started to kill as fast as they got sick, but did no good, and about four weeks ago I started to open and examine them. The liver looks pale and has whitish streaks, and is about twice the natural size, and seems to run into the bowels just before they die. They seem to be very stupid at those times. I have lost about 50 or 60 this last year. Will you kindly give me your opinion or a remedy, as I have been a constant reader of your valuable paper this long time?"

[I think it is not hard to diagnose the trouble, although nothing is said as to the kind of rations, quantity fed, exercise or room space. I think the trouble is due to overfeeding and want of exercise. It is a form of liver complaint, a disease far too prevalent among the winter layers of the farmers and others. The overfeeding of the morning ration, very frequently in the shape of a mash of ground grains, is the cause of much disaster. What is really wanted is not so much quantity as variety of food, and discreet quantity and active exercise. In your issue of five or six weeks ago I wrote directions as to the treatment of the laying stock in winter, so as to obtain eggs at that period and yet secure good health, that will be of service to your correspondent if he will read them. As the subject is one of great import, I append the following extract taken from my Experimental Farm report for 1891. As the extract contains the opinion of the well-known expert on poultry diseases, Prof. Wesley Mills, of McGill University, Montreal, it cannot fail to be valuable under circumstances so similar:

MR. H. E. DICKHOUT, Stormness, Ont., wrote:—"My fowls are troubled with a disease that has caused me serious loss for three years past. The sick fowls get pale around the comb, and dumpy. Some linger along for a month or two, and others die in a week or two from the time I notice they are attacked. I am to get eggs in winter, and feed liberally. I get more eggs than any farmer around, considering the number of hens I keep, but they keep dying off. I kill them

and bury them. Those that I have opened have all enlarged livers; in fact, their livers are so large as to fill the hen so full as to displace the other organs. Some have enlarged kidneys as well. One liver I weighed came to three-quarters of a pound. If the fowls were allowed to die all their livers would weigh the same. Some of the livers have whitish spots on them, appear to be very tender, and are much filled with water. My fowls are in too limited quarters, but will soon have more room. Hoping for your advice.

The case was deemed so important that the letter was forwarded to Prof. Wesley Mills, asking his opinion and advice in the interests of the farming community. With his usual kindness, Dr. Mills returned the following reply:

"I have your favor of 11th February, enclosing Mr. Dickhout's letter. From the clear and intelligent account this gentleman gives, I have little doubt that the fowls are suffering from fatty degeneration of the liver, owing to overfeeding and lack of exercise, exaggerated possibly by inadequate ventilation from the 'limited quarters.' Whether there be also cystic disease from parasites or tubercle, it is impossible for me to say without seeing one of the livers. The remedies are obvious—feeding on oats with vegetable food, scattering with chaff among straw on the floor, and enlarging the quarters."

I would suggest that the oats be mixed with the grain usually fed, and that the reduction in quantity fed be not too sudden or too radical. If mangels are handy feed them, and reduce the grain rations. A. G. GILBERT, Poultry Manager. Central Exp'l Farm, Ottawa.]

Roup in Turkey.

MRS. J. N., Prescott Co., Ont.:—"I would like to know what is the trouble with my turkey. She seems well and eats well, but her head is swelled below the eyes, and she can hardly see. What is the trouble and cure?"

[The symptoms given indicate roup, which is easily detected by a puffed face, followed by discharges from the nostrils. It is often caused by bad ventilation, filthy quarters, unclean water vessels. A roup fowl of any sort should at once be separated from the rest of the flock, so as to prevent its spreading. A remedy that has been found successful is to hold the fowl by the throat so that it cannot swallow, and fill the throat with coal oil to which has been added an equal quantity of sweet oil, holding it long enough so as to have the throat thoroughly saturated; then allow the oil to run out of the mouth; then drop a few drops into the nasal passages. Some even use pure coal oil for the purpose, and with a bad case it is, perhaps, preferable. It is also well to add two or three grains of bromide of potassium to the drinking water for each fowl for two or three days, which, with the coal oil treatment, will likely work a speedy cure.]

Tumor in Cow's Eye.

S. W., Muskoka, Ont.:—"I have a cow about nine years old. During last summer yellowish matter appeared in her right eye. Since that time it has become worse. The front corner appears to be growing over the eye, discharging matter which is beginning to smell."

[Tumors occasionally form within the orbit of the eye, due to an injury from thorns penetrating the cornea, and is likely the cause in this case. An operation is necessary to determine the extent of the injury. Removal of the offending portion of tissue will result in a cure, afterwards dressed with a lotion as follows: Liquid plumbi acetata, 1 dram; tincture of opium, 10 drops; distilled water, 8 ounces. This trouble will not interfere with the condition of her milk. DR. W. MOLE, M. R. C. V. S., Toronto.]

Miscellaneous.

Working Mare in Foal.

SUBSCRIBER, Huron Co., Ont.:—"1. Does it hurt a mare in foal to work her much, or will it have any ill effects on her foal? I feed her hay, green stuff, clover and cut straw and corn, with oats. 2. Does it pay to cut clover, oat straw, green stuff (oats and peas), and hay for stock?"

[1. If the work is moderate and she is carefully handled, and not put to very heavy drawing or fast driving, the work will be beneficial both to the mare and foal. If she is used to draw loads on the roads she should be sharp shod when roads are icy or slippery, as the slipping is liable to strain the mare's loins, and might cause abortion or other trouble. 2. If one has the machinery, or can secure the use of it at moderate cost, and it is desired to use up rough food such as straw by mixing with more palatable foods, it will pay to cut and mix.]

A Hollow Horn.

E. M., Argenteuil Co., Que.:—"We have a cow that came into the stable in September with a horn broken off close to the head, and now the flesh has grown over it. She looked so bad I cut the other one off and found that it was hollow. This was about the middle of December, and when the cow breathes we can see the steam rising from the opening in her poll. I would like to know if a hollow horn is natural or not; perhaps you might give me some information?"

[The horn as a rule in a healthy cow is not hollow, but has a solid pith in it. If the horn is cut off close to the skull, as it ought to be in skillful dehorning—that is, at least a quarter of an inch below the junction of the hair—it is really the skull that is cut and not the horn, and it is not strange that there should be the issue of steam from the warm blood of the head, but there is no danger to fear from that state if the cow is kept away from straw stacks or other places where chaff or dirt might get in and cause irritation. The opening will soon heal and close all right.]

Stable Ventilation, Floors, and Water Supply.

J. G., Antigonish Co., N. S.:—“(1) In planning for my new barn, to be erected next spring, I have been considering various systems of ventilation, and that spoken of in your paper as the Usher system pleases me the best, but I do not quite understand how connection is made with the outer air. It seems to me that the connection would have to be made on the bank side of the barn. How are the pipes arranged after passing through the wall into the ground? I do not think that I can get tile larger than 6 inch. Would that be large enough, or would a wooden box do? (2) I want to put a cement floor in the stables 100x40 feet. How many barrels of cement would it require? In making a cement floor I understand the bottom must be of small or broken stone. Now, in making gutters behind the cattle six inches deep, if there has to be several inches of broken stone under them it would require a very great quantity of stone to fill up to the platform where the cows stand. In order to lessen the quantity, could not the gutters be lowered by digging out the ground under them? How does cement answer under horses—will not the shoe calks cut it up, and will it not dull the calks? Would it not be better to cover it with plank? (3) A recent issue was of very great interest to me, as I have been thinking of putting up a windmill. The only thing I am afraid of is the very high winds we often have here. Will they stand a very heavy blow? Would they be all right if thrown out of gear? Could I put a windmill upon my barn to pump water from a well 150 feet distant and 30 feet deep? Instead of putting it upon the barn, would it not be better to put it at the side of the barn between the driveways, and have it connected with shafting inside?”

[1. The plan of ventilation referred to consists in placing a 4 to 8 inch tile under the feed alley floor and extending through the walls, admitting fresh air from the outside with 1-inch lateral pipes leading from the tile to the parting blocks in center of double stall feed manger, where the fresh air is distributed, one pipe serving the two animals. End of pipe is covered with wire gauze to keep out dirt. If one side of basement is banked, the tile usually admits air from the exposed side of barn. Most so-called “bank barns” are now built on the level, and floor of alley, for convenience in feeding, etc., is usually higher than ground outside, so that the tile will come out above ground. The principle of this system of ventilation is that the heated air of the stable rises naturally through feed chutes and the like, and cold air flows in through the tile and pipes to supply the vacancy made. 2. Cement floor for stable 100x50 feet would require complete 60 to 70 barrels of cement. In addition to the stalls and mangers, that quantity would also floor the feed alley and drive or passage way behind the cattle, which, for economy, many simply leave as a good solid clay floor from gutter to wall. Broken or cobble stones under floor are not absolutely necessary, though if they are plentiful on your place they will help to fill up bottom. A couple of inches coarse gravel, well rammed down, will answer, followed by the cement concrete, used as often described in these columns, or in pamphlet issued by Isaac Usher & Sons, Queenston, Ont. The trenches behind the cattle may be lowered by digging out the ground under them as suggested. For cattle manure gutter we would put in an 8-inch drop, and slant bottom slightly upward to drive or passage way behind. One of our staff has had such a floor in use with great satisfaction for seven or eight years. Some horses are apt to pound holes, particularly with front feet, if sharp shod, unless that part is particularly strong and hard. We noticed one stable floored by bedding center of stall with smooth round cobble stones, just coming to surface, which stood well. Another plan suggested is to lay the bottom with 4 or 5 inches cement concrete, and bed into it about three 2x4 scantlings, crosswise, and on these spike planks with half to one inch space between, running lengthwise of stall back to edge of cement concrete gutter about two inches deep and two feet wide. Plank should have slight fall back toward gutter, and the space between planks allows for water to run back, keeping the bedding dry, and can be scraped out occasionally. Still another plan is to have a plank floor or grating that can be lifted off the cement bottom to be thoroughly washed out occasionally; but the former is, perhaps, preferable. By all means have the cement concrete bottom first. 3. Properly erected, there is little or no danger of windmills blowing down, though we have seen some inferior mills wrecked in a heavy windstorm. Water cannot be lifted by suction more than thirty-three feet under most favorable circumstances; and, to be safe, experts on this subject do not advise more than twenty-seven or twenty-eight feet. This does not include the distance from cylinder to water, only the lift in height. After the water gets to cylinder it can be forced to any height or distance, only requiring the power to do so. Nowadays mills are usually placed on the barn for grinding purposes, and if you have a good well outside the water can be brought inside either by having the cylinder in the dry well under barn and iron (galvanized preferable) piping to the well, or by putting pump in well, using jerk rods (as are used in pumping several oil wells) or with cable wire and triangles; and a third method is with pulleys and an endless cable. By any one of these methods water can be forced to any distance or elevation required, even raising it from the bottom of hill, and can be stored for use in elevated tank in barn or elsewhere.]

Grasses for Gravelly Hill.

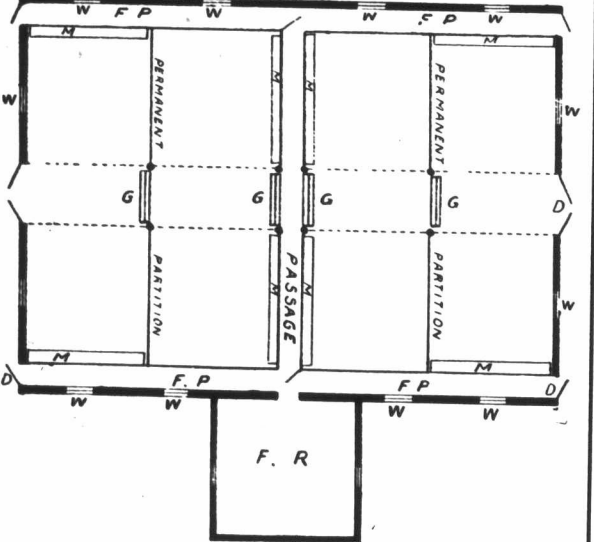
R. S. SUTTON, Durham Co., Ont.:—“What is the best mixture of grasses to use in seeding down a gravelly hill for the purpose of pasturing sheep?”

[We take it that clovers are included in the question, as a permanent pasture for sheep would be very deficient without them. Considerable attention has been given this subject at the Ontario Experimental Farm during the last eighteen years, and the formula laid down as one of the best for permanent pasture in 1893 was as follows: Orchard grass, 4 pounds; meadow fescue, 4 pounds; tall oat grass, 3 pounds; timothy, 2 pounds; meadow fox-tail, 2 pounds; lucerne, 5 pounds; Alsike, 2 pounds; white Dutch clover, 1 pound; and yellow clover, 1 pound. These are all hardy and yield well throughout the season. Some of them, however, are not particularly suited for a sheep pasture, and should therefore be sown in less quantity. We would, therefore, drop out tall oat grass and half the orchard grass, and would sow from 2 to 3 pounds of white Dutch clover along with the other remaining sorts. We would recommend sowing the seed with a light seeding of barley or spring wheat. It will be well to give the gravelly hill a good coat of well-rotted manure, so that a vigorous growth of the grasses and clovers may follow their germination.]

Plans for Cattle Barn Wanted for Feeding Steers Loose.

S. MARTIN, Oakland Municipality, Man.:—“I intend to build a barn to hold one hundred cattle and twelve horses, the cattle to be in pens (of about twenty, loose) to be built on the level, no bank being available. I would be pleased to get through your paper the best plan of barn for convenience in feeding, etc.”

[We would refer Mr. Martin to back numbers of the ADVOCATE (especially May 15th, 1897), where from time to time plans of barns of many designs have been illustrated. This is one of the advantages of keeping the files of the ADVOCATE, and for this purpose we now have an excellent and cheap binder. Although not knowing of a barn laid out for feeding all the cattle loose, as suggested by our correspondent, there is no reason why such should not be built to give entire satisfaction. We would suggest the following, which, of course, could be modified to suit circumstances:



Feed passages along outer sides, into which hay and coarse fodders or mixed feeds could be dropped by chute from barn floor above. Water troughs above mangers, supplied by gravity from tank or other supply. Walls carrying driveway bridge to barn floor are utilized for root cellar or feed mixing room. Permanent partitions as indicated or where desired, with gates (G) connecting these permanent partitions, which, upon being thrown open, would leave clear passageway through the center for taking out the manure by stone boat or truck. Ventilate properly and supply abundant light. Either end could be arranged for horses with dividing partition run to ceiling, with doors instead of gates separating from cattle, still leaving center passageway to be opened through.]

Top Dressing Fall Wheat.

SUBSCRIBER, Perth Co., Ont.:—“I have a field of fall wheat that was small last fall. Would you advise to cover this with manure in March? Let us hear from some of the readers of the ADVOCATE.”

[It would certainly be advisable to protect young wheat by spreading on a light coating of loose, open covering, such as clover chaff or fresh manure from the horse stable. This practice is made a rule on many fall wheat growing farms in the month of February so as to hold later snow-falls.]

Gold Mining Machinery.

A. B., Middlesex Co., Ont.:—“Will you kindly inform me in your next issue where a free milling mill for gold could be obtained and the probable cost. By so doing you will oblige an old subscriber?”

[The London Engineering Co., of London, Ont., manufacture all classes of mining machinery. Mills of about 15-stamp and upwards cost from about \$6,000 and upwards, or for about \$2,000 a 5-stamp prospecting mill can be secured.]

Raising Water from a Stream—Feeding Cattle Loose.

A. STOCKTON, Wellington Co., Ont.:—“I have been a subscriber only since Dec. 1st, but can say it is money well invested. I have received some very useful information; in fact, I think the ADVOCATE has come to my home to stay. I have some questions to ask, hoping to receive answers through your valuable paper. 1. What would be the best plan to get water into my stables from a spring creek which runs within about thirty rods from barn? The stable is about six or seven feet higher than bed of creek. There is only about 1 1/2 or 2 feet of fall above the point where the creek is to be tapped. 2. I have been very much interested in the experiments of feeding steers in loose box stalls, and would like to know how they are kept from crowding each other away from the feed, also how many head should be together. What size of box stalls would be best? How are the droppings kept out of the mangers?”

[1. A hydraulic ram should work to perfection in this case. (See FARMER'S ADVOCATE, Feb. 1st, page 61.) A subscriber says a hydraulic ram can be bought and put in for less money than it would cost to dig a well, brick or stone it up, and purchase a pump. It would do its own pumping, and do it night and day the year round. Mr. Stockton being a new subscriber, we have sent him a copy of Jan. 1st, 1896, FARMER'S ADVOCATE, which can be looked up by old subscribers who desire information on this subject. Steers can be fed loose in box stall only when they have been deborned, when they feed at troughs as peaceably as do sheep. It is necessary to allow plenty of trough room. Mr. Thos. McMullan, Seaford, Ont., feeds twenty steers in a pen 35x22 feet, and thirty-two in a pen 34x65 feet, each having mangers on two sides of the pen. The troughs or mangers, 14 inches deep, 17 inches at the bottom and 20 on top, sit on the passage floors, which are elevated one foot from the floor, and droppings seldom fall into the mangers. W. C. Edwards, Rockton, Ont., suspends his steer troughs on ropes, and thus raises them as the manure accumulates.]

Why Are Devon Cattle Not More Popular?

C. F. BENT, Durham Co., Ont.:—“Many thanks for the premium silver canoe pin, which is very good for one new subscriber. I think every farmer should take your paper. I would not think of farming without it. I find it hard to induce people to take it; some would like to, but think they can't afford it. Others think they know how to farm without reading. We did not receive the 16th of August, 1897, number. If you could kindly send it to us I should be obliged, because we have all the ADVOCATES since I first became a subscriber. I should like to know what is the reason that Devon cattle are not popular in this country? I know when I was in England they were very popular with the men who supply the cities and towns in the south of England with milk. Long live the ADVOCATE.”

[It is somewhat difficult to understand why such a useful, really general purpose breed of cattle has not become more generally bred in this country, where special purpose cattle have never held a large place. There are no objections to them that we are aware of, but we believe it is a fact that very little has been done by their few breeders to popularize them in Canada. They are smooth, easy keepers, generally good milkers, and yield a good carcass of beef at a moderately early age. In our estimation they hold about the same place in the cattle world as Southdowns do among sheep. Will some one answer this question?]

Removing Warts.

SUBSCRIBER, Perth Co., Ont.:—“Please publish a treatment which will successfully remove warts from cows; are yearling cattle?”

[In cases where the warts are hanging they may be removed with the knife, followed by the hot iron to stop the bleeding; the daily application of nitrate of silver will remove them, as will also butter of antimony likewise applied. Another recommended remedy is to saturate the part with fresh lard once a day for three or four days, when they can, if small, be removed by the fingers; or, if large, by twisting or by using the ecraseur. They may also be removed by tying a silk thread tightly around the neck of the wart.]

Seed Potatoes—Paris Green.

CHARLES J. GOETZ, Waterloo Co., Ont.:—“I take notice that you are answering questions through the ADVOCATE, which is a good paper. 1. I would like to know whether it is advisable to plant small potatoes, say the size of a pigeon egg to the size of a small hen egg? 2. Do you think it well to cut a potato the size of a common hen egg through once? 3. Which way do you think best to plant potatoes, deep or light? 4. Would you advise planting in bottom of furrow or in the right of Parish green too much to use on two acres of potatoes when the stalks stand about fifteen inches apart. I generally go over my patch twice a season, and use about four pounds Paris green each time, mixed with water? 6. Would you advise to hill up potatoes with plow or scuffler?”

[1. It has been decided by careful experimenters, after a long series of tests, that on rich, well-prepared, mellow soil, potato seed that will pass through a 1/2 inch sieve and not through a 1/4-inch sieve will give good results in a crop, but nothing

smaller should highly fertile should be planted is all the young roots at the soil. 2. With seed plant Ontario Experiment obtained when deep, while seed well. Four in depth to plant is uniformly in the rows. Four pounds more than is quantity must to water is 1 pound of lime save the foliage ference which usually be done when surface will not generally prefer

S. P., Riverview, trouble in having calf early bring them in best way to see Which is the can be served About sows—rowing when litter?”

[We know to bring a calf calving. It is come in season in a week or probably in conceive at having them to set up irregular in h renders her m tion does take cows when tie from the vul restlessness, any of these by turning bull, if one accept service in occasional service, but v believe that and that the quence. A so five to seven

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H. G. H., feeding them to run with

[We have tion in the with their d entirely upon whether she Most breeders the calves to times a day and find that and hay, and if the cows there could be calves. True vided the m heat which principle, but H. G. H. does or dairy breed advise feeding pail on milk extracted, fo calves serve lay on flesh milk when t touched the H. G. H. or question our

ENQUIRE walls for a boarded on material to building it cheapest mat think this pl would you re

[We would terial referre three inches

smaller should be planted, and if the ground is not highly fertile and mellow, even larger than these should be planted. The substance of the potato seed is all the new plant has to draw from until the young roots are able to feed upon the fertility in the soil. 2. No. 3. In eighteen separate tests, with seed planted 1, 3, 5 and 7 inches deep on the Ontario Experimental Farm, the best results were obtained when the sets were planted five inches deep, while seed planted three inches did almost as well. Four inches is generally considered a good depth to plant potatoes. 4 So long as the ground is uniformly mellow, it makes little or no difference to the crop, except that by having plants straight in the rows the cultivation would be facilitated. 5. Four pounds of Paris green on two acres is much more than is necessary or wise to use, as such a quantity must burn the tops. The best proportion to water is 1 pound to 150 to 200 gallons. One pound of lime should also be used in the water to save the foliage from injury. 6. It makes little difference which implement is used, as the work can usually be accomplished well by either. It should be done when the ground is rather dry, so that the surface will not bake. Shallow mounding-up is now generally preferred.]

To Bring Cows in Heat.

S. P., Riviere du Loup, Que.:—"I have great trouble in having fresh cows served so that they will calve early next fall. What is the best way to bring them in heat, and when in heat what is the best way to see it when cows are tied in the stable? Which is the earliest date after calving that a cow can be served? Some say nine days, are they right? About cows—Which is the earliest date after farrowing when they can be served again for a second litter?"

[We know of nothing better than liberal feeding to bring a cow in heat as soon as possible after calving. It is generally about a month when they come in season if well fed. Cows sometimes come in a week or ten days, but it is not natural, and probably in nine cases out of ten they will not conceive at that time; and we would not advise having them served, for the reason that it is liable to set up inflammation and cause the cow to be irregular in her periods for many months, and also renders her more liable to abortion in case conception does take place. The indications of oestrus in cows when tied in the stable are a slimy discharge from the vulva and unusual heat in those parts, restlessness, and in some cases bawling. When any of these signs are noticed she should be tried by turning her loose with other cows or with a bull, if one is kept. Sows in many cases will accept service in four or five days after farrowing, in occasional cases will prove pregnant to such service, but we do not advise this practice, as we believe that conception influences the milk supply, and that the nursing litter will suffer in consequence. A sow will generally come in heat in from five to seven days after her pigs are weaned.]

Should Calves Suck or be Fed?

H. G. H., Simcoe Co., Ont.:—"Can calves (pure-bred) be as well raised for breeding purpose by feeding them the milk as milked as to allow them to run with their dams?"

[We have no hesitation in answering this question in the affirmative, because when calves run with their dams they invariably depend almost entirely upon their dam's milk for several weeks whether she has enough milk for them or not. Most breeders of pure-bred beef cattle who allow the calves to suckle separate them, except three times a day at first and twice a day afterwards, and find that they soon begin to eat roots, chop and hay, and therefore grow more rapidly. Now, if the cows were hand milked and the calves fed there could be very little if any disadvantage to the calves. True, there might be a very little, provided the milk were allowed to lose the animal heat which is claimed contains some of the life principle, but the difference would be very little. H. G. H. does not state whether the calves are beef or dairy bred, but if dairy we would by all means advise feeding, especially the heifers, from the pail on milk from which the cream has been extracted, for the reason that butter-fat fed to calves serves to influence the tendency in heifers to lay on flesh rather than convert their food into milk when they have become cows. We have not touched the economical aspect of the question, as that did not seem to be involved in the inquiry. If H. G. H. or others would like to discuss this question our columns are open to them.]

Stone Hog Pen.

ENQUIRER, Lanark Co., Ont.:—"Would stone walls for a pig house be damp and unhealthy if boarded on the inside and packed with some dry material to the width of three inches, as we intend building it into a bank? This is the warmest and cheapest material we could use for building. If you think this plan would not do, what sort of material would you recommend?"

[We would have no hesitation in using the material referred to in constructing a hog-pen wall, as three inches of sawdust or chaff would effectively

prevent dampness. We would suggest that in building the wall as few as possible of the stones should reach through the wall, so that frost would not be conducted through wall. See the plan of ventilation in Mr. Tillson's piggery as given in this issue. Such a system should keep the walls dry at all times.]

Plan of Milk Wagon Wanted.

REUBEN SHIER, Huron Co., Ont.:—"Would any of the readers of the FARMER'S ADVOCATE please give particulars of a good method of making platform suitable for drawing milk, from eighteen to twenty-four cans?"

[We will be pleased to give place in our columns to good descriptions of milk-wagon platforms.]

MARKETS.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.)

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

Table with columns: CATTLE, Extreme Prices, Top prices (Two weeks ago, 1897, 1898). Rows include 1600 lbs. up, 1350 @ 1200, 900 @ 1250, 1050 @ 1300, 100 @ 1050, Fed Westerns, Stockers and feeders, Fat cows and feeders, Canners, Bulls, Calves, Texas, Texas C. & B., Corn-fed Texas, Hogs, Mixed, Heavy, Light, Pigs, Sheep, Natives, Western, Lambs.

The cattle market has a strong undertone for all good grades. Hogs are likely to sell higher than at present. Sheep prospects are good.

There hasn't been so large a proportion of inferior to medium quality cattle in many years as at the present time. Buyers who have orders for choice shipping or export cattle have great difficulty in filling them. The country is full of corn, and considering the fair prospect for the future it seems strange that so many half fat and rough cattle are being marketed. Thousands of new feeders are in the business, however, and aside from the fact that they lack experience, many of them get into the business by borrowing money for definite periods to carry feeding operations. The obligations came due before they had gotten the cattle in proper condition, and this fact, coupled with the other fact that a large share of the cattle lately fed were of inferior breeding, accounts for the unusually poor quality of the beef cattle being put upon the market. An Indiana man who feeds 1,000 cattle every year is paying 25c for corn delivered now and 25c to 30c for corn to be delivered to his feed lots next fall. In Nebraska farmers have such a big corn crop that they cannot house it. Millions of bushels are piled up on the bare ground, and vast quantities are still on the stalk in the fields.

A. J. Van Meter, Miami, Mo., had in a load of 1433-lb. cattle of his own feeding which sold to the United Dressed Beef Co. at \$5.45. C. L. Millette, president of the Stock Growers' Bank at Fort Pierre, South Dakota, says the cattlemen on the range have an abiding faith in the future of cattle, and are holding them higher than they would bring on the markets. Live cattle exporters have been busy of late. Exporters bought 4752 cattle this week as follows: Hathaway, 878; Lehman, 615; Morris, 985; Myers & H., 30; Schwarzschild, 350; Swift, 659; Sherman, 365; Reeder, 337; Gordon & Ironsides, 128; Sherlock, 1; Doud & Keefe, 105; Williams, 30; Epstein, 150.

The organization of the National Live Stock Association of America at the recent big meeting of stock owners at Denver was a significant thing. The interest shown by stockmen in organization was greater than it has been for the past fifteen years. It will take wise management to harmonize the interests of so large an organization. There were over 1,000 bona fide delegates at the meeting. The cattle-men and fide delegates at the meeting continually having trouble in the range country, and the large cattle owners, the small ranchmen and farmers, are generally making life a burden for one another. An attempt was made by the largest cattle owners to have the Government sell the arid lands of the West to the different States and Territories. That would enable them to lease these lands from the States at nominal prices and put an end to the crookedness of small stockmen and settlers who now often take up claims on the open ranges of the big cattle companies. There were too many small owners in the meeting to let the resolution go through, and so the fight will be continued. Richard Gibson, of Ontario, was an active participant in the convention. Hon. John W. Springer, of Colorado, was unanimously chosen president, John M. Holt, of Montana, vice-president; Charles F. Martin, of Colorado, recording secretary; and C. W. Baker, of Chicago, treasurer. The next meeting of the Association will also be held at Denver.

The hogs are running largely to lightweights, and the quality is not as good as it ought to be. The 164,044 hogs received here last week averaged only 227 lbs., the lightest average in about a year, and 32 lbs. lighter than the last week of last November. A average the previous week, 231 lbs.; a year ago, 237 lbs., and two years ago, 228 lbs. At the recent sale of Poland-China hogs in Johnson County, Nebraska, forty-nine head sold for \$1,917.50, the highest-priced animal bringing \$250 even.

A well-known Chicago horse salesman has recently been exhorting farmers to take up horse-breeding again on a more scientific basis than ever before, urging the necessity of using sires and dams that will give weight and action in drafters and speed and style in drivers and coaches. In the enthusiasm of his subject he declared that the country was upon the verge of a horse famine. Of course, he meant a famine of good horses. His speech was widely quoted and discussed, and the essential part of it that was passed from mouth to mouth was the prediction about the verge of a famine. As a result hundreds of horses have been held out from sales, and asking prices advanced \$5 to \$20 per head. The horse market the past week opened dull, with the tendency of values lower: in fact, many poor to good horses sold at \$10 to \$15 per head lower than a week ago, owing to excessive offerings. Last week 2,919 were received at the Chicago Stock Yards, being the largest week's receipts in about eight months. The previous week 2,805 arrived, and a year ago 2,011. The export and shipping demand seemed more different than for weeks past, with local operators also holding back. Poor to fancy drivers quotable at \$60 to \$300; good to fancy drafters, \$120 to \$225; poor drafters to choice chunks, \$50 to \$120; carriage teams, \$200 to \$800, and light horses, \$30 to \$50.

Toronto Markets.

Trade at the Western cattle markets continues good. Fat cattle are firm and fairly active. Export cattle and hogs are in fair demand. The prices do not show any material improvement, and while active for good, best class of animals, the poor and medium class of cattle tends to keep the prices down. Unless farmers are determined to finish their cattle before putting on the market, prices cannot and will not advance.

Export Cattle—No particular trade going on. Export cattle are quoted at 4c to 4 1/2c per lb. Mr. H. Mulens has just arrived from Winnipeg. He reports that the cattle are wintering well, but that they have to be fed a good deal because of the deep snow. The first shipment of dressed beef to the Old Country from Messrs. Harris & Co.'s abattoir went forward to day—two car lots of hind quarters, carefully packed and turned out in good condition—sent in the new cars especially built by the Canadian Pacific Railway Company for the cold storage system. Three of our exporters sent a few carloads to the Old Country by way of St. John. Good steers are selling for about 4 1/2c per lb.; poor cattle hard to sell.

Butchers' Cattle—This class of cattle were of better quality and prices a little firmer. Choice picked lots, \$4; good to medium, \$3.35 to \$3.75; middling to common, \$3 to \$3.25; inferior and poor, \$2.75. Butchers' cattle were hard to sell; one or two deals were reported at \$2.50 per cwt. The market of Friday, February 4th, was the smallest for some considerable time—only 25 loads and 500 hogs. Trade promises to be very good. The Montreal buyers report a great shortage in their districts. They were in full force to day and cleared the market in a few hours.

Bulls—Export bulls are quoted at \$3.25 to \$3.75. Messrs. Crawford & Hunslett sold 16 export bulls, 1,600 lbs. each, at \$3.67 per cwt. William Levaek bought several bulls at \$3.25 to \$3.75.

Feeders and Stockers—Feeders and stockers in good demand for Buffalo. William Creslock bought 40 feeders, 950 lbs. average, at \$3.50. Two loads of stockers, average 850 lbs., at \$3.15; feeding steers sold for \$3.50. Half fat steers, for farmers and to fill vacancies in the distillery byres, are selling at 3 1/2c; for very choice, 3 3/4c was paid to day.

Calves—There is a good demand for choice veals, but common calves are hard to sell; prices rule \$2 to \$3 per head. Sheep—Are a little more in demand and steadier in price. Butchers are paying 3c to 3 1/2c per lb.; bucks, 2 1/2c per lb.

Lambs—Are much firmer and in good demand, at from \$4.75 to \$5 per cwt; \$3 to \$5 per head.

Milk Cows—The trade was brisk on short supply; prices range from \$25 to \$40 per head. A pair of good dairy cows were booked to Myrtle at \$80 for the two.

Hogs—Receipts were very moderate—about 1,000 only. Market opened with a fair demand from outside points. Prospects are not very good for any advance at present. Prices fell off 10c per hundred, and a further decline is expected next week at \$4.75 for top price best selections. Thick fat and light are quoted at the same price, \$4.70; stores at \$1.50, stags at \$2.

Butter—The market is unchanged. Prices are on the easy side, and plenty of stored butter on hand. Dairy tubs, poor to medium 10c to 13c per lb.; creamery, 16c to 18c per lb., in pounds; 20c for best make.

Cheese—Market very quiet; prices remain as per last quotation—9c to 9 1/2c for choice.

Grain Market—About 1,150 bushels of wheat delivered, at prices ranging from 80c to 85c per bushel for white, 90c to 91 1/2c for red, and 81c for goose.

Hay—Twenty loads on offer, at \$7 to \$9.50 per ton.

Straw—Selling at \$5 to \$6 per ton.

Barley—There is a good deal of talk on the market amongst grain men as to the probabilities of the barley crop next year. Some contend that the duty will be lowered for shipment to the United States next year. If this proves to be correct, the demand from the Eastern markets would undoubtedly be very large.

Oats—Easier, 2,500 bushels selling at 30c per bushel. Peas—Steady and firm, at 87c to 88c per bushel; wanted. Toronto, February 11, 1898.

Montreal Markets.

Cattle—Our last report dealt with the overcrowded state of this market, but there has been a material change in the situation. The markets have been cleared of all surplus, and with a tight run on the last three markets—of 250 to 400—and to-day (Thursday, 10th) of 250 to 300 head at the outside, it was what can easily be called drovers' weather, and they are making the most of it. On this morning's market the run was the highest, and the writer has seen a regular market for some time and the quality of the poorest, with hardly an animal of good quality to act as an offset. Consequently, though prices were materially changed, they will hardly be noticeable in the quotations. Common cattle, which up to the past two or three markets have been rather difficult to cash for anything more than 25c to 30c, readily sold for 40c per lb. higher, and we only saw one small lot of what could be called good, choice cattle, and they were turned over at 4 1/2c, an advance of 25c on last week's prices; medium to fair cattle, 3 1/2c to 4c per lb.

Sheep and Lambs—There is practically no market for sheep or lambs, and very few are brought in alive, the bulk of the lambs used in the local trade being brought in already dressed. The few sheep in readily made 3 1/2c per lb.

Dressed Meats—Everything of late has favored this market, the trading in all lines being brisk and a good demand from buyers, with perhaps a slightly easier feeling in dressed hogs. The higher prices asked on the live stock market turned many butchers a way to the dressed beef, and it is expected that this week's sales will make a good hole in the stocks of beef and lambs on hand. There has been no change of note in prices, which were as follows:

Table with columns: Hogs, light and bright, in cars; light and bright, small lots; bright, heavy, small lots; Mutton; Beef, hinds; fronts.

Hides and Skins—There has been no change in the situation of this trade. The company which practically monopolizes the output are paying butchers top prices in order to break all opposition. This they have succeeded in doing to a certain extent, but there is not the slightest doubt but the moment they come down in their prices to butchers, buyers will again be started by others. The range of prices are 9c to 9 1/2c, and in some cases 10c per pound for the green, salted hide, for No. 1, with a corresponding decline of 1c per lb. for Nos. 2 and 3; lamb skins, 85c to \$1.05 each.

The British Markets.

Monday's London market, with heavier arrivals of United States and Argentine cattle, eased off from the sharp advance of Monday week (January 31), and declined fully 1c to 1 1/2c per lb. on cattle from those two countries, but Canadian remained steady and unchanged in price, at 11c; States, 11 1/2c; Argentine, 10c; Liverpool steady, at 1c lower all round. Both ports were strong for sheep; Liverpool 1 1/2c for choice Canadians, 1 1/2c to 1 3/4c for Argentine sheep, and London 1 1/2c for choice. (All above quotations are per pound, dressed beef, sinking the offal.)

Attend to your "Farmer's Advocate" subscription early, and avoid regrets for oversight.



A Narrow Escape.

My name is Sarah Blobs. That it is neither beautiful nor euphonious, but has a decidedly plebeian sound, I am willing to admit. However, last summer I came very near changing my commonplace cognomen into that of Mrs. Algernon Montrevor, and this is how it happened. But first let me tell you that I am an old maid, and I intend to remain so. At one time I was very poor, and often did not know where the next meal was coming from, but that was before my Uncle Peter, in California, died and left me sole heir to £20,000. £20,000! Just think of it for a woman who had never known what it was to have twenty thousand pence at a time in her whole life. No wonder it turned my head. To be the mistress of a beautiful home, elegantly furnished, with fine clothes, and a servant to wait upon me, was a new and delightful experience, and for a while I enjoyed it to the utmost. "Sunset Villa" was the name of my new home, and I had hardly got settled before all the village aristocrats—would-be and otherwise—who had scornfully passed me by when I lived in one room of the little red farmhouse, and toiled for my daily bread, hastened to call, and I was invited to their balls, parties, and receptions in the most cordial and effusive manner. It was at a party one evening I first met Laura Morel, a young widow who was boarding in the place. She was a delicate little creature, with crinkly blond hair and innocent-looking, child-like, blue eyes. We immediately became fast friends and were constantly together. One evening the bell rung and the girl brought to me a card. "Algernon Montrevor," I began, just as Laura, who was looking over my shoulder, gave a little scream. "It's Cousin Algy, my own, dear Cousin Algy!" she exclaimed, joyfully, and rushed to the door. While I am about it I might as well tell the whole truth and acknowledge that when Laura introduced me to her cousin, and he clasped my hand and gazed at me with his beautiful, sad, dark eyes, my heart began to thump painfully beneath my pretty Valenciennes bodice, and I felt the hot blood rush to my face. He was a tall, aristocratic-looking man, dressed in the height of fashion, and his hands were white as a woman's. I recall with a thrill of shame how, after he had gone to his hotel and Laura and I had retired to our room, in spite of my forty years, I gushed like a schoolgirl over his handsome, melancholy black eyes and wavy hair, and compared him to a hero of romance and a prince in disguise. For the next two months I lived and went around like one in a dream. Mr. Montrevor spent the greater part of his time with us, and every morning he brought me lovely bouquets, and would sit by my side for hours and read poetry out of a little blue and gold book which he carried in his pocket. The summer days flew by. Caressed and petted by Laura, who called me her "darling Sarah," and her sweetest Sarah," and flattered and courted by Algy, I forgot for a time that I had ever known any other existence, and when one evening he took my hand and told me I was the most beautiful woman in the world to him, and that it was the dearest wish of his heart to make me his wife—I believed every word he said. We were engaged. He bought me a diamond ring, and quoted a verse of poetry as he slipped it on my finger. Laura kissed us both and declared she could weep for joy over the thought that I was to be her own darling Cousin Sarah. Algy begged me to set an early wedding day, and as important business matters called him to his home in London for a few weeks, after much persuasion I finally consented to be married upon his return. Laura urged me to have an elegant wedding outfit, as my lover belonged to a wealthy, aristocratic family which moved in the most fashionable London society. We were very busy planning the details of what Laura called my "trousseau," when she received a letter from her lawyer telling her to come to town at once. So it happened that one beautiful September morning my handsome, devoted lover and his innocent, child-like cousin took the early train together for London. I was sitting in my parlor about a week later, when the door opened, and who should appear but my Aunt Mary Stubbs, my only living relative, who owned a small farm in an adjoining town. Aunt Mary is a little, dried-up old woman, who has a faculty for saying the most disagreeable things in the fewest words of any person I ever met. "What's this I hear, Sarah Blobs?" she quavered, as I hastened to remove her old faded bombazine cloak and battered bonnet. "Tom Jones writ me you was goin' to git married."

"I don't know Tom Jones, but whoever he is he told the truth," said I. "Why, Sarah Blobs, you ought to be ashamed! Tom says the feller is good fifteen years younger than you be—he's seen him in the city—and he's a professional rascal, and this gal you've got ain't his cousin at all!" "Aunt Mary," I answered, in my most dignified tone, "I am about to be married to Mr. Algernon Montrevor, a wealthy, aristocratic young man who cares nothing about my age, and who loves me devotedly, and—"

"Loves your catsfoot!" she broke in, sneeringly. "You used to be a smart, sensible woman, Sarah Blobs, and if you believe such stuff as that you must have softenin' of the brain! Handsome, rich young city fellers don't go out into the country and marry fat, homely old maids. Take my word for it, he is a miserable gambler or something, who has heard about you havin' money, and is after it!"

"I will pass over your insulting insinuations, aunt," I replied loftily, "and simply remind you that I received my information concerning Mr. Montrevor's honorable character and worldly position not from himself, but from my dearest friend and companion, who has been intimately acquainted with the family for years. Laura Morel is—"

"An accomplice, of course!" snapped Aunt Mary. "A pair of 'em, and between the two they'll skin you, hide and taller! You had better be back where you was a year ago, workin' from house to house, than to have your head added in this way. But I've allers heard there was no fool like an old fool. What do you s'pose your poor Uncle Peter would say? Why, the old man would turn in his grave if he thought the money he pinched and nipped to save was liable to fall into the hands of gamblers and thieves."

"Aunt Mary, I am surprised to see you so envious and spiteful."

"There, there, Sarah Blobs," she croaked, "don't put on airs; you've been glad too many times to get a meal in my old kitchen for that," and she seized her old cloak and bonnet and flounced out of the house in a pet.

With a handsome cheque in my pocket, I started next day for the county town to buy my wedding finery. I was determined Algernon and his aristocratic relations should have no occasion to be ashamed of me, and spent money lavishly. For my wedding dress I selected a beautiful pearl-gray satin, with lace trimmings. I also bought a black satin, a garnet silk, a travelling suit, tea-gowns, and hats, bonnets, and gloves too numerous to mention. It was evening, and I was tired and dusty when I entered the station to wait for my train. A glance into a mirror showed me I was looking my worst, so drawing a thick veil over my face, I took a seat in a dusky corner. Heedless of the crowds passing in and out, I sat there building delightful air-castles, until I was aroused to a consciousness of what was going on around by hearing my name spoken by a man and woman who occupied the next seat.

"You would never have known old Sarah Blobs if it hadn't been for me," she was saying, "and you'll agree to fork me over five thousand for my share, or I'll go to her and expose the whole thing."

"And get your own walking tickets! I've half a mind to throw the game up, anyway," said he.

"And lose twenty thousand?"

I leaned forward and lifted a corner of my veil. Merciful Heaven! It was my Algernon and his Cousin Laura, whom I had supposed hundreds of miles away. For one moment everything swam before my eyes, and I thought I was going to faint; then with a desperate effort I pulled myself together, and waited to hear my lover reply—

"That's it, Laura. Twenty thousand pounds is awfully tempting, and I'm willing to divide the spoil fair, but think of my going back to soft-soap and spoon round that silly old thing a month longer! But once we are married and I hold the swag, I'll soon cut my stick, you bet—and old Sarah Blobs will find herself stranded back in the wilderness where she belongs."

The scales fell from my eyes, and hating myself for being such a dupe, I left the station and went to a hotel, where I sat down and wrote the following letter:

"Mr. Montrevor,—It will not be necessary for you to soft-soap and spoon round the silly old woman any longer, as in the future old Sarah Blobs intends to stay back in the wilderness where she belongs, and hang on to her twenty thousand pounds like grim death."

I never saw either of them again, and as I told you before, I am an old maid, and I intend to remain so.

Pleasing Qualities in Woman.

If it were asked what is the quality that renders woman most pleasing to her fellow-creatures, it might be answered: First, pleasure in her fellow-creatures, then pleasure in herself. Individuality has a charm of its own, and beauty lies, to a great extent, in the eye of the beholder. It is within the grasp of all women to seem attractive, and in order to attain this end, good health is a sine qua non, and then a constant attention to the minor details of the toilet will accomplish the rest. The well-groomed, soignée woman's great attraction depends not so much on actual beauty of feature, but on the scrupulous care bestowed on the hair, the hands, and last, but by no means least, the healthy condition of the complexion.

Memory Gems Contest. FIRST PRIZE GEMS.

CONTRIBUTED BY MR. HEBBER SHIRREFFS, VANKLEEK HILL, ONTARIO.

- I. One smile can glorify a day, One word new hope impart. The least disciple need not say 'There are no alms to give away,' If love be in the heart. —Phoebe Cary.
II. Ennobling is our faith in men; It lifts us from the dust. And what we trust a man to be, We make the man we trust. —Aella Greene.
III. Grief can take care of itself, but to get full value of a joy you must share it with others. —Mark Twain.
IV. Seldom can a heart be lonely, If it seek a lonelier still, Self-forgetting, seeking only Emptier cups of love to fill.
V. When God intends to fill a soul, he first makes it empty when he intends to enrich a soul, he first makes it poor; when he intends to exalt a soul, he first makes it humble; when he intends to save a soul, he first makes it sensible of its own miseries and nothingness. —Flavel.
VI. I think true love is never blind, But rather gives an added light, An inner vision quick to find, The beauties hid from common sight.
No soul can ever truly see Another's highest, noblest thought, Save through the sweet philosophy And loving wisdom of the heart. —Phoebe Cary.
VII. 'Tis better to have loved and lost Than never to have loved at all. —Tennyson.
VIII. Ah! If we knew it all we should surely understand That the balance of sorrow and joy is held with an even hand. That the scale of success or loss shall never overflow, And that compensation is twined with the lot of high and low.
The easy path in the lowland hath little of grand or new, But a toilsome ascent leads on to a wide and glorious view. Peopled and warm is the valley, lonely and chill is the height, But the peak that is nearer the storm-cloud is nearer the stars of light. —Frances R. Havergal.
IX. Better a death when work is done than earth's most favored birth, Better a child in God's great house than a king of all the earth. —George Macdonald.
X. To endure and to pardon is the wisdom of life. —Koran.
XI. Rest is not quitting — This busy career — Rest is the fitting Of self to one's sphere.
'Tis loving and serving The truest and best, 'Tis onward, unswerving, And this is true rest. —Goethe.
XII. Is true freedom but to break Fetters for our own dear sake, And with leathern hearts forget That we owe mankind a debt? No! True freedom is to share All the chains our brothers wear, And with heart and hand to be Earnest to make others free. —Lowell.
XIII. Help me to-day To bear all patiently, To rest all trustingly, To wait all hopefully, However long. Assured that as I bear, And rest, and wait, He plans the end to crown— A victor's crown.
XIV. God give us men! A time like this demands Great hearts, strong minds, true faith and willing hands: Men whom the lust of office does not kill; Men whom the spoils of office cannot buy; Men who possess opinions and a will; Men who have honor, men who will not lie. For while the rabble, with their thumb-worn creeds, Their large professions and their little deeds, Wrangle in selfish strife—lo! Freedom weeps, Wrong rules the land and waiting justice sleeps. —O. W. Holmes.
XV. God of our fathers, known of old, Lord of our far-flung battle line, Beneath whose awful hand we hold Dominion over palm and pine, Lord God of Hosts be with us yet, Lest we forget, lest we forget!
The tumult and the shouting dies, The captains and the kings depart— Still stands thine ancient sacrifice, A humble and a contrite heart. Lord God of Hosts be with us yet, Lest we forget, lest we forget!
Far-called our navies melt away, On dune and headland sinks the fire,— Lo, all our pomp of yesterday Is one with Nineveh and Tyre! Judge of the Nations spare us yet, Lest we forget, lest we forget! —Rudyard Kipling.

CONTRIBUTOR... Long life is show that we ha... The battl And heav When we These res We pray A little Drink There And dr... Let your Let your... The proper the grand driv life, is to follow noble spark k us from heaven... Fame is what taken, Character is give, When to thi waken Then you be... A sacred bur ye bear— Look on it, bes stand up and it steadfast Fail not for not for sin, But on ward, the goal ye —Frances... There is nev heart That shall l end If to God we t Him to be friend... Great me see that spirit than any mate thoughts rule... When life valor to dare... The Fat Throu While I The c And w Sweet 'Tis but That... CONTRIBUTE... The n Nor i Is fi The t And Let n... Good name is the imme Who steals 'Twas mine, But he that Robs me of And makes... My Su As Go Th Ye

SECOND PRIZE GEMS.

CONTRIBUTED BY MRS. PHILP, BEAMSVILLE, ONT.

I.

A man is his own star;
Our acts our angels are
For good or ill. —*Mattheu Arnold.*

II.

Long life is denied us; let us therefore do something to
show that we have lived. —*Cicero.*

III.

The battle of our life is won
And heaven begun
When we can say "Thy will be done."
But Lord until
These restless hearts in Thy deep love are still
We pray Thee "Teach us how to do Thy will."
—*Lucy Larcom.*

IV.

A little learning is a dangerous thing;
Drink deep, or touch not the Pierian spring;
There shallow draughts intoxicate the brain,
And drinking largely sobers us again. —*Pope.*

V.

We look before and after
And pine for what is not.
Our sincerest laughter
With some pain is fraught;
Our sweetest songs are those
That tell of saddest thought. —*Shelley.*

VI.

Let your truth stand sure and the world is true;
Let your heart keep pure and the world will too.
—*Geo. Houghton.*

VII.

Useful minds are always true;
Honest hearts are always brave,
Never flinching to pass through
Every nook of error's cave.
Bringing light and sunshine there.
Causing flowers of love to bloom,
Letting fragrance fill the air
Where before were death and gloom.
—*J. H. Whitford.*

VIII.

The proper work of man,
the grand drift of human
life, is to follow reason, that
noble spark kindled in
us from heaven. —*Barrow.*

IX.

Fame is what you have
taken,
Character is what you
give,
When to this truth you
waken
Then you begin to live.
—*Taylor.*

X.

A sacred burden is this life
ye bear—
Look on it, bear it solemnly,
stand up and walk beneath
it steadfastly.
Fail not for sorrow, falter
not for sin,
But onward, upward, till
the goal ye win.
—*Frances Ann Kemble.*

XI.

There is never grief of
heart
That shall lack a timely
end
If to God we turn and ask
Him to be our guide and
friend.
—*Wordsworth.*

XII.

Great men are they who
see that spiritual is stronger
than any material force, that
thoughts rule the world.
—*Emerson.*



"A DAY OF RECKONING."

XIII.
When life is more terrible than death it is then the truest
valor to dare to live. —*Sir T. Brown.*

XIV.
Circles are praised, not that excel
In largeness, but th' exactly framed;
So life we praise that doth excel,
Not in much time, but acting well. —*Waller.*

XV.
The Father spake! In grand reverberations
Through space rolled on the mighty music tide,
While its slow, majestic modulations
The clouds of chaos slowly swept aside.
And wheresoever in his rich creation
Sweet music breathes—in wave, or bird, or soul—
'Tis but the faint and far reverberation
That great time to which the planets roll. —*F. S. Osgood.*

THIRD PRIZE GEMS.

CONTRIBUTED BY MISS MURIEL E. DAY, NEW CARLISLE, QUE.

I.

The man that hath no music in himself,
Nor is not mov'd with concord of sweet sounds,
Is fit for treasons, stratagems, and spoils;
The motions of his spirit are dull as night,
And his affections dark as Erebus:
Let no such man be trusted.
—*Shakespeare: Merchant of Venice.*

II.

Good name in man and woman, dear my lord,
Is the immediate jewel of their souls:
Who steals my purse, steals trash; 'tis something, nothing;
'Twas mine, 'tis his, and has been slave to thousands;
But he that filches from me my good name
Robs me of that which not enriches him,
And makes me poor indeed. —*Shakespeare.*

III.

My mind to me a kingdom is,
Such perfect joy therein I find,
As far exceeds all earthly bliss
God and Nature hath assigned.
Though much I want that most would have,
Yet still my mind forbids to crave. —*Byrd, 1588.*

IV.

Where lives the man that has not tried
How mirth can into folly glide,
And folly into sin! —*Scott.*

V.

Though the mills of God grind slowly,
Yet they grind exceeding small;
Though with patience He stands waiting,
With exactness grinds He all. —*Longfellow.*

VI.

Man is his own star, and the soul that can
Render an honest and a perfect man
Commands all light, all influence, all fate;
Nothing to him falls early, or too late.
Our acts our angels are, or good or ill,
Our fatal shadows that walk by us still. —*Fletcher.*

VII.

Live while you live, the epicure would say,
And seize the pleasures of the present day;
Live while you live, the sacred preacher cries,
And give to God each moment as it flies.
Lord in my views let both united be;
I live in pleasure when I live to Thee. —*Doddridge.*

VIII.

Ambition, like a torrent, ne'er looks back—
And is swelling and the last affection
A high mind can put off; being both a rebel
Unto the soul and reason, and enforceth
All laws, all conscience, treads upon religion,
And offereth violence to Nature's self. —*Ben Jonson.*

IX.

Why should we faint and fear to live alone,
Since all alone, so Heaven has willed, we die,
Nor even the tenderest heart, and next our own,
Knows half the reasons why we smile and sigh. —*Keble.*

X.

Affliction is the wholesome soil of virtue,
Where patience, honor, sweet humanity,
Calm fortitude, take root and strongly flourish. —*Mallet and Thompson.*

XI.

Lowliness is young Ambition's ladder,
Whereto the climber upward turns his face;

I. Walker (equal); Elma Naylor, Mrs. Wm. Glass,
Annie C. McLennan and Ethel S. Skinner; Mrs.
Wm. Kinley and Mabel Roadhouse; Willie Wight-
man, Rowena Bishop and F. Greensides; Alice
Hume and M. M. Brandon; Gertrude Allen, Bertie
Brown, V. B. Graham and Jas. E. Burchell; A. B.
Ouellette; Bessie McKeen and Jessie E. Matthews;
Maggie Matheson, Will McVety and Maria Pur-
cell; John Lord and Jennie L. Edwards; Hattie
Patch; Mabel Walker and Herbert Cope; Mary J.
Shannon; Maggie W. Scott; Jesse A. Witmer and
Adda Hindson; Ida H. Greer, Minnie Thomson,
Loie Murray and Amy Watson; John Montle and
Klari Watson; Clara Coldwell; Helen Younghus-
band, Annie McIntosh, Mona Cooke and Clarence
Mills; Minnie P. Morse and Frank Shannon;
Joseph Murray (10 years old); Annie York and
W. A. Oswald; M. Doyle; Blanche MacMurray;
S. H. Webber (12 years old); Lena R. Renwick;
Albert de la Chapelle. There were seventy-five
papers in all, as some persons sent more than one.
UNCLE TOM.

"A Day of Reckoning."

Waller's "A Day of Reckoning" is too well
known to need a lengthy description. The hero of
the picture has been culpably reckless and extrava-
gant. He is aware that his affairs are somewhat
involved, but is totally unprepared for the disas-
trous statement—received on the eve of his mar-
riage—which informs him that he is irretrievably
ruined.

He begins to realize how dear to him is the
home of his ancestors, and were it still in his power
to keep it, would undergo any hardships to do so.
But vain regrets are useless; he will have to part
with his home, the old servants,—that somehow
seem part and parcel of it,—his horses, and even
his dogs!

With a heavy heart he goes to keep his appoint-
ment with his fiancee,
and during that last
ride details to her his
misfortunes, and honor-
ably releases her from
her engagement.
Though she promises to
wait for him until he
returns from that dis-
tant clime whither he
is going to seek his for-
tune, he is full of
gloomy forebodings,
and as he bids her a
final farewell at the en-
trance of her own
home, he is overwhelm-
ed with remorse for
the folly which has
evoked such a bitter
"Day of Reckoning."

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

In the Proverbs of
Solomon we read: "A
merry heart doeth good
like a medicine." Isn't
it true? When our
hearts are light we show
it in our faces: there is
a smile on our lips and a

laugh in our eyes. We instinctively draw to a hap-
py, laughing countenance; and as naturally turn the
cold shoulder to one sour and grim. How much
brightened up and encouraged we feel when the
cheery, laughter-loving person comes along! She
takes the dullness and sameness away for a time,
and makes life better for her brightness. We
should all try to cultivate this pleasant disposi-
tion,—for our own sakes, because it will make life
happier for us,—for the sake of others, in order
that we may do some good in the world. "Laugh
and grow fat; and if you think you are too stout,
why, then laugh and grow thin, for laughter is
not only a sign of health, but a very high road to
that golden goal." Some one says: "There is
nothing very beautiful about that." Well, that
all depends on the way in which you look at it.
As I said, laughter is healthy; and if health is not
beauty, what is it? "But," somebody persists,
"this world is a 'vale of tears.'" So it is, and
there is all the more reason for brightening it up.
We all have our times of grief—there is no get-
ting out of that—but we need not live among
tears. Are we bound to shed more tears because
gallons upon gallons have already been shed?
No! No! No! Let our joyous, happy, healthy
laughter break in on the gloom and chase it away,
and dispel the mists of sadness and sorrow, and
then the "vale of tears" will be transformed into
the pleasant valley of sunshine and mirth.

But still I hear a doleful voice say: "We are
told there is 'a time to weep and a time to
laugh.'" Quite true; but then we are not going
to give preference to the weeping, and fancy that
those who would rather laugh are all silly and
heartless. Why, they are the most sympathetic
in the world—they do not laugh at you, but with
you, and that is quite different. They are the
very ones who will weep with you in affliction:

But when he once obtains the utmost round,
He then unto the ladder turns his back,
Looks in the clouds, scornng the base degrees
By which he did ascend. —*Ibid.: Julius Caesar.*

'Tis a little thing
To give a cup of water; yet its draught
Of cool refreshment, drain'd by fever'd lips,
May give a shock of pleasure to the frame
More excellent than when Nectarean juice
Renews the life of joy in happiest hours. —*Sir T. A. Talfourd.*

Books, we know, are a substantial world, both pure and good;
Round these, with tendrils strong as flesh and blood,
Our pastime and our happiness will grow. —*Wordsworth.*

Truth crushed to earth shall rise again,
The eternal years of God are hers;
But error, wounded, writhes with pain,
And dies among his worshippers. —*Bryant.*

Blessings be with them, and eternal praise,
Who gave us nobler loves and nobler cares,
The Poets, who on earth have made us heirs
Of truth and pure delight by heavenly lays! —*Wordsworth.*

The winners of prizes in the above contest are:
1st, Mr. Heber Shirreffs, Vankleek Hill, Ont.; 2nd,
Mrs. Philp, Beamsville, Ont.; 3rd, Miss Muriel E.
Day, New Carlisle, Que.

This contest has been very keen, O. H. Brown
and Howard Mills receiving the same number of
marks as Miss Day, to whom the prize was award-
ed for neatness and correctness. Mrs. Osgood,
Miss Mattie Brown, Miss Olive Kidd, Alan R. G.
Smith, and Miss A. E. Robson follow only one
mark behind, while many others did nearly as
well. The following is a list of contributors in
order of merit: Kate MacTavish; E. Beatrice
Lord, Geo. J. MacCormac, Jessie Innes and Alma

their sympathies will reach out to you when trouble overtakes you, and you will find them friends indeed. They are the people who follow the Apostle's injunction, "Rejoice with them that do rejoice, and weep with them that weep."

We all know a few of these dreadful individuals who are shocked by a burst of laughter. "It is so vulgar," say they, "besides being wicked." Well, of course giggling and guffawing are vulgar; but I confess that I cannot see any vulgarity in a good hearty laugh. It is to my ear the finest of music. And then about the wickedness. Who gave us human beings the power of expressing our feelings in laughter? We alone of all created things are so favored—no other creature can so indulge, and I honestly think that if we neglect this gift of God, that is where the wickedness lies. Away with all those miserable people who hold that laughter is wicked and vulgar!

Did you ever notice some persons try to laugh? They twist their faces, and we hear a sort of cackling or gurgling in their throats, and they think they are laughing. But I am talking about the honest, straightforward laugh that comes right from the heart, and does everybody good.

Can you picture a young tree so cramped and confined that not a branch can nod in the breeze? What will happen to it before long? It will be subject to blight and disease, and when stormy weather comes the poor young life will go down like a ship among the cruel breakers. It has had no chance to bend to the breeze, and so it cannot weather the gale. Laughter is just as necessary to us as the nodding in the breeze is to the tree. It aids us when our storms blow, and helps us to resist them.

Let each of us, then, cultivate the gift of honest laughter, and home will be so much the happier. Things will go more smoothly, and when trouble comes, as it surely will, we shall be better able to endure it for having in us the merry heart that "doeth good like a medicine."

Your loving old auntie,
MINNIE MAY.

THE CHILDREN'S CORNER.

The Griffin and the Minor Canon.
(Continued from page 64.)

The summer had now passed and the autumnal equinox was rapidly approaching. The citizens were in a state of great alarm and anxiety. The Griffin showed no signs of going away, but seemed to have settled himself among them. In a short time the day for his semi-annual meal would arrive, and then what would happen? The monster would certainly be very hungry and would devour all their children.

Now they regretted and lamented that they had sent away the Minor Canon. He was the only one on whom they could have depended in this trouble, for he could talk freely with the Griffin and so find out what should be done. Two old men were appointed to go and offer the Griffin a splendid dinner on equinox day, one which would entirely satisfy his hunger. They would offer him the fattest mutton, the most tender beef, and anything of the kind he might fancy. If none of these suited they were to mention that there was an orphan asylum in the next town.

"Anything would be better," said the citizens, "than to have our dear children devoured."

The old men went to the Griffin, but their proposition was not received with favor.

"From what I have seen of the people of this town," said the monster, "I do not think I could relish anything which was prepared by them. They appear to be all cowards, and therefore mean and selfish. As for eating one of them, old or young, I could not think of it for a moment; in fact, there was only one creature in the whole place for whom I could have had any appetite, and that is the Minor Canon who has gone away. He was brave and good and honest, and I think I could have relished him."

"In that case," said one of the old men, very politely, "I wish we had not sent him to the dreadful wilds."

"What!" cried the Griffin. "What do you mean? Explain instantly what you are talking about!"

When the monster heard the whole truth he became furiously angry. He was so much excited that his tail became red-hot, and glowed like a meteor against the sky as he flew backwards and forwards over the town. As soon as his tail was cool he flew to the town hall and rang the bell. Everybody came and the Griffin addressed the meeting.

"I have had a contemptible opinion of you," he said, "ever since I discovered what cowards you are, but I had no idea that you were so ungrateful, selfish and cruel as I now find you to be. Here was your Minor Canon who labored night and day for your good, and as soon as you imagine yourselves threatened with a danger—for well I know you are dreadfully afraid of me—you send him off, caring not whether he perishes, hoping thereby to save yourselves. I shall go and find him, and I intend that he shall enjoy the reward of his labor and sacrifices. If when your Minor Canon comes back you do not bow yourselves before him and honor him all his life, beware of my terrible vengeance. There were only two good things in this town, the Minor Canon and the stone image of myself over your church door. One of these you have sent away and the other I shall carry away myself."

With these words he dismissed the meeting, and it was time, for the end of his tail had become so hot that there was danger of its setting fire to the building. The next day the Griffin came to the church, and tearing the stone image of himself from its fastenings over the great door, he grasped it with his powerful fore legs and flew up into the air. When he reached the dreadful wilds he set the stone Griffin upon a ledge of rock which rose in front of the dismal cave he called his home. Then he went to look for the Minor Canon and found the young man, weak and half-starved, lying under the shadow of a rock.

"Do you know," said the monster, after he had told everything, "that I have had, and still have, a great liking for you."

"I am very glad to hear it," said the Minor Canon, with his usual politeness.

"I am not at all sure that you would be," said the Griffin, "if you thoroughly understood the state of the case, but we will not consider that now. If some things were different other things would be otherwise. Lie down and have a good sleep and then I will take you back to the town."

When the Minor Canon made his appearance once more among the citizens the cordiality with which he was received was truly wonderful. The people crowded into the church when he held services, so that the three old women who used to be his week-day congregation could not get the best seats, which they had always been in the habit of taking, and the parents of the bad children determined to reform them at home in order that he might be spared the trouble of keeping up his former school. The Minor Canon was appointed to the highest office of the old church, and before he died he became a bishop.

During the first years after his return the people of the town looked up to him from fear. However, in the course of time they learned to honor and reverence him without the fear of being punished if they did not do so.

But they need never have been afraid of the Griffin. The equinox came round and the monster ate nothing. If he could not have the Minor Canon he did not care for anything. So, lying down, with his eyes upon the great stone Griffin, he gradually declined and died. It was a good thing for some of the people of the town that they did not know this.

Puzzles.

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

1—TRANSPOSITION.
Od uyo khati O lebu-dzee bditania,
Basetuo uyo vhae elade teh lawi,
Hecuna lod tshemauc sa I ma.
Si ota a thmac rfo yuo lal.—*Fluiguoioe.*
VERA GORDON.

2—WORD SQUARE.
My first is something to put on a letter.
My second drinks rum when water would be better.
My third is a fruit so lovely in pies.
My fourth ice does in a heated place.
My fifth prints books of every sort and size.
MURIEL E. DAY.

3—CHARADE.
My first is a ruler.
My second is a consonant.
My third is a weight.
My whole is a city in Ontario.
L. MOORHOUSE.

4—JUMBLE OF LETTERS.
In the following jumbles of letters find fifteen Canadian cities.
1. atsaow. 6. nreerfoiktod. 11. rotovila.
2. tmahilio. 7. pgeniwni. 12. rkkile.
3. oeebuq. 8. agnier. 13. conevtrauv.
4. lxahaf. 9. lbearthdof. 14. tnksiglon.
5. sjhtao. 10. adloon. 15. obvlille.
B. N.

5—NUMERICAL ENIGMA.
My 4, 5, 9 is worn on the head.
My 10, 11, 9 is an insect.
My 2, 1, 6 is used to cool the face.
My 2, 7, 8, 4 is a water animal.
My 2, 7, 3 is a fruit.
My whole is a country in the eastern hemisphere.
ETHEL MCCREA.

6—DROP LETTER.
1. a-le-f-e-d, a town in England.
2. S-n-e, an English writer.
3. r-a, a river in Ontario.
4. A-r-i-i, a sea in Europe.
5. S-n-n-v-a, mountains in Europe.
6. ar-ay-o, a lake in South America.
7. -o-th-m-e-...d, a county in Ontario.
8. -e-o-t-, a chief advisor of Chas. I.
NELLIE SCOTT.

7—CHARADE.
IT TWO A THREE THAT AS FOUR ONE FIVE A COUCH
resting, FOUR had a feeling of WHOLE.
"KIT."

8—TWO ANAGRAMS.
Hickory, dickory, dock,
Did Amanda reel a lot!
Did YLLADT faint
Like a frightened saint
When the mouse ran up the clock!
A. P. HAMPTON.

9—A FISH POND.
1. Part of a pump. 2. A weapon. 3. To boast. 4. A tree.
5. A kind of stone. 6. A shell. 7. A small animal. 8. A color.
9. Part of the foot. 10. Name of a precious stone. 11. A measure. 12. A heavenly body.
MAGGIE SCOTT.

10—SOMETHING NEW.

This is one of Cunningham's ballads, or rather a portion of one. In order to read this you must not hop, skip and jump from squares apart, but soberly step from one square to one of its neighbors, and not by corner, but by one of its sides.

A	W	T	A	T	H	A	L	E	A	N	E	A	G	L	
S	E	E	N	E	E	H	L	K	A	E	E	R	F	E	
S	H	E	D	L	W	S	F	I	W	A	Y	O	U	R	
I	R	D	A	A	I	T	I	L	G	L	A	N	D	G	
V	I	N	G	G	N	S	L	E	N	H	E	L	O	O	
F	T	A	H	T	D	A	L	L	E	T	T	E	N	O	
O	L	L	O	W	S	F	O	I	D	N	E	E	T	D	
A	E	T	I	H	W	R	U	H	L	O	O	C	H	S	
N	D	R	U	S	T	R	L	I	W	O	D	P	U	E	H
N	A	L	I	A	S	G	N	S	S	N	M	N	L	I	
D	A	L	L	A	N	T	M	Y	E	A	A	N	E	P	
B	G	D	N	A	T	S	A	O	V	L	H	I	E	F	
E	R	B	U	R	G	A	L	B	A	G	G	N	O	L	
N	U	E	O	T	N	A	L	Y	E	N	E	D	L	I	
D	O	N	D	M	A	S	T	M	L	D	N	A	S	E	

11—DROP-LETTER PUZZLE.

1. -ll--d, a--ier, a famous man.
2. W--s-s-a, a bay in Japan.
3. U-l-, a city in United States.
4. H--h-luff, a town in Manitoba, on C. P. R. line.
5. -ar-oo, a river in Australia.
6. -o-n-, a county in Manitoba.
7. -h--by, a town in Ontario.
8. -o--l-nd, a gold region.
9. -a--ian, a sea in Europe.
10. M, M--y, a great evangelist.
11. -h-a-s--y, a lake in Canada.
12. --r-r-e-i-r, a town in Scotland.

My (1) added to atmosphere means more than one.
My (2) " " a preposition gives a verb.
My (3) " " a number gives nothing.
My (4) " " the number gives fruit of a tree.
My (5) " " lumber gives fancy.
My (6) and last added to a mixture containing metal gives learning.
My (7) whole is used in every schoolroom.

13—HISTORICAL EVENTS (transposed).

1. "Can we mar their" sport?
2. "Put thy tin dime in Una."
3. "Hope for ten Carle's" wealth.

Answers to Jan. 15th Puzzles.

- 1—In faith and hope the world will disagree, But all mankind's concern is charity.
- 2—Prate—rate; grind—rind; rant—ant; spark—park; slack—lack; scold—cold.
- 3—(1) Tea; (2) beef; (3) butter; (4) ham; (5) egg; (6) meat; (7) pie; (8) fish; (9) hash.
- 4—Dr. Nansen; Pharaoh; Caesar; Congo Free State; Mauritius.
- 5—Canary (can-airy); robin (inn); sparrow; bobolink; lapwing bitter (urn).
- 6—Calcutta.
- 7—Virtue only makes our bliss below, And all our knowledge is ourselves to know.
- 8—Toronto.
- 9—No man's labor for good is vain, Though he win not the crown, but the cross; Every wish for man's good is a gain, Every doubt of man's gain is a loss.
- 10—R U S K 11—(1) Harrowgate; (2) Stanley; (3) UNIT Halifax; (4) Mississippi; (5) Niagara; (6) Pacific; (7) Klondike; (8) S I T S Albany; (9) Cuba; (10) Portland; K T S A (11) Gull; (12) Regina.

SOLVERS TO JAN. 15TH PUZZLES.
"Kit," Chris McKenzie, J. S. Crerar, Dannie McQuaig, "B. N.," Ethel McCrea, "Muggins," Ella Cameron, "Luan," Annie F. Hampton, "Hazel," Muriel E. Day, Alice C. L. Gordon, L. Moorhouse, "Madge," Pearl Mothersill, Blanche MacMurray, "Brownie," Maggie Scott, Nellie Renison.

SOLVERS TO JAN. 1ST PUZZLES (late for last issue).
Chris. McKenzie, T. McKim, G. J. MacCormac, Vera Gordon, "Muggins," Ethel McCrea, Mabel Ross, A. P. Hampton, Muriel E. Day, "Madge," L. Moorhouse, "Brownie."

COUSINLY CHAT.
"Muggins."—Glad to hear from you again, try and come regularly. Many thanks for kind remarks re our Corner. I shall remember your request about name.
Vera Gordon.—You are a very small girlie, are you not? Were you not afraid to come so far all alone? If not, come often.
"B. N."—You make a good start, just keep on.
T. McK., Ella C., Dannie.—All new cousins and all welcome. Bring a friend each next time.
"Kit."—You will probably have heard from me before this appears, as I shall explain by letter.
Lillian.—Where are you? Would like to hear from you again. Could not you and M—1 get a photo for me? Try.
"Madge," Alice, Pearl, and L. M.—You are all welcome additions to our Corner. Alice, the fault is not always the printer's, sometimes the letters are not so legible as they should be.
"Annie Laurie."—I do congratulate you. I'll look for M's next time. The letter will come some day.
"Vic."—Your puzzles are quite unique; I have that other, but do not think I shall use it; 'twould be almost impossible for any two to get the same answer. Come often, but bring solutions too, ma chere petite.
"Nesta."—So glad to see the little one again—do not play truant any more.
"Muriel."—Thank you for that charming letter, it came just in time to dispel a gloomy fit. About the other thing—perhaps.
Nellie R.—Yes, your puzzles were all right, but I have to choose from a great many and cannot publish all I receive.
"Puss."—Plenty of room for you, although there are no mice to catch. They say puss is fond of fish, and we have some of them 'th' issue.
"Bachelor."—Are not you the person who sent me the handbills lately? Why? Think I need evangelizing? Well, perhaps I do.

ADA A.

Goose

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Northey

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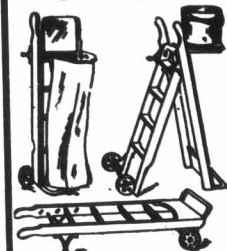
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Step Ladder and Bag Holder. . . .
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It is a useful article suitable for hotels, stores, warehouses, and a great convenience to farmers. A regular labor saver. Strong enough to carry 1000 pounds, easily adjusted, simple in construction, compact, sells for \$5.00. Farmers' sons can make more money in a month selling these trucks than they could earn on a farm in twelve. Send for sample and terms to agents to HARVIE & CO., 223 Queen St. E., Toronto.

HARVIE TRUCK
PATENTED

Wanted! GOOD FARM HANDS, good milkers, steady employment for good men; \$20 per month and board. Apply to G. T. CORFIELD, Corfield, B. C.

FOR SALE AN IMPORTED COACH STALLION, 5 years old; a good stock getter. Will be sold cheap. W. T. WALK, Goldstone P.O., Wellington Co.

ADVERTISE IN ADVOCATE

EXTENSIVE CREDIT SALE

SHORTHORNS AND COTSWOLDS

The undersigned will offer by public auction at their farm, at Mount St. Louis, Ontario, on WEDNESDAY, MARCH 9th, 1898,

Fifty Head of Registered Shorthorns and Thirty-five Sheep,

Including ram eligible for registration; also horses and farm implements. Sale of horses and farm implements will commence at 10 o'clock, cattle and sheep at 1.30 p.m. Conveyances will meet train at Pelphinston at 12.53 p.m. Terms: Ten months' credit will be given on furnishing approved joint notes; 8% discount for cash. Catalogue will be furnished on application. A lunch will be provided.

FITZGERALD BROS.
MOUNT ST. LOUIS, ONT.

Clydesdales for Sale.



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

ROBERT DAVIES,
Thorncroft Stock Farm, TORONTO, ONT.

Guernsey Cattle

CHESTER WHITE AND DUROC-JERSEY PIGS.

At present we are offering **4 Richly-bred Bull Calves** two of which are from imported cows, and pigs of all ages.
WM. BUTLER & SON,
DERHAM CENTRE, ONT.

GOSSIP.

Messrs. R. Reid & Co., of Hintonburg, Ont., write: "We have increased our herd of Ayrshires by purchasing five cows at the recent dispersion sale of Mr. R. Robertson, of Compton, P. Q., and also state that their herd have all been tested with tuberculin."

An important extensive sale of pure-bred Shorthorns, besides a good flock of Cotswolds, will be held by Fitzgerald Bros. at Mount St. Louis, in Simcoe Co., Ont., on March 9th. Persons desiring such stock should write the firm at once for catalogue. See their advertisement in this issue.

As already foreboded in the FARMER'S ADVOCATE, Mr. C. M. Simmons, Ivan, Ont., has decided to disperse his Shorthorn herd on March 15th, 1898. The herd includes a score of breeding cows, a number of excellent heifers, imported Blue Ribbon, and a number of grand young bulls. See his advertisement in another column.

A. W. Smith, Maple Lodge, Ont., writes: "We have recently sold to Messrs. H. G. Arnold & Son, of Maidstone, Ont., the excellent bull 'Sally,' a red son of British Flag, by Barnpton Hero, and our grand breeding cow 'Constance 2nd of Maple Lodge,' by Conqueror. She is also the dam of first prize three-year-old heifer at Provincial Fair Show, Guelph, 1896; our first prize bull calf at Toronto 1897, and our present stock bull 'Cathness'—22065—Messrs. Arnold have secured a worthy head for their herd of Shorthorns."

AYRSHIRE MEETING.
The American Ayrshire Breeders' Association held its 23rd annual meeting at the Fifth Avenue Hotel, New York, Jan. 26, 1898. The officers elected were as follows: L. S. Draw, South Burlington, N. Y., president; Obadiah Brown, Providence, R. I., H. R. C. Watson, Brandon, Vt., E. C. Sears, Blooming Grove, N. Y., and John Stewart, Elburn, Ill., vice-presidents; S. M. Wells, Weathersfield, Conn., J. O. Magie, Elizabeth, N. J., executive committee; C. M. Winslow, Brandon, Vt., secretary and editor; Henry F. Smith, Enfield, R. I., treasurer; C. M. Winslow, Brandon, Vt., and J. D. W. French, North Andover, Mass., editing committee.

It was voted to conduct seven-day tests of herd and single cows for market butter and total solids.

It was voted to offer special prizes at fairs for the largest quantity of butter-fat from one day's milking.

It was voted to hold the next annual meeting in New York at some time in January.

C. M. WINSLOW, Secretary.

SHORTHORN CHAMPION DEAD.
The notable roan Shorthorn bull, Young Abbotsford, 110673, died on February 4th at the farm of his owners, Messrs. T. J. Wallace & Son, Burckton, Mo. He was bred by Messrs. J. & W. Watt, Salem, Ont., and calved in March, 1885. His sire was Abbotsford 47312, bred at Sittytton from Red Gauntlet, and his dam was Village Blossom, also bred by Mr. Cruikshank. Young Abbotsford was the monarch of American shows of 1890, 1891, 1892 and 1893, including the Columbian Exposition.

NOTICES.

The value of clover to the farmer is simply enormous. See what Dr. Saunders says of it in his letter in this issue. Not only do we desire a large acreage, but the largest possible crop, and this is much helped by the use of leaf plaster. The old-established Paris Plaster Mills at Paris, Ont., say something to our readers in advertising columns. Look it up and derive a benefit.

The Dederick's patent perpetual baling press, made by Boyd & Co., Huntington, Que., has been in use since 1890. It is operated by two horses, and is made sufficiently light to be drawn from place to place by one team; in fact, the firm claim to be half a ton lighter than any other baling press built. It is constructed on a steel shell and placed on iron wheels. Many points of excellence are claimed for this press, having a patent condensing hopper of unsurpassed merit, large feeding hole, patent folding rollers which make feed hole, patent folding rollers which make uniform the bale much smoother and more uniform than can be obtained without it, and using a patent tension which reduces the friction, making it easier for the horses, thereby increasing its capacity. The machine has been sufficiently tested that they are beyond the experimental stage, and all suggested improvements added, making it very complete. The firm also make Dederick's Columbian gear upright baling press, a desirable machine; also, Boyd's patent tread-mill for two horses, as well as steel land rollers; and are agents for the celebrated Waterous engines.

CHEESE AND BUTTER MAKERS TO MEET.
The Ontario Butter and Cheese Makers' Association, which was organized in London on January 20th by Mr. James McAdam, of London, and others, are to hold a meeting in Woodstock on February 23rd and 24th. The object of this Association is to protect the makers from the unjust charges shouldered upon them by both dealers and patrons. The officers of the Association are: President—J. T. Henderson, Pine River; Secretary—T. H. Brooks, Holbrook; and Treasurer—W. A. Edgar, Culloden. Directors—Messrs. Conway, T. D. Barry, Ingersoll; T. E. Eager, Brownsville; W. A. Edgar, Culloden; and W. W. Brown, Attica.

HARVIE TRUCK AND BAG-HOLDER.
Our readers will notice in another column the advertisement of Harvie & Co. Every farmer will find their combination truck and bag-holder a most useful time and labor saver. It is a so well made and durable.

The Late Andrew Telfer.
We learn with regret of the demise of Mr. Andrew Telfer, of Paris, Ont., who has for an extended term of years been a successful breeder and exhibitor of Southdown sheep at the larger Ontario exhibitions. Besides being a successful sheep breeder, he was also a leading farmer of the district in which he lived. The deceased was born in Jedburgh, Scotland, in 1835, and emigrated to Canada with his parents ten years later, settling on the farm on which he died of cancer of the stomach on Jan. 31st. He leaves a wife and a family of six to mourn his loss, and to take up his task.

BELLEVILLE

ESTABLISHED 1889.

BELLEVILLE, BUSINESS COLLEGE

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

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

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

ROBERT BOGLE,
J. FRITH JEFFERS, M. A., } PRINCIPALS.

WRITE FOR CALENDAR.

Clydesdales!



Calves. Write for prices or come and see

D. & O. SORBY,
GUELPH, ONT.

OAK PARK STOCK FARM'S

SHORTHORN HERD

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



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

Shorthorn Cattle for Sale

FOUR first-class young bulls, two of them by our well-known Cruikshank bull, Abbotsford 19446, and half a dozen heifers also by Abbotsford, the sire of the champion steer Bruno.

H. & W. SMITH,
Exeter, G. T. R., 1 mile. HAY P. O.

Shorthorns, Berkshires

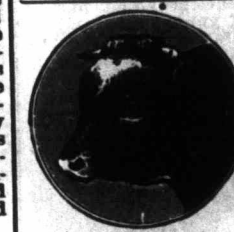
A few choice heifers and heifer calves for sale. Prices reasonable.

JOHN RACEY, Jr., - Lennoxville, Que.
17-1-Y-O

F. BONNYCASTLE & SONS,

CAMPBELLFORD, ONT.

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



WE HAVE Shorthorn Bulls FOR SALE

One ten months old, got by (imp.) Royal George, dam by (imp.) Warfare; the other, four years old, by (imp.) Warfare, dam (imp.) Charlotte; sure and kind; both red. Write for prices or come and see.

—on—**A. & D. BROWN,** Iona, Ont.

Shorthorns and Berkshires S. J. PRANSOR & SON, Meadowvale, Peel Co., Ont., are offering young bulls and a few heifers, by British Stat-smas. Also Berkshires of Baron Lee and Enterprise breeding. Streetsville Junct., C.P.R., 14 miles from farm.

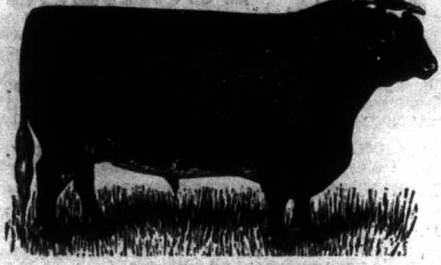
TAMWORTH BOARS

three months old, for spring service, and sows same age, not skin. Also sows to farrow in March and April. We are booking orders for Chester White and Tamworth spring pigs from prize-winning stock, having again won the sweetstakes at all the large exhibitions throughout Canada in 1897. Write for prices.

H. GEORGE & SONS, CRAMPTON, ONT.

1,000 BICYCLES FREE for securing orders from your friends for our celebrated teas, etc. Apply London Wholesale Tea House, Drawer 546, London, Ont.

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



OFFERS FOR SALE FIFTEEN SPLendid YOUNG BULLS.

Cows and Heifers, As good as the old bull ever left.

Berkshires OF CHOICEST BREEDING AND QUALITY FOR SALE

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

Shorthorns & Leicesters

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

YOUNG STOCK FOR SALE.

E. Gaunt & Sons, Lucknow Station, G. T. R., 3 miles.

FOR SALE! Good Young Cows

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

H. CAGILL & SON, Station on the farm, Carleton Place, P.O., Ont.

W. G. Pettit & Son, Freeman, Ont., Ontario.

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

REPRODUCES Shorthorns, Shropshires, and Berkshires

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

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

SHORTHORNS

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

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

+1855 TO 1897+

Willow Bank Stock Farm

One of the oldest-established herds of SHORTHORNS in the province, has for sale a number of young bulls and heifers got by Isabella's Heir - 19350 - . Also young cows of grand milking families.

JAMES DOUGLAS, Caledonia, Ont.

2 Shorthorn Bulls 2

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

Thos. Allan & Bro., Oshawa, Ont.

Maple Lodge Stock Farm

Choice Shorthorn bulls for sale. Both milk and beef standard. Also a few Leicester sheep. Our flock won first prize for pen at Toronto and London, 1895, 1896, 1897.

A. W. Smith, Established 1854, on Maple Lodge P. O., Ont.

Shore Bros., White Oak, Ont.

Offer 6 young Shorthorn bulls of the low, easy-feeding sort which the present trade demands. Could also spare a few heifers.

SHORTHORN BULLS

descended from Village Rose dams. Also one Baron Lee bull, 10 months old. A. J. WATSON, Bolton Station, C. P. R., Castlederg P. O., Pickering, G. T. R.

FOR SALE!

3 Good Shorthorn Bulls 3

Six Heifers and a lot of Berkshires.

E. JEFFS & SON, Bondhead, Ont.

GOSSIP.

At the annual meeting of the Executive Committee of the American Shropshire Registry Association, held in Detroit on February 10th, it was arranged that the following special premiums be awarded for the year 1898: Toronto Industrial, \$35; London, \$35; Montreal, \$25; Halifax, \$25; Ottawa, \$25; Winnipeg, \$25; Ontario Provincial Fat Stock Show, \$50; Trans-Mississippi Exposition, at Omaha, \$200 in the fat classes and \$450 in breeding classes; besides a number of \$25 and \$35 amounts to various State Fairs.

Mr. W. F. Stephen, Trout River, Que., in writing, reports his young stock in excellent form this winter, and says he has not been able to retain any young bulls. The demand has been such that all were sold under five months, and three are already engaged before birth. Late purchasers are expressing great satisfaction with their purchases; seven head going to New York State parties, five of which were secured by Clark Bros., Potsdam, St. Lawrence Co., and a good pair of heifers to John Will, Fort Collington; all withstanding the tuberculous test without any reaction whatever. Messrs. Caldwell Bros., Orchard, Ont., were so well pleased with the young bull they received last fall, that they have ordered a pair of heifer calves, which now await favorable weather for shipment.

Mr. I. Linton, of Silver Spring Creamery, Cameron Co., Penn., U. S. A., writes: "Your receipt—also premium, Prof. H. H. Wing's Book on Dairying—promptly to hand, thanks for the same. It is a very excellent work for those interested in dairying, giving good, clear information on all points necessary to successful work. We must congratulate you on your Christmas number. Our people say it is the best agricultural paper they ever saw. The weather has taken a great change since I wrote you last, being 17° below zero, with good sleighing. The boys are very busy now getting in their logs; thousands of feet of logs coming in every day now, principally hemlock, maple, and beech. The carload of grade Durham milk cows purchased in Canada by Mr. Andrews are doing well. All have calved since they arrived. We have a great many visitors come to see them. They are much larger and finer than any bred in this section. He sold one for \$75 cash, a few days after their arrival. He also purchased two carloads of young stock for feeding and breeding, and has sold all of them since. I wish you every prosperity."

A. C. Hallman, New Dundee, Ont., writes: "Springbrook herd of Holstein-Friesian and Tamworth swine were never in better shape, nor prospects for the future brighter. My herd of Tamworths is doing remarkably well. I have a grand lot of the correct type of brood sows. The herd being headed by my prize-winning imported bear, Nimrod, makes it one of the choicest herds in Canada. Sales since September have been as follows: One boar to R. J. Matthews, Durham, Ont.; 1 pair (male and female) to Earl McCartney, Valcarville, P. Q.; 1 boar to J. R. Tedford, Grovesend, Ont.; 1 ram to Geo. Irwin, Ontario; 1 boar to M. A. Langman, Wrentham, Ont.; 1 boar to R. H. Scott, Marmooch, Ont.; 1 ram to Jas. D. McMillan, P. E. I.; 1 boar to J. G. Barr, Cromarty, Ont.; 1 ram to W. Shearer, Bright, Ont.; 1 ram to Jos. D. McMillan, P. E. I.; 1 boar to F. G. Morton, Allandale; 1 sow to Jos. Hallman, Mannheim, Ont.; 1 boar to Mr. Clark, Histon, 1 sow to Mr. Boeim. The stock sold are mostly sired by Nimrod (imp.). The replies from my numerous customers are very pleasing indeed. They are something like this, "More than satisfied," "More than pleased," "It's a dandy," etc., etc. The brisk demand continues for Tamworths. The farmers are now beginning to realize their great value as a bacon pig, some fine young boars and sows ready for the market; also, a few of my best sows just farrowed."

THE CASTLEDERG COTSWOLDS, SHORTHORNS AND BERKSHIRES.

In our issue for Feb. 1st, page 55, we gave a capital illustration of a typical group of imported Cotswold ewes and ewe lambs, belonging to Mr. A. J. Watson, Castlederg, Ont. These were in his first importation, selected from the well-known flocks of Garne, Gillet and Hulbert, and were prize-winners at the Royal Show at Manchester, England, last year, as well as at the show in Canada, namely, Toronto, London, and Montreal, at the latter show winning all the first prizes entered for, including the flock prize. The imported ram lamb at the head of the flock is a grand good one and is developing rapidly. Further importations will probably be made in the near future. Watson is an enterprising and energetic young farmer, endowed with a natural love for good stock, and has shown good judgment in their selection, feeding and management. Besides the choice flock of Cotswolds he maintains an excellent herd of Shorthorn cattle of the most approved modern type which with the good care given them are always in presentable condition. The herd is headed by the thick-fleshed young red stock bull, Abergeldie 23616, by Statesman 20627, the former stock bull, bred by W. & J. Russell, son of Nonpareil Victoria, by the imported Cruickshank bull, Vice Consul. The in-calf females number eleven, a uniformly good and useful lot, some of which are offered for sale. Many of these are of a good milking strain, descended from the fine old cow, Village Rose 7th, who is capable of producing 30 lbs. milk per day when fresh. A model young cow is Fashion Fair, by imp. Indian Chief, bred by Arthur Johnston, and her three months old bull calf, by Statesman, is a very promising youngster. A few young bulls, which will soon be fit for service and which are well up to the standard, are for sale. The Berkshires are headed by the Snell-bred boar, Bob Lee, by Baron Lee 4th, and out of Heather Belle, and is a credit to his breeder and breeding. He is closely approaching a year old, and is for sale. A number of excellent breeding ewes from the stock of Snell, Lee, and McNeil, make up a useful lot of Berkshires of the right sort. Ashton Frontview, the rich and well-kept farm and comfortable and complete dwelling and outbuildings, is situated four miles from Bolton, a station on the Toronto and Owen Sound branch of the C. P. R., 25 miles north-west of Toronto.

GREAT CLEARING SALE

ON WEDNESDAY, MARCH 9th, 1898.

The property of JAMES HUNTER, Ains, Ont., consisting of Clydesdale Stallions

Master Lyndoch (imp.) [1537] (8037) 7346; King of Sunnyside [2320], sire Master Lyndoch, dam Jess [2364] 7376.

FOUR REGISTERED CLYDESDALE MARES,

45 HEAD OF SHORTHORN CATTLE,

50 REGISTERED SHROPSHIRE SHEEP,

5 BERKSHIRE SOWS AND ONE BOAR.

Positively no reserve, as the farm is rented. Catalogues on application. Terms of Sale—9 months credit on approved joint notes; 5 per cent. discount for cash.

INGRAM & HEFFERNAN, AUCTIONEERS, JAMES HUNTER, ALMA, ONTARIO.

50 Scotch Shorthorns 50

MARCH 18TH, 1898, AT 1 O'CLOCK P. M.

DISPERSION SALE

Of a great prize-winning herd of Shorthorns, including such families as Strathallen, Golden Drop, Mina, and Cleopatra, all of which are of pure Scotch breeding; in all, 50 superior animals, headed by the imported bull Blue Ribbon.

Farm 7 Miles from Ilderton, L. H. & B. Railroad.

SEND FOR CATALOGUE.

CAPT. T. E. ROBSON, Auctioneer, C. M. SIMMONS, Proprietor, IVAN, ONT.

AUCTION SALE

Imported Shorthorn Bulls

The undersigned will offer at Public Auction at his farm, 1 1/2 miles from Markham Village, on March 18th, 1898, eleven bulls recently imported from the herds of Messrs. Campbell, Duthie, and Marr, Aberdeenshire, Scotland. Also a number of Canadian-bred bulls and females. Farm 20 miles north of Toronto.

JOHN SMITH, M. P. P., Auctioneer, BRAMPTON, ONT. JOHN ISAAC, Markham, Ont.

HAMMOND'S FREE SEED DISTRIBUTION

Government Free Seeds are simply "not in it." To introduce the Best Michigan Northern Crown New Land Seed Potatoes, Farm, Garden and Flower Seeds everywhere, I will give away, ABSOLUTELY FREE, 500,000 packets of choicest Vegetable and Flower Seeds. Your name on a postal card gets my Free Seed Book from which you may select FREE your supply of seeds for an entire garden. Write to-day. Get your order on file; we're very busy. HARRY N. HAMMOND, Seedsman, Bx. 5, Decatur, Mich.

REID'S TREES

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

Spring Grove Stock Farm

Shorthorn Cattle and Lincoln Sheep. The noted sires, Golden Robe = 20396 = and Nominee = 19628 = , at the head of the herd. Representatives of this herd won two silver medals and the herd prize at Industrial Fair, Toronto, 1897. Prize-winning Lincoln Sheep are also bred at Spring Grove. Stock of all ages and both sexes for sale. Apply T. E. ROBSON, Ilderton, Ont.

FOR SALE.--Two registered BERKSHIRE HORN BULL CALF, nine months old, and some choice HEIFERS.

F. A. Gardner, BRITANNIA, PEEL COUNTY, ONT.

Mawthorn Herd of Deep-Milking Shorthorns

For Sale! FOUR young bulls and several heifers of the choicest breeding and good quality. Prices right. W. M. GRAINGER & SON, Londeston, Ont.

AYRSHIRE CATTLE.

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

3 Young Ayrshire Bulls 3

From two months to one year old, sired by Morton's Rob Brown of Barmoorhill (1940). Eggs from Buff Cochins, B. P. Rocks, \$1 per 13. B. Minorca and L. Brahms, \$1.50 per 13. Rouen and Pekin Ducks, \$1 per 11. Orders booked in rotation.

WM. THORN, Norfolk Co. LYNEDOGH, ONT.

Brook Hill AYRSHIRES

are still to the front. Orders taken for young stock. Specialty in bull calves. Correspondence solicited.

W. F. STEPHEN, Trout River, Que.

Ayrshire Bull for Sale.

A good one, 10 months old; sire Max O'Rell -1783-, 1st prize Western Fair, 1896; dam Conroy 2683, by imp. Castle Douglas; grand dam Countess of Earcliffe, 1st prize Western Fair. Price reasonable. Write— on GEORGE HILL, Delaware, Ont.

3 AYRSHIRE BULLS

5 and 8 months old. Also spring calves. All by Douglas of Loudon 1881, a Morton-bred bull. F. W. TAYLOR, WELLMAN'S CORNERS.

PRIZE

Ayrshire

Choice young bulls fit for service sired by Jock Morton, and from heavy milking dams, and a few young cows and heifers. All Barred Plymouth Rocks and Toulouse Geese from choice matings. JAS. McC.

AYRSHIRES

BULLS from 3 to 6 months old, choice 2 and 3 calves from grades of high dams, are offering 4 years of 3 and 4 months anything we have. Alex. Breeders and Importers, Hoar.

AYRSHIRE

4 Imported Bulls, FIT FOR SERVICE

From the best milking strains. Terms reasonable. Robt. Davies, Thorncliffe St.

Ayrshires, T.

T. B. Box 86, Offer two year calves, by Sultan Tamworth boar, of Chesters reed.

Choice



Farm close to B.

AYRS

TWO yearlings, both imp. sister to August C, being daught Ancher brain 1897 (illustrated) are by imp. C at Toronto, 1st prize calves, imported, and a THOS.

Neldpath St. Farm adjo.

Maple C.

DAIRY AND STOCK

Ayrshire of Berkshire & worth pigs, bulls fit for sale, and 3 bull under 2 years. R. REID & HINTONBUR.

ONE F



4 ozs. of butter all Canada May (26 lb 64 lbs. of J. H. SM

DON


Now by Co. cont. cham three Fair, Address 9-1-y-o

GLEN

WILLIAM JERBERT, out Prices right

PRIZE-WINNING Ayrshires Poultry FOR SALE

Choice young bulls fit for service, sired by Jack Morton, and from heavy milking dams, and a few young cows and heifers. Also Barred Plymouth Rocks and Toulouse Geese from choice matings.



JAS. McCORMACK & SONS,
30-2-Y-0 Rockton, Ontario.

AYRSHIRES AND YORKSHIRES!

BULLS from 3 to 7 months old. Also a few choice 2 and 3 year old heifers in calf, and calves from White Chief, as well as a few grades of high dairy qualities. In Yorkshires are offering 4 young in-pig sows, and a bunch of 3 and 4 months old of both sexes. We offer anything we have.

Alex. Hume & Co.,
Breeder and Importers, BURNBREE P. O.
Hoard's Station, G. T. R.

AYRSHIRES FOR SALE

4 Imported Bulls,
FIT FOR SERVICE.
From the best milking strains. Terms reasonable.



Robt. Davies,
Thorncliffe Stock Farm, TORONTO, ONT.

Ayrshires, Tamworths & Chesters.
T. BROOKS & SONS,
Box 86, Brantford, Ontario,
Offer two yearling heifers and two heifer calves, by Sunrise 1674; one fifteen-months Tamworth boar, King George 676, and a litter of Chesters ready for shipment.

Choice AYRSHIRES.

R. REFORD,
Breeder and Importer.
FOR SALE—Young cows in calf to imported Napoleon of Aucherbrain. Bull calves, sired by imported Glenclair Sr. Write for prices to **JAMES BODEN, Manager,** St. Anne de Bellevue, Que. Farm close to St. Anne Station.

AYRSHIRE BULLS!

TWO yearlings, one whose dam and sire are both imported. The other's dam is a full sister to above-mentioned bull. All are 3 August calves, the dams of two of them being daughters of imported Daisy 1st of Aucherbrain, the 2nd prize cow at Toronto in 1897 (illustrated in Sept. 15th, 1897, issue). All are by Imp. Craiglelea, 1st prize two-year-old at Toronto, 1897. We have also two November calves, the dam of one of them being imported, and an extra heavy milker.

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

Maple Cliff Dairy and Stock Farm
Ayrshire cattle, Berkshire & Tamworth pigs. Two bulls fit for service and 3 bull calves under 2 weeks old.
R. REID & CO.,
HINTONBURG, ONT.; one mile from Ottawa.

ONE FIRST PRIZE BULL

A. J. C. C.
Sire King of Highfield, winner of 1st prize over all Canada; dam, St. Lambert's Kathleen, made 21 lbs. 3 1/2 ozs. of butter in 7 days; dam of King of Highfield. Signal Rosa May (22 lbs. 4 ozs. of butter in 7 days, and 1st prize over all Canada 4 times), also dam of Unoma May (26 lbs. 4 ozs. of butter in 7 days, and 64 lbs. of milk a day).

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

DON JERSEY HERD

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

Address: **DAVID DUNCAN,**
9-1-Y-0 DON P. O., ONT.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont. offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of bested cows. Grand individuals. Prices right.
22-Y-0m

MILLER & SIBLEY'S Jerseys

BIG COWS HEAVY MILKERS
RICH PEDIGREES
SOUND COWS GREAT BUTTERMAKERS
FULL FOREUDDERS
LARGE, WELL-PLACED TEATS.
Championship yearly milk record in Jersey bred for two-year-olds, as well as mature cows, held by this herd.

187 First Prizes and Sweepstakes won by this herd at 18 State or greater fairs. First prize herd in 1897 wherever shown, viz.: at New York State Fair; Victorian Era Exposition, Toronto; Western Fair, London, Canada; Central Canada Exposition, Ottawa. In previous years, first prize herd at New York, Pennsylvania, Ohio, West Virginia, Indiana, Illinois, and Missouri State Fairs, and Cotton States Exposition and Live Stock Show of America, etc.

Every animal over one year old has been tuberculin tested. Our animals are not cheap. They are worth what we ask for them. In general, no bull, heifer or cow for less than \$250. If you want our kind of Jerseys, come and see our herd. If you can't come, write for what you want. No catalogue.

MILLER & SIBLEY,
Special literature sent if this paper is mentioned.
FRANKLIN,
Venango Co., Pa.

BRAMPTON JERSEY HERD

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

5 JERSEY BULLS 5

AND A NUMBER OF BERKSHIRE BOARS
For Sale at Low Prices.
THE BOW PARK CO., LIMITED,
BRANTFORD, ONT.

JOHN PULFER, BRAMPTON, ONT.
Breeder of choice Jerseys reg. and high-grade swine of fine quality. Also TAMWORTH SWINE. Young stock always for sale at prices that should sell them.
12-2-Y-0

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.
Address: **SYDNEY FISHER,**
Alva Farm, Knowlton, P. Q.
17-Y-0

Maple Hill Holstein-Friesians

SPECIAL OFFERING.
Three bull calves, sired by Sir Pietertje Josephine Mechthilde, whose five nearest female ancestors average over 23 pounds butter per week, and out of the great cows, Coraella Tansen, Lady Akkrum 2nd, and Inka Rose Pietertje DeKol. If you want a bull to head your herd why not get the best!
11-Y-0m **G. W. CLEMENS, St. George, Ont.**

JOHN TREMAIN, FOREST, ONT.,

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

FOR SALE AT ONCE.

Two registered Holstein cows in calf, or will exchange for young Shorthorn bulls or heifers. Also Harrison's bearded wheat at \$1.25 per bu.
J. FRED DAVIDSON, PETERBORO, ONT.
Box 903.

Brookbank Holsteins.

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

SPRING BROOK STOCK FARM.

Choice Tam worth pigs ready to wean, sired by the prize-winning imported boar, Nimrod. Write at once for prices.
A. C. HALLMAN,
New Dundee, Waterloo Co., Ont.

GOSSIP.

John O'Brien, London West, Ont., advertises in this issue four Jersey bulls, including his stock bull, Earl of Orgrave, and two of his sons from cows of excellent breeding and good working capacity. Those requiring such should write Mr. O'Brien for prices, etc.

The Guernsey Breeders' Association held its annual meeting at Philadelphia, Jan. 31st, and elected officers: Pres., Joseph Evans, Marlton, N. J.; Vice-Pres., Ephraim Tomlinson, Kirkwood, N. J.; Secretary and Treasurer, Haddonfield, N. J.; Secretary and Treasurer, Wm. B. Harvey, West Grove, Pa.; Executive Committee—H. W. Comfort, Fallington, Pa.; Jas. H. Mattack, Moorestown, N. J.; Geo. L. Gillingham, Moorestown, N. J.

The twelfth annual meeting of the Standard Poland China Record Association was held at Maryville, Mo., Feb. 2. Receipts for the year, \$4729; payments, \$4329; cash now on hand, \$2628. Officers elected: President, S. McKelvie, Fairfield, Neb.; Vice-President, J. West Jones, Lenox, Iowa; Secretary, Geo. F. Woodworth, Maryville, Mo.; Treasurer, O. S. Hotchkiss, Maryville, Mo. Executive Committee—Frank Dunning, J. A. Judd, Fred Lechner.

George Hill, Delaware, Ont., advertises for sale a good young Ayrshire bull eligible to registry. His breeding is good, his sire being a first-prize winner at the Western Fair, and his dam a daughter of Imp. Castle Douglas, bred by Andrew Mitchell, Barochekie; grand-dam Countess of Earncliffe, a noted prize-winning cow at leading shows in Canada. Parties wanting such a bull should write Mr. Hill, or visit his farm, two miles from Komoka station.

The annual meeting of the Ohio Poland China Record Co. was held at Dayton, O., Jan. 26th. The report showed: Receipts, \$6539; disbursements, \$4278; balance in treasury, \$2261. It was resolved that the surplus be added to the sinking fund of the company; while a dividend of 20% be paid in shape of volume of the Record, and that the sender of six pedigree cards receive one back volume of the Record free as long as supply permit. Directors elected: L. N. Bonham, Oxford, O.; J. M. Klever, Bloomingburg, O.; J. H. Lacey, Jamestown, O.; Perry Hatfield, Centerville, O.; E. C. Ellis, Crestview, O.; W. C. Williams, Bryant, Ind.; President, L. N. Rural, Ind. Vice-President, E. C. Ellis; Treasurer, J. H. Lacey; Secretary, Carl Freitag, Dayton, O. Executive Committee—E. C. Ellis, J. H. Lacey, Perry Hatfield.

BONNYCASTLE'S SHORTHORNS, OTSOWOLDS AND BERKSHIRES.

The Shorthorn herd and flocks of Messrs. F. Bonycastle & Sons, Campbellford, were looked over by one of the FARMER'S ADVOCATE staff on a recent trip east and found in a healthy and vigorous condition. In Shorthorns the firm now have some 25 head, largely represented by the noted Anchovy family, with the stock of a good Redman (twelve in number) bred from that worthy strain, the Canadian Duchess of Gloucester, at the head. Redman has been favorably mentioned in former issues of the FARMER'S ADVOCATE, and from the advance he has made and the position he occupies with his owners upon their choice of sires appears to suit the Anchovy family immensely; he possessing sufficient size and breeding qualifications, while they have excellence of quality and finish and are superior milkers. The cross is a highly desirable one. Among the matrons (twelve in number) we saw some really good and useful cows, the origin of which was bred by Mr. J. Mumford, Park Pale Farm, Brill House, England, and for their owners they have proven themselves highly satisfactory; Anchovy 5294, by Eighth Airdrie 1322 and of the herd, imported Anchovy 2101, being still in the herd, and has rendered a good account of herself. Many of her females were shown us, and we state unhesitatingly that we have never felt better handlers in the same flesh. They possess a fineness in their skins that is seldom equalled. The recent demand has reduced the younger stock to half a dozen yearling heifers and a couple of calves—one a choice young bull out of Anchor, both by Redman. The firm are very enthusiastic over the prospects for the Shorthorns, and during our visit (which was not short) we read a highly complimentary and flattering letter, addressed to the firm by one of Canada's leading breeders, which is evidence to us of the esteem in which they hold their herd are held.

The Otsowolds are also in good shape, 25 breeding ewes being carried over, all safely in lamb. An even bunch of seven strong ewe lambs were shown us, as well as a well-covered, strong stock ram, which was purchased from Mr. Garbutt, Claremont, Ont.

Mr. Berkshires the firm now have seventeen head—the stock boar, four brood sows, and a choice bunch of youngsters. The stock boar, Harkwell, by King Lee and out of Best on Earth 4019, is an eighteen-month-old, well-developed animal, having perfect markings, and is proving himself a very satisfactory sire. The matrons comprise such sows as Dolly 5263, by Bonny 3209 and out of Queen of Spades, a smooth, good sow, over a year old, and now carrying her third litter. Tony, by Joe 3976 and out of Bonnie Lass 2681, should make a good matron. Her mother, by Royal Warrior 1204 and out of Dolly Varden 2277, although but five years old, is carrying her seventh litter, and as she has been very successful in rearing her former progeny she is regarded as one of the most valuable animals on the farm, producing her stock even in type and rearing them well. Eleven youngsters are all that remain from three litters, and they are a creditable lot, five of which are bears, being well marked and even in type. An unusually well-formed young sow, in type and quality we think her owners are not unreasonable in their expectations. Taking the entire establishment into consideration, and in the hands of careful and experienced men, we are sure they are bound to attract their share of attention as breeders.

"Gem Holstein Herd."

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

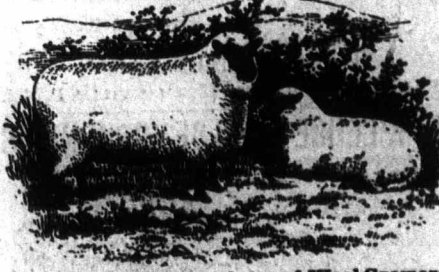
HILLIS BROTHERS,
BEDFORD PARK P. O., ONT.
Shipping Station, Toronto. 7-Y-0m

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA!

—ALSO—
TAMWORTH SWINE

Orders booked for spring pigs. Pairs not akia.
Address—
E. D. SMITH,
17-Y-0m Compton, Que.



To Farmers, Stock Dealers and Wool Growers FOR SHEEP, CATTLE AND HORSES.
Leicestershire Tick and Vornim Destroyer
It effectually destroys Ticks, Lice, Worms or Grub, to which sheep, horses and cattle are subject, and enables the animals to thrive. It will be found far superior to other preparations used for the similar purpose. The proprietors will guarantee perfect success when used according to directions, as will be found on each box. It prevents scurf and scab, and renders the wool bright and clear. It is put up in tin boxes, price 30 cents each. One box is sufficient for twenty ordinary sized sheep. It only requires to be tried to prove itself all that is claimed for it. Sold by druggists and grocers. Manufactured by C. C. BRIGGS & SON, 31 King St. West, Hamilton, Ont. 69



Non-Poisonous Fluid Dip.
Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large stockmen.

FOR SHEEP:
Kills ticks, maggots; cures scab, heals old sores, wounds, etc.; and greatly increases and improves growth of wool.
CATTLE, HORSES, PIGS, ETC.:
Cleanses the skin from all insects, and makes the coat beautifully soft and glossy. PREVENTS the attack of warble fly. HEALS saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection. NO DANGER; SAFE, CHEAP, and EFFECTIVE.
BEWARE OF IMITATIONS.

Sold in large 75c. Sufficient in each to make tins at wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.
Sole agent for the Dominion. —om
Robt. Wightman,
DRUGGIST, OWEN SOUND, ONT.
Sole agent for the Dominion. —om

FOR CHOICE Shropshire Rams

Of finest breeding and quality, at moderate prices, call at Maple Shade, or address,
JOHN DRYDEN, BROOKLIE, ONT.
A. H. CHRISTIAN, Foreman.

•• Shropshire Sheep, ••
Bronze and White Holland Turkeys,
Chester White Hogs.
W. E. WRIGHT, GLANWORTH, ONTARIO.

SMITH EVANS, Gourock, Ont.
Breeder and im-
porter of registered
Oxford-Down Sheep.
Selections from some
of the best flocks in
England. Stock for
sale at reasonable
prices. Inspection
invited. 6-1-y-o

SHROPSHIRE SHEEP...
AND **JERSEY CATTLE.**
At present offering a choice bunch of thrifty,
well-covered young Shropes. Also two young
Jersey bulls, ready for service. -om
D. H. KETCHESON, MENI E. ONT.

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

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

OAK LODGE HERD OF YORKSHIRES
Extra choice young sows in pig. Boars and
sows, two to four months, closely bred,
quality guaranteed. I am now booking orders
for spring pigs. Write for prices. I am breed-
ing the correct type of bacon hogs.
J. E. BRETHER, BURFORD, BRANT CO.

R. HONEY,
Warkworth, Ont., Northumberland Co.,
BREEDER OF
Reg. Holsteins, Large White York-
shires, and Cotswold Sheep.
Choice young Yorkshires for sale
at prices to suit the times. Orders
booked for choice Cotswold ram
lambs. 12-2-y-o

..FOR SALE..
A number of extra good Large White
YORKSHIRE BOARS AND SOWS
THREE TO FIVE MONTHS OLD.
Sows in pig to
show boars, and
young pigs 6 to 8
weeks old, of early
farrow. Also
lengthy Berkshire
sows in pig to show
boars, and boars
and sows from 8 weeks to 5 months. Orders
now booked for spring pigs of both breeds.
Inspection invited. Write
H. J. DAVIS, Box 290, Woodstock, Ont.

ROSE HILL FARM.
JAMES DORRANCE, SEAFORTH, ONT.
BREEDER OF
REGISTERED : BERKSHIRES
Of the most approved type. Choice young
stock always for sale. Write at once and
secure a bargain. 18-2-y-om

LARGE ENGLISH BERKSHIRES.
Choice stock of all
ages for sale. Write for
price
H. BENNETT & SON,
St. Williams, Ont.
Norfolk County. om-

W. R. BOWMAN, MOUNT FOREST,
offers for sale
Yorkshire and Berkshire boars and sows from
2 to 5 months old for \$6 to \$15. All stock eligi-
ble for registration, and selected from the very
best prize-winning herds in Canada. -om

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

BERKSHIRES
One yearling
boar, 1 boar pig,
3 mths. A few
young sows.
GEO. N. HARRIS, LYNDEN, ONT.

BERKSHIRES, BERKSHIRES, BERKSHIRES
My herd contains such blood as Baron Lee
Varna Duke, and other imported strains, with
the celebrated sire, First Prize, at the head.
-2-y-o **WM. McALLISTER, VARNA, ONT.**

Consumption Cured.
An old physician, retired from practice, hav-
ing had placed in his hands by an East India
missionary the formula of a simple vegetable
remedy for the speedy and permanent cure of
Consumption, Bronchitis, Catarrh, Asthma,
and all throat and lung affections, also a pos-
itive and radical cure for Nervous Debility and
all Nervous Complaints, after having tested its
wonderful curative powers in thousands of
cases, has felt it his duty to make it known to
his suffering fellows. Actuated by this motive
and a desire to relieve human suffering, I will
send free of charge, to all who desire it, this
recipe, in German, French or English, with
full directions for preparing and using. Sent
by mail by addressing with stamp, naming
this paper. **W. A. NOYES, 320 Powers' Block,**
Rochester, N. Y. om

Special Offers for the Next 30 Days!
Several promising young registered sows
bred for Mar and Apr. litters; also a few boars
fit for service. Write
for what you want to
R. H. HARDING, THORNDALE, ONTARIO,
Breeder of Imp. Chester Swine, Dorset Horn
Sheep, Ayrshire Cattle. -om

E. D. GEORGE
PUTNAM, ONT.
Importer and Breeder of
Ohio Improved Chester White Swine
The largest and oldest estab-
lished registered herd in Can-
ada. I make this breed a
specialty, and furnish a good
pig at a fair price. Write for
prices. 14-2-y-om

Shorthorns, Chester Whites and Berkshires
PRESENT OFFERINGS. 2 Shorthorn bulls 8
months old, 3 Chester
White boars 3 months old, 2 Chester White
sows 3 months old, 1 Berkshire boar 3
months old, 4 Berkshire sows three months old. Also
Black Minorcas and S.G. Dorkings. We register
and prepay express charges.
CAMPBELL & MARTINSON,
Near Lewisville, G. T. R. NORTHWOOD, ONT.

Poland-Chinas.
Six young male pigs,
also two females
from Lady Darkness,
No. 1106, sire Black-
amoore, Imp. No. 940,
farrowed April 22; ready for Dec. service;
price \$15 each, with registered certificate.
WM. J. DUCK, MORPETH, ONT.

Oxford Herd of Winning Poland-Chinas.
Having won the herd prizes at
Toronto, London, Ottawa, and
Brantford Fat Stock Show, we feel
justified in stating that we are in a
position to offer you what you may
ask for from good grade prize-win-
ning stock. **W. & H. JONES,**
OXFORD CO. MT. ELGIN.

**HURON HERDS OF POLAND-CHINA,
DUROC-JERSEY and
TAMWORTH HOGS.**
Will offer the following No. 1 stock at out-
down prices for 30 days only: Two Tamworth
boars (one of them King of Duke 648, the 3rd
prize winner at London this fall); two Duroc-
Jersey boars, six months (one the winner of 2nd
at London this fall); one aged Duroc-Jersey
sow, never been eaten in Huron county.
Write, if you want a snap
WESLEY W. FISHER, Benmiller, Ont.

**HEADQUARTERS FOR
DUROC-JERSEY SWINE**
Our herd secured
nine of the first prizes
out of the eleven offer-
ed at Toronto Ex-
hibition, and a similar
position at London
and Ottawa. We are
justified in saying we have the best herd in
Canada. First-class stock of all kinds for sale
at all times. Address—TAPE BROS.,
RIDGETOWN, ONT.

LIVE STOCK AUCTION SALES
Conducted in all parts of the country.
Pedigree stock a specialty. Write for
terms. References: J. C. Sneyd, Edmonton;
John I. Hobson, Guelph; Hon. M. H. Cochran,
Compton, P. Q.; or this office.
14-2-y-o **JOHN SMITH, Brampton**

White Holland & Bronze Turkeys
and Pekin Ducks
of the best strains,
Tamworth, Duroc-Jersey and Poland-China
swine, from 3 to 4 months old. Also Oxford
sheep and Collie dogs.
A. ELLIOT, POND MILLS, ONT.

ASTHMA
CURED TO STAY CURED
Correspondence in En-
glish. No charge for ad-
vice. Circulars sent free.
P. Harold Hayes, M.D.
Buffalo, N. Y.

Toronto Incubators
Best hatching machine built. Awarded silver
and bronze medals. For circular, address—
T. A. WILLETS, 514 Dundas St., Toronto Ont.
ADVERTISE IN ADVOCATE

GOSSIP.

Mr. A. Elliot, Pond Mills, Ont., writes to
advocate in sending in change of ad-
vertisement for this issue, says: "The old
advertisement brought me lots of enquiries
and sales too. I am highly pleased with
your paper and the results from advertise-
ment."
Mr. A. Elliot, Pond Mills, Ont., writes to
advocate in sending in change of advertise-
ment in this issue, and says: "I have sold most of my
Pekin ducks and Bronze turkeys, but still
have a number of A 1 White Holland turkeys
and some pigs for sale yet."
Robt. Davies, Thorncliffe Stock Farm, Tor-
onto, Ont., wishes his advertisement in this
issue to offer four Ayrshire bulls for sale in-
stead of six. He says: "I have a great many
inquiries after these animals, and have dis-
posed of two at good prices, in addition to a
number of sheep. People who want good
stock must speak quick."
Geo. N. Harris, Lynden, Ont., writes under
date of Feb. 1, '06: "I have exchanged my
aged boar with Mr. Ferguson, of Camlachie,
for an excellent young hog, Cash Boy, sired
by Baron Lee 4th 344, and out of Gazelle 3455,
by Lord Ross 3072. Cash Boy excels in
length and bone, and is smooth and even
throughout. I have received a great many
inquiries for Berkshires since the beginning
of the year." See Mr. Harris' advertisement.

DAVID LEITCH'S AYRSHIRES.
In Stormont County, some half dozen miles
from Cornwall, is the farm of Mr. David
Leitch, Grant's Corners, the home of some 30
pure-bred Ayrshire cattle. The herd was es-
tablished from stock purchased from Mr.
David Benning, when Prairie Flower 4363 and
Lass O'Gowrie of Williamstown 4215 were pur-
chased and are still in the herd. Prairie
Flower was sired by Scottie 3886, the sire of
many worthy and valuable cows; her dam
being May Flower 1467. She is a true speci-
men of the breed, full of constitution, and a
regular breeder, having dropped her 8th calf,
Lass O'Gowrie of Williamstown 4215, by
the same sire and out of Kilbowie Lass 1464,
by imported Duke of Athol, and has been a
notable figure since her introduction on the
farm, having raised seven calves. At the same
time Miss Bathgate 4363, by Scottie, and out
of Bathgate Lady 3174, was purchased from
Mr. Benning and kept in the herd over six
years, and sold to Mr. D. Drummond. Two of
her females are still on the farm: Collette
7898, the three-year-old by Duke of Park Hill
4666, dropped her first calf in July, and carries
a well-balanced udder. In 1897 she won the
medal for the best Ayrshire female on the
ground, at Cornwall, in a strong competition;
Lass O'Gowrie of Williamstown 4215, by
younger sister, Lady Nelson 8539, by Traveller
of Park Hill, also promises well, having an
abundance of constitution, which stamps her
as a business cow, backed by gilt-edged breed-
ing. The stock bull, Traveller of Park Hill
7566, by Victor of Park Hill 5091, and out of
Lass O'Gowrie of Williamstown 2625 (Imp.), has been em-
ployed in the herd every spring for three
seasons, his young bulls finding ready buyers.
He possesses an abundance of good clear
substance, and was purchased on account of
his dam being a large producer. As a show
animal he has won his full share of 1st honors
and promises to still continue in usefulness
for many seasons to come; his stock are all
descended from Traveller and out of the be-
fore-mentioned cows. Mr. Leitch reports a
good demand the past season and sales very
satisfactory. He is also making a specialty
of poultry, and we were shown a uniform
well-kept pen each of Barred Plymouth Rocks
1888, White Leghorns, which have been estab-
lished from only the best breeders, and here-
after eggs for hatching from those breeds
may be obtained at a nominal price.

W. F. TAYLOR'S AYRSHIRES.
At Mr. W. F. Taylor's farm near Wellman's
Corners we saw a strong, useful bunch of
Ayrshire cattle, the result of constant and
careful personal attention and consideration.
The herd is now as follows: 16 breeding cows,
3 bull calves, a pair of young heifers, and the
stock bull, Douglas of Loudoun 1384, by im-
ported Royal Chief 75, and out of imported
Dandy 1st 1208, was bred by David Morton &
Son, Hamilton, and has been employed in the
herd for two seasons; his stock is highly sat-
isfactory. In conformation we would say he
was a strong, low-set, long-bodied fellow,
covered by a beautiful velvety skin of white,
with some red, and is true in dairy confor-
mation, and is a stylish, attractive sire.
Among the matrons are such cows as Rosaline
1888, by Sir Collin 301, and out of Beauty 1338,
by Duke of Belleville 68, and running to old im-
ported Red Rose 68, she is a large, hand-
some red and white cow, carrying a massive,
well-balanced udder. She has been a great
producer of females; her last calf, however, is
a handsome young bull, strictly up-to-date in
style, color, etc. Jennie Lynde 2266, by Thomas
H 1210, dam Nellie Blyth 1696, also running to
2265, by Thomas H. and out of Rosaline.
White Princess 2481, by White Prince 2nd 808,
and out of Princess Louise 1022. White Rose
2189, by Prince Leopold, and out of Flora 1884,
having exceptional dairy qualities, and are
not only typical in conformation, but possess
constitution very seldom excelled in. The
males around him which are not of the strict
business kind, the bunch of two-year-old
heifers, reported in a former issue of the
FARMER'S ADVOCATE, and of which many
points of excellence were dwell upon, do not
disappoint us in the least. They are a strong
calf, and we do not anticipate disappointment
in their progeny or dairy qualities; in fact,
on the farm next fall, and from these heifers
too, for they have been proof and in the hands
of a highly practical Ayrshire man, who
recognizes a good thing when he sees it. The
three remaining bull calves are worthy of
we fall to see how any risk is being run in
selecting either sire or foundation stock from
this herd, for patrons are assured the benefits
derived from a lifelong experience in the
breed.

Horse Owners! Use GOMBAULT'S

Caustic Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes
the place of all liniments for mild or severe action.
Removes all Bunches or Blemishes from Horses
and Cattle. SUPERSEDES ALL CAUTERY
OR FIRING. Impossible to produce scar or blemish.
Every bottle sold is warranted to give satisfaction.
Price \$1.50 per bottle. Sold by druggists, or
sent by express charges paid, with full directions
for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., CAR.

You Might as Well Go HUNTING WITHOUT A GUN

Spramotor
Awarded Ten Diplo-
mas, Three Medals,
and the Government
Competition Medal.
It is all very well to
be a good second or
third in a contest,
but the Winner's the
thing, especially
when it costs less
than the rest. Secure
a Spramotor and
pray your trees and
plants, and reduce
the cost of produc-
tion One Half. You're
safe with a Spramotor.
It will paint your
barns and white-
wash the landscape.

W. H. Heard, Esq., Spramotor Co., London, Ont.
Dear Sir, -Another year's experience with your Spramotor pumps confirms our high opinion of them. The
fourteen that we got from you in the spring of '97 for
the experimental work carried on by the Department of
Agriculture for Ontario worked splendidly. They were
all sold at the places where the work was done, and we
will require fourteen more for this season's work.
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100 and 50 chicks from
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FEBRUARY

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The Farmer's Advocate and Horticulturist Magazine
with gold reader, appearance preserved FARMER'S cultural other way proposition We w any one We w

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Premiums!

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CANVASSING
TO-DAY.



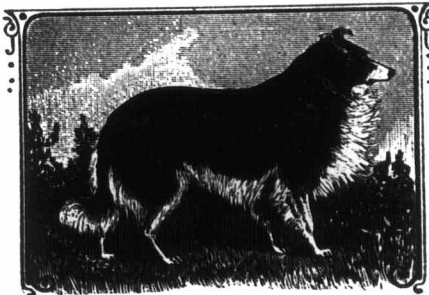
OUR NEW
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WE have for a long time been in search of a suitable binder for the FARMER'S ADVOCATE, and have at last secured what is wanted. It is handy, neat, handsome, strong and durable; black duck back, and cloth sides, with gold lettering. Each copy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

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

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

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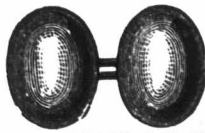
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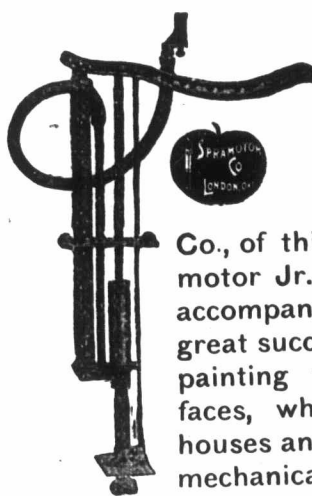
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Sterling Silver Canoe Scarf Pin, can also be used as lady's stick pin, 1 New Subscriber.



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



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

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12 MONTHS FREE!

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

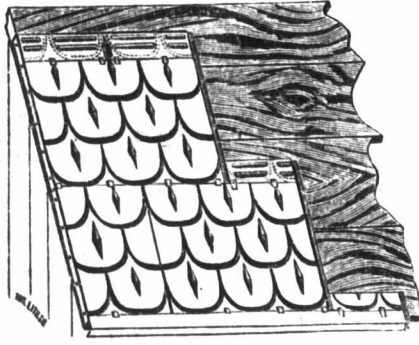
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IS THE PROPER COVERING
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"IT STANDS THE TEST."



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

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Larger and more progressive than all others combined.

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Made of steel—lighter, stronger, more power, overlasting, and competition distanced.



Also all styles of Bale Ties made from the Best Steel Wire. A full line of repairs for Dederick's Presses always on hand.

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Land Plaster

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

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**CAMPBELL'S BANNER...
ROOT
CUTTER**

Turns all roots and vegetables into Fine Stock Food. Indispensable to dairymen and sheep breeders and of greatest value to general farmers and poultrymen. Cuts fine, no choking. Self Feed Shaking Rate takes out all dirt, saves the knives; fully warranted. Send for FREE CATALOGUE. THE M. CAMPBELL FANNING MILL CO., of Chatham (limited).

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

ADVERTISE IN ADVOCATE

GOSSIP.

The third annual round-up of the Michigan State Farmers' Institute is to be held at the Agricultural College, Lansing, on February 22nd, 23rd, 24th and 25th, under the auspices of the Michigan Agricultural College and Michigan Farmers' Institute. J. L. Snyder is President of the College, and I. H. Butterfield, Secretary. The Committee of the Board of Agriculture on Farmers' Institutes are Hon. C. J. Monroe and Hon. C. W. Garfield. E. L. Butterfield is Superintendent of the Institute. During the afternoons of the last three days a women's section will also be held, conducted by Mrs. Mary A. Mayo, Battle Creek. The programmes to be carried out will cover the many branches of agriculture, and will be dealt with by practical and able men. Among the many names appearing were those of Mr. Geo. McCorrow, Wisconsin; T. B. Terry, Ohio; a number of ladies, and many members of the College staff.

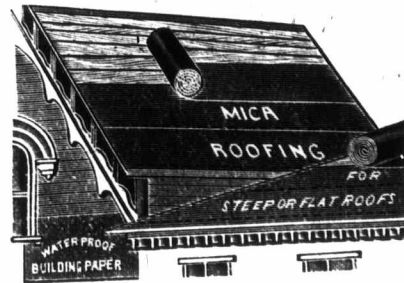
JOHN A. McDONALD'S AYRSHIRES.
A short drive from Williamstown, on a clear, cold morning, brought us to appreciate the comfortable stables of Mr. John A. McDonald, Jr., whose Ayrshire herd now numbers something over a score. In 1891 foundation stock was purchased from Mr. David Benning, Williamstown; the late Thos. Guy, Oshawa; and Wm. Brown, Petite Cote, from whom Snowdrop 4935, by Bonnie Scotland 3914, and out of Lucerne 3941 (imp.), was purchased, and has raised six calves, four of which are in the herd. She is a typical Ayrshire cow, carrying a well-balanced udder. Glen Rose 4805, by Scottie 3889, and out of Rosie 3171, was purchased from Mr. Benning in '93, and has raised four calves, two of which are on the farm, and from the history of Scottie stock we venture to state they cannot but be of the right sort. As they are favorably spoken of among breeders wherever known, he having produced perhaps as many true dairy cows as any sire living or dead. Lady Bell 6030, by Prince Butterfly 456, and out of Lady Cameron 1740, was purchased from the late Thos. Guy in '91. She is a medium sized red and white cow of high order, a persistent milk and regular breeder. Her two-year-old heifer, by Sir Donald 5918, possesses her full share of constitution and vigor and true dairy conformation, while her full brother, a year younger, equals her in every respect. A bunch of seven extra strong two-year-old heifers stand in a row that promise well, especially so does the daughter of Glen Rose, by Sir Donald. She has a beautifully marked skin, richly colored, and shows strong signs of becoming a dairy cow of high order, with sufficient constitution, her younger sister being nearly pure white. We were shown three young bulls rising a year and three bull calves—all by Sir Donald. Silverside, out of Bee Hive 6366, and by Glengary of Summerstown 5692, dam Adela 6175, is just a year old, and is a clean-out, well-formed fellow, bearing a strong appearance of usefulness apart from his rich breeding, while the other two, of nearly the same age, are animals qualified to head pure-bred herds. The stock bull, Sir Donald 5918, by Sir James of Parkhill 5051, and out of Blossom 3855, was bred by James Cunningham, and has been employed in the herd for three seasons. He is true in conformation, size and color, and on account of being so closely related to most of the young females, is held for sale. Having a good disposition and being a tried sire, he should make a useful animal for some breeder.

THE HACKNEY STALLION, ROYAL STANDARD.
From the Scottish Farmer we quote the following:—"Our contemporary, the FARMER'S ADVOCATE, has some pointed writing on the treatment which the Messrs. Graham, Claremont, Ont., have received, the result of the managers of the recent Chicago Horse Show. It appears that their horse, Royal Standard (3918), although recorded in the British Hackney Stud Book, is not registered, and cannot be registered under the rules in the American Hackney Stud Book. He won the championship at Chicago over all light breeds, but on account of this peculiarity in his registration the State Board of Illinois refused to pay over its share of the premiums won by Royal Standard. The decision in a case of the kind turns wholly on the rules of entry, but the extraordinary thing is that advantage is being taken of this peculiarity in the actual entry schedule to keep Graham Bros. out of their money. The rule governing competition in the light horse classes at the Chicago Show is that all stallions and mares entered in these classes—Hackneys specially mentioned—be registered in their respective stud books, and this Royal Standard is not registered. In the entry schedules the secretary clipped a heading from the premium list of the New York Show, which provides that horses must be entered in the American stud book of its breed. On this flimsy pretext it is alleged that Royal Standard should not have been allowed to compete. It is hardly conceivable that any self-respecting public body would seek to hold back prize money on such a transparent apology for an excuse. It seems that none of the Canadians have as yet been paid their premiums, and there is heart-burning over the business."

MR. D. H. KETCHESON'S JERSEYS.
During a friendly visit with our esteemed friend Ketcheson, near Menie, Ont., we saw three young Jersey bulls that are now fit for service, and from their breeding they should not fail to attract attention at a time when there is no surplus of good sires in the country. Two-year-old Governor Ross, by Thales's St. Lambert 23715, and out of Woodflower 36534, is a light fawn animal descended from a family of cows whose records are among the best; while a dark fawn two-year-old, by Satellite 41684, and out of Thales's Lamberta 63973, whose pedigree shows many worthy animals in it, is also a choice, well-formed animal, apart from his excellent breeding; his sire was a Snell-bred animal. Guineas, by Thales's St. Lambert and out of Lutra St. Heller 3340, is a strong three-year-old, whose services could not fail being beneficial to parties requiring sires of high type. All three animals are of the best disposition, and kept only in good serviceable form. Mr. Ketcheson, being a practical Jersey breeder, keeps them in the best possible form for the purchaser, and many complimentary reports have come from parties to whom he has previously sold.

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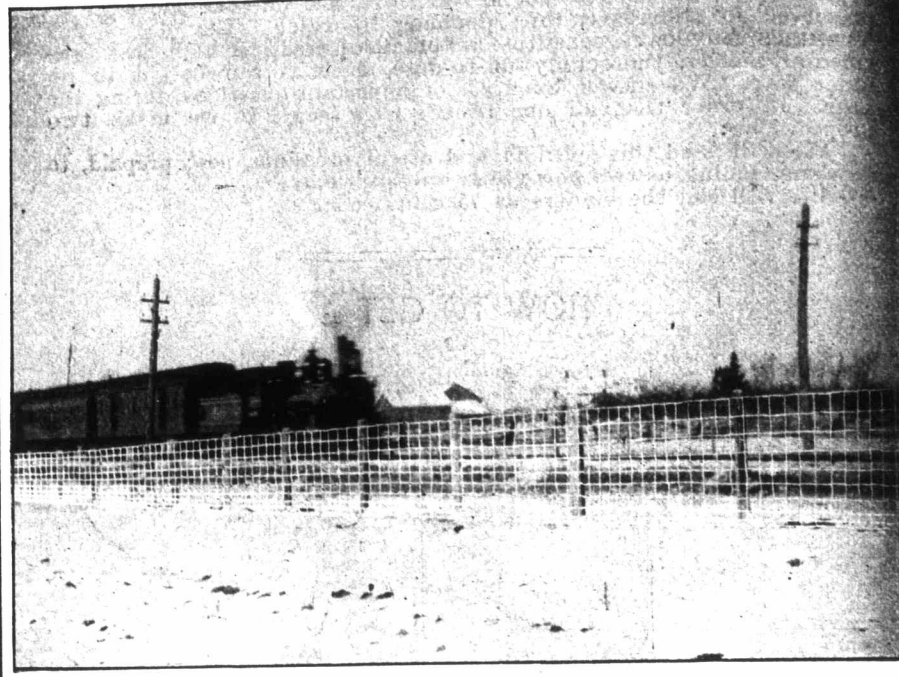


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IT IS CHEAPER THAN SHINGLES.

TO REPAIR LEAKY ROOF'S.
SHINGLE, IRON OR TIN ROOFS PAINTED WITH IT WILL LAST TWICE AS LONG.

RAPIDLY TAKING THE PLACE OF SHINGLES.
Is put up in rolls of one square each, 40 feet long by 32 inches wide, and costs only \$2.25, including nails, thus affording a light, durable, and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence.
HAMILTON MICA ROOFING COMPANY, 101 Rebecca St., HAMILTON.



Our dealers can supply you with the reliable, time-tried, thoroughly-tested Page Woven Wire Fencing, in different styles for general farm purposes, at from 45c. to 65c. per rod. These prices for such fencing as Page are very low. And when comparing with the cost of other kinds of fencing, the difference in favor of Page is still greater, as so many less posts are used with it. A recent railroad order for 200 miles is good evidence that Page Fence is in the lead. Any Page dealer, The Page Fence Co. (Limited), Walkerville, Ontario, or their Northwest agents, The Rathbun Company, Winnipeg, will be glad to mail you advertising matter.

W. C. EDWARDS AND COMPANY,
IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q.	Pine Grove Stock Farm, ROCKLAND, ONT.
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Ayrshires, Jerseys, Shropshires, Berkshires.
Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogis of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.
ED. McLEAN, Manager.

Shropshires and Scotch Shorthorns.
The imported Missie bull, Scottish Pride, at head of herd, assisted by British Knight. Special bargains in young bulls, young cows and heifers of the best of breeding.
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Ayrshire AND Guernsey Cattle, Imp. Yorkshire Swine AND Shropshire Sheep.

Ayrshire herd headed by the noted bull, Matchless 7560; sire Imp. Glencairn, dam Nellie Osborne. We are offering a choice lot of young stock, of both sexes, in both Ayrshire and Guernseys, at very low figures. Also bargains in sheep and pigs for the next month.
Particulars furnished on application to—
J. N. GREENSHIELDS, Prop. 9-y-om T. D. McCALLUM, Mgr.

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who could do five things at once would be a marvel, and yet two such men wouldn't be equal to one Planet Jr. No. 4 Hill Dropping Seed Drill. This machine opens the ground, drops the seed in hills or drills, covers it, rolls it down and marks out the next row. Does it all in the time a man would take to wet his hands. It can also be used as a hoe, a cultivator, a rake or a plow, and yet it is not more wonderful than others of the Planet Jr. Family. The Planet Jr. Seed Drill tells you all about them—free.
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It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. The Keystone Dehorner Mfg. Co., Picton, Ont., Can.

THE FARMER'S ADVOCATE
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VOL. XXXIII.
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