

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE
AND
SUCCEED
FOUNDED 1843

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

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VOL. XXXI.

LONDON, ONT., AND WINNIPEG, MAN., OCTOBER 15, 1896.

No. 416



MISS BAKER (4371),
A TYPICAL PRIZE-WINNING HACKNEY MARE.

EDITORIAL.

Next comes the great Ontario Fat Stock and Dairy Show, in Guelph, Dec. 8th, 9th and 10th.

The foundation of the new Black Agricultural College near Gattton, Queensland, was laid recently.

South American buyers have been in Scotland lately after breeding stock, giving a decided impetus to the sale of the "Doddies."

"Scotland Yet" contributes in this issue a letter of special interest to sheep breeders. The Border Leicester, Blackface, and Cheviot sales have been most encouraging.

There is a likelihood in Scotland of an improvement in the Clydesdale demand after a few months, and it cannot have escaped notice that intimations of foreign shipments have been much more frequent than for several years past.

Farm Building Plans.

A feature of the FARMER'S ADVOCATE to which special attention has been paid during the past few years is the publication of plans and descriptions of barns and other farm buildings. We find that these have been very highly appreciated as something of real practical value, and we purpose giving others, one of which appears in this issue, viz., the new dairy stock barn of Mr. W. C. Edwards, M. P. Now, there are doubtless many barns, sheep and swine buildings throughout the country of which we have not cognizance, but which contain original features of great value, and we invite our readers to advise us of such, or, still better, send us plans and written descriptions similar to those which we give from time to time. It is our desire to make the ADVOCATE more than ever a means of communication between farmers in all parts of the country, so that useful ideas in regard to building and farm management generally will be widely circulated.

We cordially invite our readers to co-operate in this work. Let our readers generally have the help of your experience.

A Lesson from the Antipodes.

A great deal has been said and written of late years concerning the development of Danish butter dairying, but we regard the successful progress of the Australian industry as even more remarkable, especially when all its obstacles are considered; in fact, as an object lesson it is probably more deserving of study. Take the colony of Victoria alone, with an agricultural population of only a little more than 85,000, which in five years shows an increase in butter exported, from practically nothing to some \$6,000,000. (When Canada has done as well in butter and cheese combined, our exports will be \$50,000,000 instead of \$15,000,000 worth.) Not only so, but we have noticed Australian butter actually quoted higher in English market reports than Canadian or American. Originally buttermaking was carried on in Victoria in a most wretched way, the conditions being such as one would hardly credit here. Then, the British market is five or six weeks distant and the torrid zone between; their land less fertile, and the Canadian winter fully offset by the droughts and heat of Australia. If the dairy revolution effected there does not merit attention, we need hardly look in any direction. They have the advantage of nearly all the year pasture, but all things considered, we ought to land our butter in Britain not only much cheaper but in vastly better condition; that is to say, Canadian butter should sell for more money than Australian, and give the Canadian dairyman a better net return. Australian journalistic enterprise first investigated dairying in countries where good butter was made; then the Government stepped in and helped to complete the work. Elsewhere in this issue of the ADVOCATE we lay before our readers the first installment of a description of the evolution of Australian butter dairying, prepared by special request for the ADVOCATE by that wide-awake observer, Mr. J. S. Larke, Canada's Commercial Agent in that Colony.

"Canada's Glory."

Julius L. Inches, Secretary of Agriculture, Fredericton, N. B., writes:—"I think I neglected to thank you for the copy of your splendid picture, 'Canada's Glory,' which reflects so much credit on the enterprise of the FARMER'S ADVOCATE."

"Miss Baker" and the Hackneys.

The place of honor in this number is given to the portrait of a model of what a harness horse should be. The imported Hackney mare, Miss Baker (4371), is not seen at her best while standing, as she is one of the showiest all-round actors that ever made an appearance in a Canadian showing. In color she is a rich brown, stands 15 hands 3 inches high, and, as will be noticed, is exceeding well-proportioned. She was bred by Mr. James Case, Cockthorpe, Wells, Norfolk, Eng.; imported by Senator Wm. H. Cochrane, Hillhurst, Que.; and is now owned by Messrs. D. & O. Sorby, of Guelph, Ont., with whom she is doing good service in the breeding stud. She is now some seven years old, and has come through a most noteworthy showing career, having won the following prizes: In 1893, 1st award at the Toronto Industrial as a high-stepper in harness. In 1894 she won the same as in 1893, as well as silver medal for best mare any age. At Sherbrooke, the same year, she won 1st in single Carriage class; also, highly commended as a Hackney brood mare at the New York National Horse Show. In 1895, at her last appearance in the showing, she won 1st in single harness and again silver medal for best mare any age. Miss Baker has for sire, Ruby (Hamond's) 1312, and is out of Betsy Baker by Norfolk Jack (Sudbury's) 516.

This useful breed—the Hackney—which every horse lover admires, has won an enviable and surely an abiding place in popular esteem, both in Europe and America. Unfortunately for many who would like to own them, the good ones cannot be bought, like those of some other breeds, for a moderate figure, though this is a condition that in time will right itself. They are of the sort that moneyed men are wanting and are securing as rapidly as they are ready for the market. During the last year there has been a large number sold from Canadian studs, which doubtless had much to do in holding down the numbers in the principal showings this autumn, among which may be mentioned Seagull, Dundrennan, Kilnwick Fireawav, Roseberry, Royal Dane, Gentility, Rosseau Fireball, and a number of others which we do not recall at present.

The number of registrations being made in this country speaks exceedingly well for the future of the breed. Registration of Hackneys commenced in Canada about 1890, and up to the present there have been some 60 females and a number of males recorded in the Canadian Hackney Stud Book, from comparatively few breeding studs. This, of course, has reference only to breeding stock, and does not show the full rate of increase, as many of the mature stallions do heavy seasons every year, and are getting the single and double harness stock which is commanding the big figures at the New York and other large horse sales, and were it not for the produce of this breed the great modern horse shows which attract so much attention in New York, Philadelphia, Boston, and other places would be at a loss for the visitors who go largely to see the sensational acting of the cob, tandem, and four-in-hand. Not only do they answer a desirable purpose as a show-making breed, but as money makers their offspring from strong, warm-blooded roadster and carriage mares cannot be excelled, as they are no sooner mature than they are picked up at good figures. To this end, however, they must be sound, and partake of the Hackney characteristics which usually occur when good mares are chosen as dams.

The Canadian studs with which Miss Baker has been associated are well-known to our readers. While the Sorby Bros. have not as yet gone extensively into Hackney breeding, their individuals are, like Miss Baker, of the highest order of merit. Their position among Clydesdale breeders is now, as it has been for years, among the foremost, as our reports of the various big shows indicate.

The Hillhurst stud, where Miss Baker had her home for some time, is exclusively devoted to Hackney breeding. The class of stock kept has spoken for itself at the recent contests. The female sweepstakes award at the Toronto Industrial this year went to this stud, even without Miss Baker, in Princess Dagmar, who is yearly perpetuating her kind. The noted chestnut two-year-old, Barthorpe Performer, was a close reserve number to the sweepstakes Royal Standard at Toronto and Ottawa, while his place at the top at the Montreal show was not for a moment disputed. These individuals are not more than slightly in advance of a number of others in the stud which followed the late big shows and captured good premiums, as mentioned in our reports. In short, the Hillhurst stud is an extensive one of the highest quality, and managed in a manner to do the Hackney breed of horses permanent good in this country.

Ministry of Agriculture in Denmark.

A Ministry of Agriculture was created this year in Denmark. Official business connected with agriculture in that country has hitherto been transacted by the Minister of the Interior, in the Section of Agricultural Economy and the Section of Valuation of Landed Property. Under the new arrangement these two sections have been separated from the Ministry of the Interior and have been joined to the Departments of Woods and Forests and of State Domains (both hitherto part of the Ministry of Finance), in order to form the new Ministry of Agriculture.

Notes of Interest on Experimental Work.

BY E. E. F.

The writer, who has just been making a tour through a number of the States across the border, was favored with the opportunity of visiting several experiment stations, agricultural and horticultural centers.

The Iowa Experiment Station, under the careful direction of Prof. Jas. Wilson, has made rapid growth, and has become one of the best equipped Stations in the United States for carrying on practical feeding and breeding experiments with stock. Prof. C. F. Curtiss, for the past few years, has been making a careful study of breeds and their improvement by proper breeding, and is now carrying on a series of breeding experiments by utilizing the best bred stock on this Continent that is obtainable, and has imported during the past two years from Canada, making special trips to select the animals used in carrying on the experiments. The experiments thus far have not been pursued long enough to reach definite conclusions, although some points as to advantage of pure breeds have been determined that will prove of value to the stock raiser. The field is yet largely unexplored, and is a wide one.

At the Wisconsin Station the breeding point is not the issue, but feeding instead. Prof. Craig, for the past three years, has been conducting feeding experiments with sheep, in which all experiments are duplicated and are to be carried through a period of five years. He makes the claim that developing from the feeding standpoint, with well-balanced breeds, is more practical and cheaper than by high-breeding. He has proved by experiment during the past two years, that it is better to feed grain to lambs before weaning than after weaning if they are to be placed on the market as soon as they are fattened. By an experiment he found that where spring lambs were fed grain before they were weaned they were made to weigh 113 pounds seven weeks earlier than those fed after weaning, and less grain was used. Corn and peas, mixed, was the grain fed. A practical experiment was made in fattening rough picked lambs from mixed breeds in contrast with high-grade lambs. The mixed lambs were lighter feeders, but did not gain more than 62 cents per head during the fattening period. On the other hand, the high-grade lambs were heavier eaters, but fattened quicker, gaining \$1.12 per head—nearly twice as much—showing the necessity of abandoning the scrub sheep. Rape is being experimented with as a food for sheep. Director Henry has put no little force in raising the high standard of his dairy department. The pasteurizing of milk for sale in the city is proving a success. The process carried on is as follows: The milk is placed in the pasteurizing vats and at once raised to a temperature of 150° Fahr. as quickly as possible. It is held at this temperature for a few minutes, and is then lowered quickly to 50° Fahr. It is then bottled in different sized bottles, divided into three grades, determined by the per cent. of butter-fat; each grade being properly labeled on the bottle. In this condition, in ordinary temperature, milk will keep from two to four days without a taint. The process is very easily carried out, requiring but little skill. It is profitable when practiced on a large scale, as the product brings nearly double the price in the market. Milk sellers catering to city trade would profit by this practice. In France this process of handling milk is carried on extensively. A large portion of the milk used in Paris, among the better classes, is pasteurized milk from the celebrated De Arcey farm, which the writer visited last year. In parts of Germany this pasteurizing of milk is in vogue.

A look into the Michigan fruit districts shows a large crop of all kinds of fruits for this year. The peach crop this season has been a large one. The Elbertas have taken the lead in prices, and are being largely planted. They are, however, liable to peach curl, which injury can be easily remedied by proper spraying. Other sorts of promise are the Louis and Fitzgerald. The Kalamazoo and Crawford were the largest crop this season. Some trouble has been experienced in parts of Michigan with a new disease of the peach, resulting in considerable damage to a number of peach orchards—the dying of the tops of peach trees, with dwarfing of fruit. The cause is not known, but the general opinion of those engaged in investigating the disease is that the last two years of drought in the spring has retarded or injured the root development. The blighting of the leaves and limbs resembles the peach yellows. Spraying of fruit trees is carried on throughout Michigan. There is scarcely a farmer with an orchard but what is well equipped for thorough spraying. At the State Experiment Station may be found the largest weed garden in the States, conducted by Prof. Beal, containing the principal weeds of Michigan and other States. This is a step in the right direction as a means of detection of adulterated seeds with which our markets are unlawfully filled every year. The farm department can boast of a number of high-bred prize-winners of different breeds in its herd of live stock. Irrigation on the horticultural grounds is practiced each year with success, the distribution being from a central tank on the highest elevation of ground. This department is a strong one, and well equipped for all kinds of horticultural work.

New Brunswick International Exhibition, Held at St. John, N. B.-- Crops of 1896.

(SPECIAL CORRESPONDENCE.)

Our Exhibition this season opened on the 22nd of September and closed on the 2nd of October. The general opinion of the farmers is that the Exhibition should be confined to one week. It is too expensive to keep stock for nearly two weeks on the show ground. Unfortunately for the success of the Exhibition and the comfort of visitors, the weather most of the time was unpleasant--cold and sometimes wet; on that account the attendance was very much less than last year, and the income of the directors will be short of meeting the expenditure. The directors had increased the prizes in a number of classes, and spared no effort to make the Exhibition a success; and so far as their labors were concerned the Exhibition was a decided improvement on the past. It is disappointing to farmers when these friendly gatherings for mutual improvement, interchange of experience, and helpfulness to one another are met with unfavorable weather. Farmers in this Province are needing something to cheer them on a little. On the Eastern side of the Province the season has been very favorable, and the crops are all fairly good; grain crops, especially spring wheat, above the average both in quantity and quality. On the Western and Northern sides of the Province the summer was dry, and the hay crop on the uplands very light. The potato crop is not large--somewhat below the average. The rains in September improved the field root crops very much. The corn crop is a somewhat new feature with us. Quite a number of our progressive farmers have been growing it very successfully for two and three years, with very good results. Some have succeeded in maturing the early kinds, so that they have raised their own seed corn. Oats and peas for green feed in August is proving a great success to those who have sown them, and there is no doubt but a far greater quantity will be sown in the future.

Our dairy business has not been very encouraging. Last season prices were so low that a great many lost heart, not having made much, and the cows were not very well cared for nor their number increased. Neither did farmers generally prepare themselves in the spring by putting in peas and oats for green feed in August, nor corn for fall feed later in the season, and when the dry weather came in August the quantity of milk was very small, and some factories shut down altogether, and by many dairying was put down as a failure. Others, with more faith in the business and more clearheadedness in the management of it, are now feeling in good heart. The cheese market has gone up, and within the last week a number of factories have sold at 9c. and 9 1/2c., and those who held to the business are rejoicing. Prices for all kinds of farm produce are very low--dairy produce of fine quality is at the top.

The display in the Palace was really grand. The manufacturers and wholesale merchants of the city had very attractive displays of their goods, all arranged in artistic style. The machinery hall was well filled with farm machinery, saw and shingle mills of various makes.

The carriage building was completely filled with all kinds of carriages, finished in a variety of styles and colors. Some new designs in family sleighs for winter driving were much admired.

The agricultural hall on the ground floor was occupied in the east end by light farm implements--cultivators, rakes, plows, churns, and a variety of other implements. The west end was occupied by the cheese and butter exhibit. J. H. White, of St. John, had a fine display of factory and dairy machinery and supplies. The machinery and factory furnishings were from Richardson & Webster, St. Mary's, Ont. The second floor was occupied with the exhibits of fruits, roots, vegetables, and grains of all kinds. The largest display of fruits were from Nova Scotia fruit growers. The Experimental Farm at Nappan made a beautiful exhibit of different kinds of grains on the straw and cleaned grains in glass jars, which was very attractive.

The dairy exhibit was very large and attractive. The directors furnished large refrigerator cases for the protection of the butter, which was a great improvement. The display of cheese was quite an advance on last year. While there were none that excelled or scarcely equalled the first prize of last year, yet there was a decided improvement in the general average of the quality of the cheese. There was more neatness in the finish and more uniformity in appearance; the greatest difference being in the flavor and character of the cheese. This is a prevailing trouble everywhere, mostly attributable to some want of cleanliness or proper care of the

milk at the farms where it is produced. The exhibit of butter was altogether excellent, especially some of the creamery prints and tubs. There was also an excellent exhibit of dairy butter in crocks and prints. Common remarks frequently heard were: "Is not that beautiful?" "Is not that fine?" "A great improvement in the butter from what it used to be."

The operating of the travelling dairy, in charge of Mr. H. Mitchell and Mr. J. F. Tilley, was a decided attraction in itself. Butter was made on the platform mostly three times a day. Some of the butter was kept in granular form as an object lesson for instruction in improved buttermaking, showing how much easier and more perfectly the butter can be washed and salted in the granular form than in any other way. Some of it was put up in pound prints, wrapped up in parchment paper. Thus a great deal of information was imparted. In colored cheese we had 20 entries--14 of New Brunswick and 6 from Nova Scotia.

PRIZE LIST.

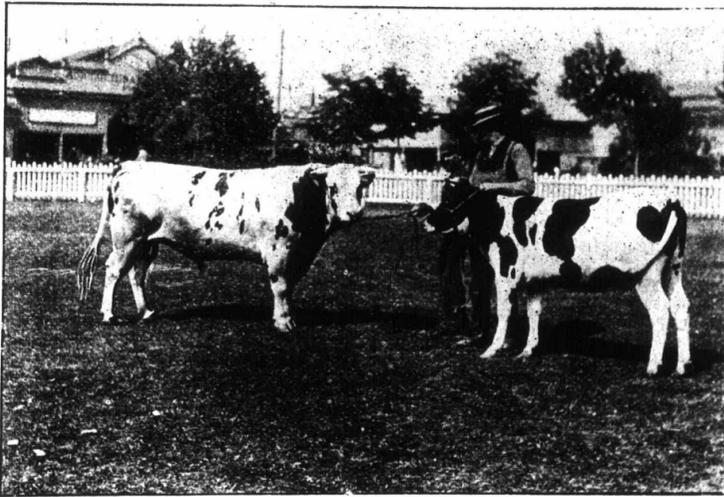
Colored Cheese--1st, J. H. Brown, Corn Hill, N. B., 96 points; 2nd, J. Good & Son, Jacksonville, N. B., 94 points; 3rd, J. P. Michand, St. Hilaire, N. B., 92 points; 4th, West Cornwallis Cheese Co., N. S., 88 points; 5th, Petitcodiac Cheese Co., N. B., 87 points.

White Cheese--16 entries--10 of New Brunswick, 4 from Nova Scotia, and 2 from P. E. I.--1st, C. L. Tilley & Son, Woodstock, N. B., 95 points; 2d, Nappan Dairy Station, N. S., 94 points; 3rd, J. H. Brown, Corn Hill, N. B., 92 points.

Creamery Butter--Two 50-pound tubs--1st, St. Louis Creamery Co., Kent, N. B., 95 points; 2nd, Nappan Dairy Station, N. S., 95 points; 3rd, M. McLaughlan, St. Joseph, N. B., 92 points.

Creamery butter in crocks or tubs--1st, St. Louis Creamery Co., N. B., 96 points; 2nd, Nappan Dairy Co., N. S., 94 points; 3rd, St. Joseph Creamery Co., N. B., 89 points.

A Sweepstakes Pair.



NETHERLAND CONSUL AND IDEAL'S LENA.

The above illustration represents a pair of choice young Holstein-Friesians, owned by R. S. Stephenson, Ancaster, Ont., which have proved themselves, in fair and strong competition, to be among the best of the breed in Canada. The bull, "Netherlands Consul," No. 530, was sired by Netherlands Statesman Cornelius, No. 46, and is out of Polyanthus, No. 151, imported from Holland. Last year Netherlands Consul, as a yearling, won in strong company, at the Toronto Industrial, 1st premium in his section and silver medal for being best Holstein bull on the grounds.

The female, "Ideal's Lena," won 3rd premium as a calf last year at the Toronto Industrial in perhaps the strongest section ever shown there. This year she secured 1st premium in the yearling class and diploma for being best female any age, an honor seldom won in a dairy breed by a female so young.

Creamery butter in prints--1st, Nappan Dairy Station, N. S., 100 points; 2nd, St. Louis Creamery Co., N. B., 95 points; 3rd, M. McLaughlan, St. Joseph, 95 points.

Dairy Butter--In crocks--1st, S. L. Peters, Queenstown, N. B., 94 points; 2nd, R. H. Bayard, Welsford, N. B., 93 points; 3rd, Sam Armstrong, Silver Falls, N. B.

Dairy prints--1st, W. S. Boyle, Golden Grove, N. B., 97 points; 2nd, J. R. Sample, Brule, N. S., 96 points; 3rd, Mrs. H. Middleton, Coldbrook, N. B., 95 points.

Granular Butter--In jars--1st, E. J. Peters, Elmhurst, N. B.; 2nd, Acadia Dairy Co., N. S.; 3rd, S. L. Peters, Queenstown, N. B.

We were favored with the presence of some fine cattle from outside the Maritime Provinces. Mr. R. Robertson, from Compton, Que., carried off the most of the prizes for Ayrshires and Devons. Mr. W. C. Edwards, Rockland, Ontario, showed some fine Shorthorns and carried away prizes. Mr. R. H. Pope, Compton Que., had it all his own way with the Polled Angus. Mr. F. S. Wetherall, Cookshire, Que., carried off a number of prizes with Jerseys. With the addition of these herds the cattle exhibit was rather attractive; but strangers coming from a distance and taking away a good many of the prizes was rather hard on our own breeders, but it was a good lesson for the public and perhaps also to the breeders. Also, it has shown them they are still quite a bit from the top yet, and that there is still room for improvement. The chief winnings in the horse and cattle classes were as follows:

HORSES.

THOROUGHBREDS--Stallion, four years and up--2nd, F. S. Wetherall, Cookshire, P. Q.; 3rd, Fred G. Alward, Brunswick, Queen's Co., N. B. (St. Valentine). Best mare, any age--1st, Ora P. King, Sussex (Golden Maxim).

STANDARD-BRED--Stallion, four years and up [eight entries]--1st, John McCoy, Fredericton (Judge Wilkes); 2nd, Geo. L. Taylor, Hampton (Arclight); 3rd, Jas. Gibson, Kentville, N. S. (Resolution). Stallion, three years--G. H. Barnes, Sussex (Fleet-Step). Stallion, two years--2nd, S. Z. Dickson, St. John (S. Z. 27508). Three-year-old filly [four entries]--1st, Wm. McEvoy, St. John (Minnie Mack); 2nd, H. R. McMonagle, Sussex Corner (No. 24155); 3rd, A. C. Fairweather, Rothsay (Dora). Two-year-old filly [two entries]--1st, J. S. Heartz, Kentville, N. S. (May F.); 2nd, J. A. S. Mott, St. John (Fannie Gun, Vol. 4, H. B.). Best mare, any age [five entries]--1st, D. W. McCormick, St. John (Rose S.); 2nd and 3rd, A. L. Berryman, St. John. Stallion, with five of his progeny [nine entries]--1st, G. Carvill (Speculation); 2nd, C. J. Ward, St. John.

CARRIAGE--Brood mare, not more than 1,250 pounds or under 1,050 pounds--1st, W. A. McFate, Golden Grove [mare of 1,050 pounds]; 2nd, S. Creighton, do., St. John; 3rd, A. S. Berryman, St. John (Lottie C.). Single carriage horse, gelding or mare, in harness, not more than 1,250 pounds or less than 1,050 pounds--1st, Mrs. L. K. Coster, St. John; Frank McCabe, Rogersville, N. B. (Billy, 2nd, and Nelly, 3rd).

CARRIAGE (ROADSTERS)--Best mare or gelding, in harness, under 1,050 pounds [nine entries]--1st, D. W. McCormick, St. John (Nellie R.); 2nd, H. H. Mott, St. John (Lulu); 3rd, Jas. Stevenson, P. E. I. (Happy Lad).

AGRICULTURAL--Stallion, four years and up [three entries]--1st, B. Puddington, St. John; 2nd, W. A. McFate, Golden Grove. Filly, three years old [three entries]--1st, R. D. W. Hubbard, Oromocto; 2nd, Wm. Rafferty, St. John. Matched farm team, in harness [three entries]--1st, S. Creighton, Silver Falls; 2nd, W. Donovan, Coldbrook. Best mare, any age [ten entries]--1st, A. C. Fairweather, Rothsay; 2nd, G. A. Bull, Grafton, Carleton Co.; 3rd, J. C. Hatheway, Fairville.

GLYDESDALES (IMPORTED OR CANADIAN-BRED)--Stallion, four years and up [two entries]--1st [only award], John Richards, Bideford, P. E. I. Stallion, three years old--1st [only entry], H. R. McMonagle, Sussex. Best mare, any age, not less than 1,400 pounds [two entries]--2nd, John Drummond, Coldbrook; 3rd, Wm. Rafferty, Marsh Road, St. John [no 1st awarded].

CATTLE.

AYRSHIRES--Bull, three years old and up--1st, S. Creighton, Silver Falls (Scott 715, P. E. I.); 2nd, John Drummond, Coldbrook (Liberal); 3rd, Fred S. Black, Amherst (Victor). Bull, two years old--1st, D. S. Smith, Petitcodiac (Czar of Parkhill); 2nd, J. M. Donovan, Coldbrook (Lord Aberdeen); 3rd, Wm. Rafferty, St. John (Duke). Bull, one year old--1st, R. Robertson, Compton, P. Q.; 2nd, H. J. Belding, Hampton (Marquis of Hampton); 3rd, Fred S. Black, Amherst (Sir Samuel, C. H. B.). Bull, any age--Diploma, R. Robertson, Compton, P. Q. Cow, four year old and up--1st and 3rd, R. Robertson, Compton, P. Q.; 2nd, W. Donovan, Coldbrook. Cow, three years old--1st and 3rd, R. Robertson, Compton, P. Q.; 2nd, W. Donovan, Coldbrook, P. Q. Heifer or cow, two years old--1st, R. Robertson, Compton, P. Q.; 2nd, J. M. Donovan, Coldbrook; 3rd, Wm. Rafferty, Marsh Road, St. John. Heifer, one year old--1st and 3rd, R. Robertson, Compton, P. Q.; 2nd, W. C. Edwards, Rockland, Ont. Herd--1st, R. Robertson, Compton, P. Q.; 2nd, F. S. Black, Amherst; 3rd, W. Donovan, Coldbrook.

JERSEYS--Bull, three years old and up [six entries]--1st, J. E. Page & Son, Amherst; 2nd, F. S. Wetherall, Cookshire, P. Q.; 3rd, S. Creighton, Silver Falls. Bull, two years old [five entries]--1st, F. S. Wetherall, Cookshire, P. Q.; 2nd, R. H. Pope, Cookshire, P. Q.; 3rd, J. K. Hays, Hampton. Bull, one year [nine entries]--1st and 2nd, W. C. Edwards, Rockland, Ont.; 3rd, Mrs. E. A. Colfitts, Forest Glen, Westmoreland Co., N. B. Bull, any age [three entries]--(Diploma) 1st, F. S. Wetherall, Cookshire, P. Q. Cow, four years and up [eight entries]--1st, F. S. Wetherall, Cookshire, P. Q.; 2nd, S. Creighton, Silver Falls; 3rd, J. H. Parks, St. John. Cow, three years old [six entries]--1st, R. H. Pope, Cookshire, P. Q.; 2nd, Wm. Mullin, St. John; 3rd, Wm. A. Shaw, St. John. Herd [four entries]--1st, F. S. Wetherall, Cookshire, P. Q.; 2nd, R. H. Pope, Cookshire, P. Q.; 3rd, S. Creighton, Silver Falls.

HOLSTEINS--Bull, three years old and up [three entries]--1st, G. A. & A. A. Treadwell, Upper Mauderville, N. B. (Pieterje); 2nd, J. E. Page & Sons, Amherst; 3rd, Willie Eccles, Westfield, N. B. (Barnie).

SHORTHORNS--Bull, three years old and up [only entry]--1st, W. C. Edwards & Co., Rockland, Ont. (Knight of Lancaster 17101). Bull, two years old [only entry]--1st, Chas. W. Holmes, Amherst. Bull, one year old [four entries]--1st, 2nd and 3rd, W. C. Edwards & Co., Rockland, Ont. Bull, of any age [two entries]--1st, W. C. Edwards & Co. Cow, four years old and up [two entries]--1st and 2nd, Chas. W. Holmes, Amherst. Cow, three years old [only entry]--1st, Chas. W. Holmes, Amherst.

Nova Scotia Exhibitions.

(SPECIAL CORRESPONDENCE.)

The Provincial exhibitions held in Nova Scotia this year were divided according to Eastern and Western districts. The Eastern Exhibition was held in Truro during the last week in September, the Western Exhibition taking place in Yarmouth, Sept. 30th to Oct. 2nd, inclusive. Both exhibitions were opened by Lieutenant-Governor Daley, assisted by Premier Murray, B. W. Chipman, Secretary for Agriculture, and others, who gave practical addresses, containing spirited words of congratulations, noting the general advancement of all lines of agricultural industries throughout the Province during the past few years, raised to a higher standard through the medium of well-conducted exhibitions. The necessity of raising only well-bred stock was emphasized.

The Truro Exhibition was held on "Winburn Hill," and was in more ways than one a credit to the Eastern Counties. The horse exhibit was not a large one. The best represented class was the Standard-bred. T. R. Black showed the only two Hackneys on exhibition, this breed being intro-

duced for the first time since last year. The Clydesdales, Percherons, and other draft classes were all light. The General Purpose class was well filled and hotly contested. There is a chance for improvement in all classes in the future.

The show of cattle was one of the best ever made in the Province. The classes were all well filled, and, with but few exceptions, were animals of the highest order. Herbert Stairs, of King's County, carried away the laurels in Polled Angus. The herd prize for Guernseys was taken by W. Miller, Truro. In sweepstakes for thoroughbred cows, William McCully, of Truro, took the prize with a Jersey. Among the Jerseys the herd of E. B. Elderkin & Sons took the lead. In Ayrshires, Chas. Archibald, of Truro, took the main prizes. He was also successful with his herd of Devons. Samuel Dickie, Onslow, and John Cameron, New Glasgow, made the show of Holsteins. Durhams were principally exhibited by Chase Bros., of Cornwallis. W. W. Black carried off the bulk of awards for Herefords. The Government Farm at Truro had a good exhibit of cattle of different breeds.

The exhibit of sheep was exceedingly small, coming entirely from Pictou County, consisting of Leicesters, Shropshires, and Southdowns. There is no question but what this exhibit has been neglected, although an important one to the farmers of the Province.

In swine the exhibit was even smaller, consisting of Berkshires, Chester Whites, and Yorkshires.

The vegetable department was well filled. The fruit show was the largest ever made in the Eastern part of the Province, consisting of pears, peaches, plums, apples, etc. The fact that all the awards did not go to the exhibitors from the "Annapolis Valley" evinces the fact of the growth of the fruit industry in Eastern Nova Scotia.

Among the special features of the Exhibition was the display made by the Truro Condensed Milk and Canning Co., being the only one of its kind in Canada. The dairy exhibit of butter and cheese was smaller than it should have been. In factory-made cheese, the Upper Stewiacke Dairy Co. took first prize. Some criticism was made on the non-uniformity of the prizes granted; while at

THE EXHIBITION IN YARMOUTH

the general criticism was the fitting of the prize lists more to suit the County of Yarmouth, rather than to meet the Western portion of the entire Province. The outside show at the latter was larger than in former years. The inclemency of the weather injured the exhibition of a number of fancy breeds of live stock.

The cattle exhibit was good, and of a high class. The exhibition of the Jersey class was by far the largest of any. A good show of Guernseys and Ayrshires was also made. One of the leading features in this division was the exhibit of "class oxen and steers."

The Hackney, Draft, and Saddle classes comprised the list of horses; the first was the largest.

In the sheep section a number of fine Shropshires, Cheviots, grades and crosses were found. In the Shropshire class, S. P. Goudy, Yarmouth, took the chief prizes.

The poultry yard was filled with a large number of breeds, and was considered the best exhibit ever made in Nova Scotia.

The swine exhibit was very light.

The Western portion of the Province sustained its reputation in its extensive exhibit of vegetables of all kinds.

A most creditable exhibition of fruit was made. Prizes among apples were granted on "best varieties for market and export." Fifty-two varieties were included in this list, taken chiefly by exhibitors from the Annapolis and La Have valleys. The exhibit of small fruits was not large. In cranberries, A. V. Parker, of Berwick, took the prizes on market varieties. Grapes from the cold grape-tries were quite noticeable, the Black Prince variety taking the lead.

Taking the condition of the weather attending both exhibitions into consideration, they may be said to have been a success. The annual Provincial Exhibition, to be held in the future in Halifax, will be a great boon to the Province, the intention being to retain the District Exhibitions as feeders to the Provincial. There is some diversity of opinion as to the success of the scheme.

Work at the Dominion Experimental Farm.

A short visit to the Dominion Experimental Farm, Ottawa, on Sept. 25th, found the silo filling with the "Robertson Mixture" in full operation. This has been a good season for each of the three crops—corn, horse-beans, and sunflowers. The corn, of which we shall speak later, was well grown and fairly well matured, and was being cut by means of a modern corn harvester, which gave fair satisfaction, using some five pounds of twine per acre. The bands have all to be removed from the sheaves before entering the cutting-box, to prevent winding up the rollers. There need be no dearth of bag strings on a farm where a corn binder is used. Mr. Fixter, the Farm foreman, would like the machine better if it could be made to leave less stubble. This improvement will likely receive attention in the near future. The beans were well grown and well matured, but were very black in stalks and pods. There possibly may be no objection to this. The sunflowers were a magnificent crop. They are of the Mammoth Russian variety, grown in rows three feet apart and eighteen inches

apart in the row. Many of the heads being saved for seed were about fourteen inches across and of fine quality. The corn and beans were being cut very finely—about one-third of an inch long. The sunflower heads were thrown into the silo whole and there chopped into pieces by means of a spade.

Of corn, some seventeen varieties were grown in half-acre experimental plots. The following data regarding them was provided us by Mr. Fixter:—

Red cob ensilage gave 10 tons 1,915 pounds per half acre: fairly leafy, cobs well formed, but no grain on cobs.

Champion White Pearl gave 9 tons 1,160 pounds per half acre: leafy on top, scarcely any at base of stalks, cobs well formed, in late milk. This is a very promising variety for Western Ontario.

Leaming gave 8 tons 1,575 pounds per half acre: leafy on top of stalks, well cobs, grain beginning to form, in watery state.

Cuban Giant gave 8 tons 1,095 pounds per half acre: well cobs, grain beginning to form, in watery state, leafy on top.

Giant Prolific Sweet Ensilage gave 8 tons 1,060 pounds per half acre: well cobs, grain beginning to form, in watery state, leafy on top.

Pride of the North gave 8 tons 455 pounds per half acre: well cobs, in watery state, leafy on top.

Mastodon Dent gave 7 tons 1,875 pounds per half acre: well cobs, grain well formed, in watery state, fairly leafy both top and bottom.

New White Cap Yellow Dent gave 7 tons 1,605 pounds per half acre: well cobs, in doughy state, leafy on top, promising for Western Ontario.

Angel of Midnight gave 7 tons 1,164 pounds per half acre: well cobs, all in late doughy state, in first-class condition for ensilage, leafy both top and bottom, promising for Northern and Eastern Ontario.

Thoroughbred White Flint gave 7 tons 605 pounds: very leafy both top and bottom, well cobs, grain in watery state.

Longfellow gave 7 tons 307 pounds per half acre: cobs well formed, all in late doughy state, leafy both top and bottom, in first-class condition for ensilage.

Mammoth Extra Early Yellow Flint gave 6 tons 1,602 pounds per half acre: well cobs, all in doughy state, leafy both top and bottom, in first-class condition for ensilage.

Canada White Flint gave 6 tons 1,430 pounds per half acre: well cobs, in doughy state, not leafy.

Pearce's Prolific gave 6 tons 1,185 pounds per half acre: leafy, well cobs, grain beginning to harden.

Sanford Flint gave 6 tons 837 pounds per half acre: well cobs, grain in doughy state, beginning to harden, fairly leafy.

King of the Earliest gave 5 tons 1,506 pounds per half acre: well cobs, grain in doughy state, some beginning to harden, not very leafy.

Extra Early Huron Dent gave 5 tons 340 pounds per half acre: well cobs, in doughy state, fairly leafy.

The soil that these plots were sown on was not the best corn land, being part peaty and balance heavy sand. Also, a heavy frost cut it considerably just as cutting was commenced.

The growth of new clover upon the Farm was extraordinary. Not only was it very thick, but some was out in head. Crimson clover was out in full head, but it is not a favorite in that locality. The root crops, especially carrots, were very heavy and of good quality. Repeated experiments have proved that the largest yields of turnips, mangels, and carrots can be grown in rows twenty-four inches apart—turnips twelve inches apart in the rows, mangels a little less, and carrots from six to eight.

All the different departments of the Farm appeared to be in creditable condition. The grapes—a magnificent crop—were just being secured. The apple orchard showed the effects of the northern location. The poultry was in fine form, while the cattle and hogs were all in vigorous condition. Among the dairy cows are a number of Quebec Canadians, which are being crossed with other dairy breeds to secure more size. This breed is highly thought of as butter producers, and they are very vigorous.

The chemical laboratory, which was almost gutted with fire some time ago, is now in working order. Prof. Shutt regrets the loss of a great amount of data regarding important experiments.

Moderation in Swine Feeding.

Overfeeding pigs is a fruitful source of disease and waste. Many think it makes no difference if pigs do leave a lot of food at one meal; that they will return and eat it up when hungry, so that there is nothing wasted. If pigs are overfed it knocks them off their regular feed for a time, and this is always a loss; besides, it renders the inception of disease much easier. It is best to feed regularly, at stated times, and when fattening, all that they will eat up clean. They will keep healthier and thrive better than is possible by keeping feed before them all the time. It is what the animals digest and assimilate, and not what amount they eat, that determines the gain in proportion to the amount of food eaten.

The Victoria (Australia) Minister of Agriculture is to have a careful test officially made of milk aerators to determine which is best for the dairy-men of that colony to use.

STOCK.

New Brunswick Breeding Stock.

As our readers will remember, extensive purchases of pure-bred swine were made last spring in Ontario by representatives of the New Brunswick Government, and it was expected that this fall an extensive importation of dairy cattle, and sheep, was to be made, but owing to the drought in some sections this has been deferred for a time, though, as pointed out in another column, those who have adhered to dairying now find themselves in better spirits owing to the revival in the price of cheese. The same might be said of Ontario. New Brunswick is singularly well adapted in many parts for sheep husbandry, and the little delay in the importation is quite as much to be regretted as of the cattle. Sheep of several breeds are certainly required there. What with low prices and dogs, breeding stocks have been allowed to run down, which is so often the case, and a general infusion of new blood is badly needed. This being done, and proper attention paid, the industry will no doubt undergo a very decided revival down by the sea.

We were glad to learn recently, from Mr. Julius L. Inches, the efficient Secretary of Agriculture in that Province, that the importation of pure-bred swine (Berkshires, Yorkshires, and Chester Whites) was very successful and has made a very favorable impression throughout the country. No doubt once their advantage begins to be felt other and perhaps larger importations will follow, until breeding herds sufficient for local needs at least are established. The plan adopted by the Government is to send the pigs to different localities, in charge of the agricultural societies, by which they are sold to the highest bidder, who gives bonds to retain them for breeding purposes for two years at least. The prices might be less than first cost, the Province losing whatever might be short in cost and expenses; but in view of the design of improving the standard of the swine in the Province, such an expenditure of public money is deemed entirely legitimate. The loss at first is small, but the benefits are large in the future. Once a proper start has been made, it is expected that breeders there will enlarge their own herds so as to meet the increasing requirements.

A Judge's Suggestion to Exhibitors of Dairy Cattle.

To the Editor FARMER'S ADVOCATE:

SIR,—It was my good fortune to be in attendance at the great Industrial Exhibition recently held at Toronto, and I am free to acknowledge that I was more than pleased with the elegant display of cattle on exhibition. The dairy breeds were all largely represented and showed skillful selection and breeding. I am satisfied that Ontario breeders are fully alive to the importance of using only the finest and most perfect type of foundation stock, and when you come to the showing no people bring out their animals in more excellent condition. It would hardly be proper to select one or more breeders and mention them as having achieved merited success in breeding when the animals of all the exhibitors were so highly meritorious. [NOTE.—Mr. Langworthy judged the Holstein-Friesian cattle.—ED.]

The officers and managers of the Exhibition are kind and courteous—thorough gentlemen. A degree of success has been obtained by the Toronto Association second to none found upon the American Continent. It has been my privilege to attend many of the leading agricultural fairs held in the States, both as an exhibitor and as a judge, during the last fifteen years, including the great St. Louis Exposition, Kansas City, St. Joseph, Minneapolis, Kansas State, Illinois, Indiana, Ohio, Michigan, Pennsylvania, New Jersey, and our own New York State, and from personal knowledge of the workings of these various agricultural fairs I am warranted in saying that the Toronto Industrial, in point of merit, all things considered, compares favorably with any of them.

I would, in this connection, gladly offer your breeders a word of caution lest in their eagerness to excel in the showing they fall into the pernicious habit of overfeeding. Young animals should never be fed in excess of a good thriving condition, or the chances are that an undesirable coarseness will be developed; and milch cows should never be fed to induce the laying on of flesh, or garget and the more dangerous milk fever will claim the flower of the herd. The requirements of each and every animal should be carefully studied and then fed to develop the highest standard of excellence belonging to each particular animal of each particular breed.

N. Y. State.

H. LANGWORTHY.

With the privilege of shipping cattle via United States Atlantic ports, not only should the Canadian export trade be distributed more evenly over the year, but much lower freight rates be secured.

There can be no profit in lambs or sheep where you are feeding a lot of ticks, not because the latter require so much to keep them, but because they prevent the former from profiting by their food. They worry the appetite away from them.

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONT., and WINNIPEG, MAN.

JOHN WELD, Manager.

- 1. The Farmer's Advocate is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties...

THE FARMER'S ADVOCATE, or THE WILLIAM WELD CO., LONDON, ONTARIO, CANADA.

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Parliament and the Farmer.

IMPORTANT ACTION TAKEN IN THE CANADIAN HOUSE OF COMMONS—COLD STORAGE FOR PERISHABLE PRODUCTS—DEVELOPING THE DAIRY INDUSTRY.

Early in the session of the Canadian Parliament just closed at Ottawa, an informal meeting of members, of both political stripes, was held to discuss the condition of Canadian farming and recommend plans for its improvement. The subject was then referred to a sub-committee to report back subsequently, which they did in an exhaustive document. One clause dealt with Tariff Reform, but, as might be expected, this opened up a hopeless controversy, and, wisely, we think, was dropped by consent, and a unanimous agreement was reached on other important subjects. This report was brought before the Select Standing Committee on Agriculture and Colonization, which, in its final report to the House of Commons, incorporated the suggestions made along with others. One of the principal recommendations was the establishment of cold storage transport for butter, cheese, meats, fruit, poultry, eggs, and other perishable food products, so that they may be landed in Britain in an undeteriorated condition and receive proper recognition there. The Government was recommended to place a sufficient sum in the Estimates for this purpose, it being hoped that the service would soon become self-sustaining. The report was adopted in its entirety by the House, appropriations being duly voted without dissent. Hon. Mr. Foster, ex-Finance Minister, complimented the Minister of Agriculture (Hon. Mr. Fisher), after the latter had outlined the cold storage plans arranged, upon his frank and businesslike statement.

In looking over the main Estimates we find the three following items, an explanation of which will interest our readers throughout Canada, particularly those engaged in the dairy industry:— 82.—Dairying service..... \$30,000 00 83.—To enable Dairy Commissioner to promote dairying interests by advances for making cheese and butter within the Provinces, the proceeds of sale of products from such advances to be replaced to the credit of the Consolidated Revenue Fund..... 25,000 00 84.—To enable the Dairy Commissioner to promote the dairying interests of Canada by making provision for the placing of fresh made creamery butter and cheese on the British markets in regular shipments without deterioration in quality, and for securing recognition of quality there..... 20,000 00

The item of \$30,000, for "dairying service," is one to provide for the expenses of the dairying service throughout the Dominion. The salaries and expenses of the Agricultural and Dairy Commissioner's office are paid from it; salaries and traveling expenses of all the traveling instructors are paid from it, and the expense of carrying on dairy work such as that of Prince Edward Island, Nova Scotia, and the N.-W. T. dairy stations.

Item No. 83 (\$25,000), "to enable the Dairy Commissioner (Prof. Robertson) to promote the dairy interests by advances, etc.," is, as we understand it, a vote in the nature of a credit to enable him to make payments at the end of every month to patrons for milk and cream supplied to the different dairy stations. The whole of the amount advanced is refunded to the credit of the Receiver-General from the proceeds of the products from these dairy stations when they are sold. It cannot be designated an actual expenditure, as it is all repaid every year.

Item No. 84 (\$20,000), "to enable the Dairy Commissioner, etc.," is the vote which is called the cold storage vote. It will be used (1) to make payments to the railway companies for giving weekly refrigerator car service. (The agreement with the railway companies is in substance that on approved routes the Government guarantees to make up the earnings of a refrigerator car each trip to a sum equal to two-thirds of a carload rate from the starting point to Montreal, plus the cost of icing. The car picks up lots of butter at all stations on the route, and the shippers of butter are charged the usual less-than-carload rates for such shipments. When the earnings of the car on these shipments come to as much or more than the amount guaranteed by the Government, then no payment is made by the Government to the railway companies.)

(2) The vote is also used to provide refrigerator compartments on board steamships.

In the Supplementary Estimates an item of \$15,000 is the N.-W. T. creameries vote, under which it is proposed to make loans to joint stock companies of farmers of sums sufficient to provide machinery and equipment for a creamery. The Government will take the management of these creameries for a few years, charging not less than four cents per pound of butter for manufacturing and marketing the butter. The Government will also make a charge of one cent per pound of butter to form a sinking fund for the repayment of the loan made to these companies. From time to time, shares in the joint stock company will be issued to the several patrons in proportion to the amounts which they have contributed, at the one cent per pound rate on their butter, to the loan fund. The supplementary item for \$35,000, to enable the Dairy Commissioner to promote the dairying

interests by advances for milk and cream, etc., is of exactly the same nature as No. 83 in the main Estimates, to which we referred. It is in the nature of a credit, and will all be refunded to the Receiver-General from the proceeds of the sales.

The item in the Supplementary Estimates, of \$20,000, is in reality another cold storage vote. (1) It is proposed that an arrangement shall be made with the railway companies to give a regular service of refrigerator cars on many more lines than were provided for during the current year.

(2) It is proposed also to grant a bonus of \$100 per creamery to such creameries as provide adequate and efficient cold storage accommodation for the holding of their butter safely until it is shipped. It is estimated that if the icehouse and cold storage at the creamery have to be erected from the beginning, the cost to the proprietor at the creamery would be from \$400 to \$600. In many cases the cost of adapting the present icehouse and cold storage chambers to meet the requirements of the Government would not be more than \$200. It is proposed to pay a bonus of \$50 in 1897 to all factories complying with the requirements for providing cold storage accommodation, \$25 in 1898, and \$25 in 1899. As probably 200 creameries will take advantage of this in 1897, about \$10,000 will be taken in that way.

(3) It is proposed to give some help, as may be found most desirable, for the improvement and extension of the export trade in eggs.

(4) Before the next session of Parliament it is expected that the Minister of Agriculture will enter into contracts with steamship companies to provide refrigerator accommodation on several lines of steamships from Canadian ports weekly to Great Britain. The contracts will be subject to ratification by Parliament.

(5) It is also intended to enter into contracts or agreements with companies looking towards providing the necessary cold storage accommodation at several points of collection and shipment of perishable fruit products.

(6) It is also proposed to give some assistance towards the erection of district cold storage warehouses specially for fruit. Contracts will likely be entered into with individuals or companies who may agree to provide the necessary accommodation in these respects. This will all be subject to the ratification of Parliament.

(7) Part of the \$20,000 in the Supplementary Estimates will be taken in the making of investigations and inquiries into what might be called a campaign in Great Britain, informing the consumers there of the plans proposed by the Government for landing Canadian products in a better condition in their markets.

(8) The extra staff required to perform the clerical and other work of the branch in consequence of these undertakings by the Government will also be paid from this vote of \$20,000.

Carrying out the cold storage system fully may yet require further aid, but the action thus far taken indicates that these plans will be carried out in a vigorous, comprehensive, and careful way, so that we trust the producer will secure the benefits intended.

How to Buy a Horse.

"If you want to buy a horse don't believe your own brother. Take no man's word for it," says an old horseman in Horseshoe's Journal. "Your eye is your market. Don't buy a horse in harness. Unhitch him and take everything off but his halter, and lead him around. If he has a corn or is stiff, or has any failing, you can see it. Let him go himself away, and if he walks right into anything you know he is blind. No matter how clear and bright his eyes are, he can't see any more than a bat. Back him, too."

"Some horses show their weaknesses or tricks in that way, when they don't in any other. But, be as smart as you can, you'll get caught sometimes. Even the expert get stuck. A horse may look ever so nice and go a great pace, and yet have fits. There isn't a man who could tell it until something happens. Or, he may have a weak back. Give him the whip and off he goes for a mile or two, then all of a sudden he stops on the road. After a rest he starts again, but he soon stops for good, and nothing but a derrick can start him. The weak points about a horse can better be discovered while standing than while moving. If he is sound, he will stand firmly and squarely on his limbs without moving them, with legs plumb and naturally poised; or, if the foot is taken from the ground, and the weight taken from it, disease may be suspected, or, at least, tenderness, which is the precursor of disease. If a horse stands with his feet spread apart or straddles with his hind legs, there is a weakness in his loins and the kidneys are disordered. Heavy pulling bends the knees. Bluish, milky cast eyes in horses indicate moon blindness or something else. A bad-tempered one keeps his ears thrown back; a stumbling horse has blemished knees. When the skin is rough and harsh and does not move easily to the touch, the horse is a heavy eater and digestion bad. Never buy a horse whose breathing organs are at all impaired. Place your ear at the heart, and if a wheezing sound is heard it is an indication of trouble."

An unfailling test of an easy milker is flat ends in the teats. Cows having flat-ended teats milk easy, the outlet being large; those having pointed ends to their teats milk hard, because the outlet is small, and much squeezing is done to force out the milk.

The Australian Tick Plague.

The tick appears to multiply in enormous numbers in some portions of the infested country of Northern Queensland. Mr. S. G. Maunsell has given an interesting account in the Port Denison *Times* of the trouble he had with ticks, which he seems to have encountered first when he crossed the Burdekin with a drove of bulls he was driving northward. He says: "Seeing a nice green patch of couch grass in the river bed, I decided to camp there. Both horses and bulls seemed to enjoy the green feed. We had not been there very long when we found ourselves crawling with small red ticks, so we got ready to clear out. One of my pack horses is a large white animal; he looked as if he had been rolling in red sand. These were ticks. We brushed all we could off him, but neglected to do likewise with our saddle horses. We had some delay in the river when crossing the bulls, and when we reached the other side we were literally covered with ticks. They were in our beards, hair, and trying to crawl into our ears. The ticks nearly drove the horses frantic, but we dressed them with grease, which soon got rid of the vermin. The bulls soon showed signs of sickness, and 51 died in two days. They had been carefully oiled, but though it kills the ticks then on them a fresh supply is soon picked up."

Regulations Respecting the Importation and Exportation of Horses.

Some six months ago an Order-in-Council was passed at Ottawa regarding inspection of horses imported into Canada, the provisions of which militated somewhat against the importation of Clydesdales and other classes of horses needed for breeding. Three veterinary certificates were required—one certifying the health of the horse, another the public health of the district out of which he came, and the third, the public health of the port of embarkation. It was easy to put the first and second right, but when absolute freedom from disease in a city like Liverpool or Glasgow was demanded, difficulty arose, and complaint was made that the reviving Clydesdale export trade to Canada would be checked. There was, however (on Sept. 14), a set of new regulations authorized by the Governor-General-in-Council, less stringent than the former and probably just as effective in the prevention of the introduction of disease as the former.

The new regulations stand summarized as follows: Horses from Europe can enter Canada only by the ports of Charlottetown, P. E. I.; Halifax, N. S.; St. John's, N. B.; Quebec and Montreal, P. Q.; and such other ports as may hereafter be indicated by the Minister of Agriculture. Such horses must be accompanied by the certificate of a qualified veterinarian and the local authority at the time of their embarkation that they have not been brought from a place or locality where glanders, "maladie du coit" or other infectious or contagious disease was at said time in existence. All importers must certify under oath that the certificate produced applies to the horse and place in question. Any attempt at misrepresentation will render the horse liable to seizure and detention. All horses entering Canada shall be subject to inspection at the ports of landing. Diseased animals, along with all fodder, litter, troughs, buckets, blankets, etc., shall be disembarked and conveyed to quarantine, under the superintendence of the Minister of Agriculture or his representative. When no such disease is discovered, the horses and other articles named may proceed to their destination.

Horses from the United States may enter Canada in bond at the ports of Sarnia, Windsor, Amherstburg, Sault Ste. Marie, Rouse's Point, St. Armand's Station, Island Pond, the Suspension Bridge (Niagara Falls), the International Bridge (Fort Erie), Prescott, Lacolle, Pottou, Abercorn, Newport, Beacher's Falls, Agnes, and Magentic, for transit through Canada to Montreal, Three Rivers, Quebec, St. John's (N. B.), Halifax, and such other ports as the Minister of Agriculture may hereafter indicate, for exportation to Great Britain, Europe or elsewhere.

Horses may enter Canada in bond at any customs port for temporary stay for exhibition, racing, breeding purposes, etc., subject to such inspection and fees as the Minister of Agriculture may direct.

Horses from the United States entering Canada in transit for another part of the United States or for exportation, must be accompanied by a certificate, signed by a qualified veterinarian, that the locality from which the horses have come is free from glanders, "maladie du coit" or other contagious diseases of horses. A certificate signed by a qualified veterinarian must also accompany each consignment from the place of shipment in bond (giving the name of the owner, the sex, class, and number of horses), declaring that the said horses have been inspected by him and are free from contagious diseases.

All horses for exportation by sea must reach the port of exportation 24 hours before shipment, for rest and inspection. Inspectors shall mark each horse inspected by them "V. R." Horses will not be allowed to embark without such mark and a certificate of inspection stating the name of the owner, number, sex and class of horses, and freedom from contagious disease.

Horses entering Canada from the United States, not in transit and not for temporary stay, must be inspected by duly authorized veterinary inspector at the port of entry, and if found free from contagious disease will be allowed to enter. If contagious disease is discovered, entry shall be prohibited. The expenses in these cases shall be borne by owner or importer, unless he is a *bona fide* settler, at the following scale: For 1 horse, \$1; for 5 up to 10, \$7.50; over 10 to 20, \$12.50; over 20 to 30, \$15; over 30 to 50 horses, \$20. For any number over 50, 25 cents each, but the fee must not be less than \$20.

Upon the discovery of glanders or other con-

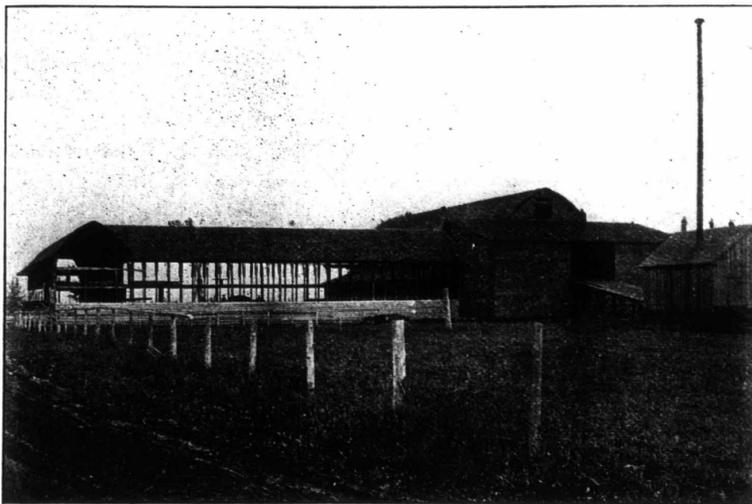


FIG. I.—THE MAIN BARN AND EAST WING, IN COURSE OF ERECTION, FROM NORTH-EASTERN VIEW. OWNED BY W. C. EDWARDS, M. P., NORTH NATION MILLS.

tagious disease on steamboat, cars, in stable or shed, the inspector shall cause the removal of the animals, etc., and superintend the thorough disinfection of premises.

Inspectors must make monthly returns to the Minister of Agriculture of every inspection made by them, including a statement of fees paid.

Our Scottish Letter.

A Point in Sheep Breeding.—Much has happened in the agricultural world during the past three weeks, but we have forborne writing until a certain cycle of events had been completed. These were the ram sales to a few of the salient features of which attention was directed in our last letter. The breed which occupies by far the largest extent of land in Scotland is the Blackfaces. It is widely



FIG. III.—INSIDE OF BARN, SHOWING ARRANGEMENT OF ROOF.

diffused, and has been vastly improved within recent years. The leading breeders vie with each other in producing rams with skins adapted to withstand the rigours of our Northern climate, but a sharp division exists among them as to the best kind of skin for this purpose. On the one hand, many advocate wool of a strong staple and thickly planted, while others favor a finer wool, and in this have the support of the merchants and staplers. No doubt a better price per pound is obtained for this softer kind, but the patrons of the other sort are perfectly clear that the stronger skin gives a greater number of pounds, and consequently one has from this a greater return per sheep. The subject is one of perennial debate, but at present the strong skins are decidedly the more popular, and while wool remains at its present price this is likely to continue.

Great Prices for Blackfaces.—At Lanark, a shearing ram from the Glenbuck flock of Mr.

Charles Howatson was sold for £120, and another from the flock of Messrs. Cadzow, Borland & Weston, Biggar, was sold for £105. At Edinburgh, on the following day, a two-shear ram, Laban, the champion of the H. & A. S. show at Perth, was sold by public auction for £150, and this remains the record price for the breed. He was bred by the Messrs. Archibald, Overshiels, Stow, Midlothian, celebrated breeders, and his buyer the well-known breeder of Clydesdales, Mr. R. Sinclair Scott, Flatt Farm, Largs. These outstanding figures are perhaps a little misleading, and a few of the averages made for numbers of rams give a better idea of the present prices of the Blackface champions. As a rule, they are sold as shearlings, although an occasional two-year-old ram is disposed of, as, for example, was the case with Laban. At Lanark, Mr. Howatson sold 20 at an average price of £31 16s. each; at Ayr he sold 12 at £9 16s. 8d.; and at Perth he sold 25 at £25 6s. One of the Perth rams made £135, an unprecedented price for a shearling of this breed. At Lanark the Messrs.

Archibald sold 17 at an average price of £8 10s.; at Edinburgh they sold 60 at £18 12s. 10d.; and at Perth they sold 60 at £8 4s. 1d. They are by far the most extensive breeders of rams in Scotland, and of course, selling so many, it is impossible for them to have so high an average as those who sell one-half their number or less. The Messrs. Cadzow are much younger to the trade than either of the two breeders already named, but in some respects their rams are fully as popular as any. At Lanark they sold 20 at an average of £20 4s. 3d.; at Edinburgh they sold 25 at £14 3s. 2d.; at Ayr they sold 19 at £11 2s. 10d.; and at Perth they sold 23 at £14 14s. 9d. Other quotations might be given, but these sufficiently indicate the value put upon well-bred rams of the mountain breed at the present time.

The Border Leicesters.—The great crossing breed—the Shorthorn, so to speak—amongst sheep is the Border Leicester. This renowned breed is now widely diffused over Scotland, and notable flocks are to be found as far north as Ross-shire, as far west as Ayrshire, and of course in all the Lothians and the Border Counties on either side of the Tweed. The great ram sales of this breed are held at Kelso, and many rams change hands there at great prices. The most celebrated flock is that of Lord Polwarth, at Mertoun, and this year a record has been established, one of his shearlings making £210, to Mr. Ridley, Peelwell, a Northumberland breeder. The 30 shearlings sold by Lord Polwarth this year made an average of £35 4s.; last year the same number made £49 13s. 4d. This is a feature common to all the "crack" lots this year. There have been unprecedented prices for a few animals, but taking the sales overhead, prices are down. An Ayrshire breeder, Mr. Wallace, Auchinbrain, who is well-known in the Ayrshire cattle world, sold 8 shearlings at £35 12s. 6d.; one of them, which won first prize at Perth, making £95. Mr. Andrew Smith, Langniddry, an East Lothian breeder of long-standing reputation, sold 23 at £16 7s. 9d., one making £75. Mr. Alexander Cross, of Knockdon, an Ayrshire breeder, sold 8 at £19 1s. 3d.; and Mr. John Twentyman, Hawkrigg, a Cumberland breeder, sold 30 at £14 2s. Mr. Ridley, Peelwell, who bought the dearest ram, sold 25 at £15 5s. 7d. Important sales of Border Leicesters have also been held at Perth, Inverness, and Edinburgh, and in every case the breed maintains its supremacy as the most valuable of those peculiar to this country.

Cheviot Sales.—The center of the Cheviot or whitefaced Mountain breed trade is Hawick, a noted manufacturing town on Tweed. The great ram sale of the breed was held there on Tuesday, when buyers were forward from Inverness and Sutherland in the North, and all the South and South-west Counties of Scotland. Fancy prices do not rule in the Cheviot world, and it is a curious fact that it does not enjoy the patronage of any wealthy men, as is the case with the other two great breeds. The top breeding business is restricted to tenant farmers, and we do not know a single nobleman who is identified with the Cheviot trade. In spite of this, the breed flourishes and is in request for foreign countries. It is the only breed of sheep in Scotland having a flock book, and pedigrees of rams are recorded with great care. The principal flocks are those on Hindhope, and Upper Hindhope on the Cheviot slopes, Archbank in Dumfriesshire, Newton in Northumberland, and a few others in the Border Counties. There are few Cheviot ram breeders in the North of Scotland, although numerically the breed is more strongly represented in Sutherland, Inverness, and Ross than in the Border Counties. Generally the difference between the Blackface and the Cheviot is: the former is adapted to the higher ranges and black—that is, heather-covered—hills, the latter to the lower ranges and the green hills. The Cheviot ewe is scarcely as good a "rustler" as the Blackface ewe, whose tenacity of life is proverbial. Crossed with the Border Leicester ram, a magnificent sheep is produced by

the Cheviot ewe, known as the Half-bred. This is one of the most valuable specimens of the sheep kind in Scotland. At Hawick, this year, Mr. John Elliot, of Hindhope, sold 30 two-year-old rams at £14 11s. 4d. each, his highest price being £47. Mr. George Douglas, Upper Hindhope, sold 23 at £11 17s. 4d.; and Mr. Thomas Elliot, Attonburn, sold 20 at £11 16s. apiece. Mr. James A. Johnstone, Archbank, Moffat, sold 19 at £10 10s. 6d. each; and Mr. John Robson, Newton, Bellingham, sold 30 at £9 3s. Mr. Simson, Boughtrigg, Jedburgh, sold 18 at £9 8s. 7d. each. It is an important difference between the system of selling Cheviots and Blackfaces that the rams of the former breed are usually sold as two-year-olds, while rams of the latter breed are sold when one year old. The reason for this distinction is unknown to us, but a quotation of averages in the one breed refers generally to the younger, and in the other to the older, rams.

Record Daddie Sales.

—So much has been written about sheep that we have left little room for some notes about cattle. Here, also, we have been making records. The Aberdeen-Angus series of sales in Scotland is about over, and at Minmore, Sir George Macpherson Grant, Bart., paid £315 for the two-year-old bull, Bion 11454. This beautiful monarch of his race was bred in Glenlivet, by Mr. George Smith Grant, of Anchorachan, and after winning numerous first prizes for Col. Smith, of Minmore, who bought him as a calf at £180, he now passes to head the Ballindalloch herd, where he will have every opportunity to distinguish himself. Splendid prices were realized at Minmore for all the cattle. Twenty-two cows drew £31 2s. 4d. apiece; 11 two-year-old heifers made £40 7s. 6d.; 7 yearling heifers made £31 1s.; 8 heifer calves, £29 1d.; and two bulls, £108. The average price of 50 animals was £38 5s. 8d. This sale was held on Tuesday, 15th inst., and on the following day, at

Mains of Aberlour, Mr. Fraser sold 44 animals at £19 18s.; 22 cows making £23 19s. 2d.; 5 two-year-old heifers, £24 7s. 2d.; 7 yearling heifers, £16 4s.; and 10 heifer calves, £11 6s. 9d. This was also a good sale, and these were very satisfactory averages. At Williamston, in Aberdeenshire, a notable herd was dispersed on Thursday, and 79 animals of the black polled race drew £26 10s. 1d. apiece. Buyers from Buenos Ayres helped this sale. Two bulls drew £54 1s. 6d.; 13 bull calves, £15 7s.; 15 heifer calves, £18 8s. 2d.; 11 yearling heifers, £28 4d.; 9 two-year-old heifers, £30 13s. 4d.; and 29 cows, £27 17s. 7d. The Aberdeenshire series of Shorthorn sales begins next month, and a comparison of results is inevitable. In the interval, perhaps something may be written about horses. "SCOTLAND YET."

FARM.

Mr. W. C. Edwards' New Dairy Barns.

While attending the Ottawa fair we received an invitation from Mr. W. C. Edwards, M. P., to visit his famous stock farms at Rockland and North Nation Mills. We gladly responded, upon Saturday, September 26th, taking the whole day for the expedition. Rockland is situated some 25 miles east of Ottawa, and was reached, by the steamer Empress, quite early in the forenoon. Upon arriving there we were met by Mr. Edwards' nephew, Mr. N. F. Wilson, B. S. A., whose portrait was illustrated, along with other '96 graduates of the O. A. C., in our July 15th issue. Our first privilege was to be driven to the Rockland saw mills, where some 800 men are employed manipulating machinery in the conversion of several thousand logs per day into lumber. We understand this mill has the reputation of being one of the best, if not the best, appointed in the Ottawa Valley. Next we proceeded to the Rockland Stock Farm, famous for its large herd of excellent Shorthorns and Shropshire sheep. The breeding herd and flock were found almost knee deep in luxuriant clover, for which the Ottawa Valley is famous, while a large number of young cattle, including a portion of the young herd which had just returned from the shows, occupied roomy boxes in the very large and well-equipped stables. A noteworthy feature of this farm is the large stone sheds, in each of which some 60 to 70 dehorned steers are fattened while running loose during the winter season. The walls are some twelve feet high, and the sheds are never cleaned

out during winter, so that before spring the animals are much nearer the ceiling than when housed in autumn. The feeding troughs which line around the walls are suspended by means of ropes running through pulleys, so that they can be easily elevated as the manure and, consequently, the animals rise. The bedding is stored in the loft above and given to the steers as needed. Each building has a water trough at one end, the flow being regulated by means of floats. All the feed which the animals receive is cut and hauled to them in a horse-cart. Corn ensilage forms a large bulk of the ration. The enormous bulk of the manure, which is of the best possible quality, is allowed to remain in the sheds until the following autumn, when it is applied to the fields.

After viewing a very large stone quarry, and taking luncheon, we enjoyed a two hours' drive

of our visit. The illustration on page 426 (Fig. I.) is taken from a north-east view, showing the silos at the north, driveway between them into the barn proper above the large center stable, the east wing and the row of box stalls leading to it. It will be seen that this building was only partially sided up when our views were taken, the outside covering being clapboards eight inches wide with one inch lap. The west wing, though only commenced at the time of our visit, is to be a duplicate of the east one, which the ground plan cut indicates. As Fig. II. shows all the dimensions of the stables, nothing more need be said about that. The manure shed, 25x60 feet, shown in Fig. II., is to have a roof similar to the other buildings, be clapboarded outside, and lined with two-inch plank.

In construction the buildings have many new and excellent features. The center building, being the

barn proper, stands on a stone foundation, which is very little above the ground. The posts of the wings and lean-tos (on either side of the center barn) are set 14 feet apart, with 3 studs between, and 4 ft. in the ground. They are 16 feet long and have light plates upon them. The posts of the main barn stand upon the stone walls and reach to the eaves.

Fig. III., showing the inside of the barn, illustrates the style of roof used, which is one of the main features of the buildings. It will be seen that it is oval in shape, and is entirely without beams, braces or purlines. The rafters are 27 feet long, and each built of 5 pieces of 3x6 inch plank, sawed oval, as shown. Three of the pieces form half the rafter, extending the entire length, and 2 the other half. The two halves are spiked together, making each rafter 6x6 inches when finished. It will be seen by Fig. III. that one side of the rafters project down lower than the eaves and are spiked to the posts and studs. It is claimed that this sort of roof is perfectly safe for a barn 40 feet

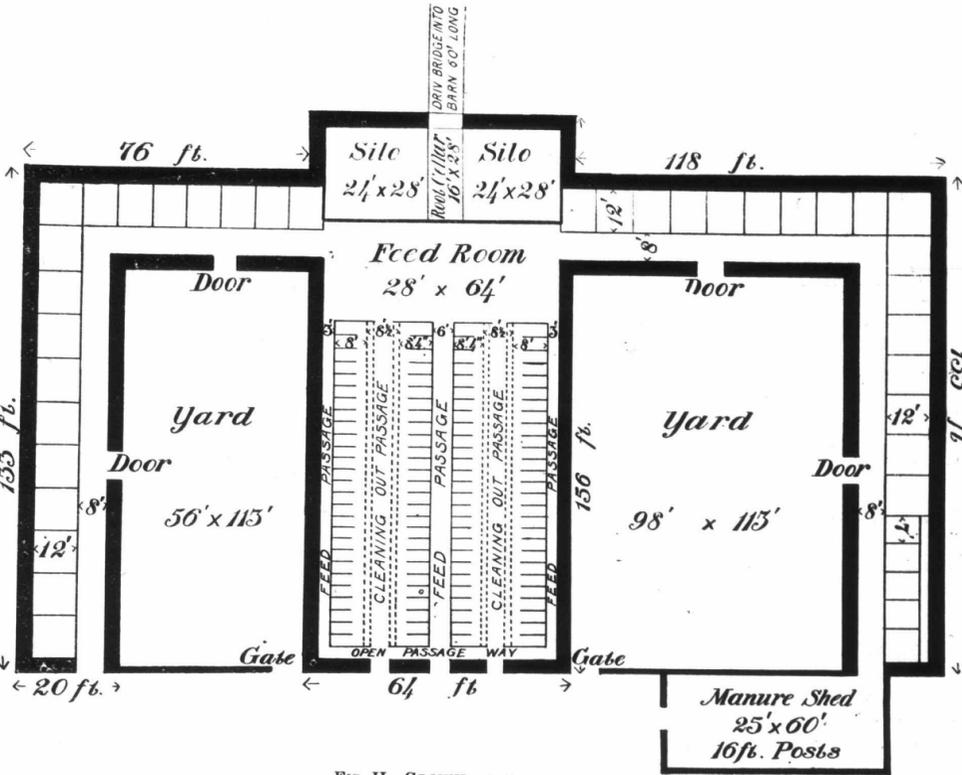


FIG. II.—GROUND PLAN OF STABLES.

through most beautiful scenery to North Nation Mills and the Laurentian Stock Farm, where Mr. Edwards' extensive Ayrshire and Jersey dairy herds are kept. We had a glimpse of some very picturesque rapids on the North Nation River, surrounded by rugged and majestic hills covered with foliage of every conceivable tint peculiar to autumn. We continued our observations under direction of Mr. A. E. Schryer, who superintends Mr. Edwards' lumbering and agricultural business at this point.

The farm here is of a rich clay character, of great producing capacity. The pastures were abundant, and the new clover as thick as a mat on

wide. This barn above the lean-tos is just 42 ft. wide. Another feature of this structure is that it has neither a mortise nor a tenon throughout the whole building. The splices are all held by 5-inch cut spikes. We would consider wire spikes, made like wire nails, more secure.

The outside, as mentioned, is of inch clapboards, which serve to strengthen the building very materially. The inside of the stables is to be double boarded, with tar paper between. The silos are to be similarly lined. The floors are to be of cement concrete. The roof is covered with some 240,000 shingles. The little building at the north with the smokestack is the engine house. The shaft for driving the machinery in the barn and stables extends across beneath the barn floor, over the center of the feed-room, which occupies 28 feet of the north end of the center stable; the silos, root-house, and all the feeding alleys opening into it. It will also have chop boxes connected with the barn above by means of chutes. The barn, having an end drive, has two lines of horse-fork track, some eight or more feet apart; in fact, everything whereby economy of labor can be effected will be arranged. The whole set of buildings, which will be warm, light, well-ventilated, and modern in every respect, will house some 180 head of stock without crowding, and will not exceed in cost some \$3,000. For an economical and first-class dairy barn it can hardly be surpassed.

The Care of Harness.

Harness should never be allowed to get greasy and dirty, so as to need scraping and cleaning and scrubbing with stiff brush and soda water; but if it is in that condition, then take it apart, so far as practicable, and clean each part thoroughly, and work between the hands in warm, soapy water until quite soft and pliant. Castile soap is considered the best to wash with, but any good white soap will answer, and is cheaper. When quite clean, hang up in a room where it will dry slowly, and before it is entirely dry, rub it well with cod-liver oil, which is better than neat's-foot oil, because rats and mice won't touch harness rubbed with it, while they will that greased with the latter oil. Moreover, cod-liver oil has more body than neat's-foot oil. When well oiled, hang up to dry. When dry, give another coat of oil. When again dry, wipe carefully with a dry woollen cloth. This

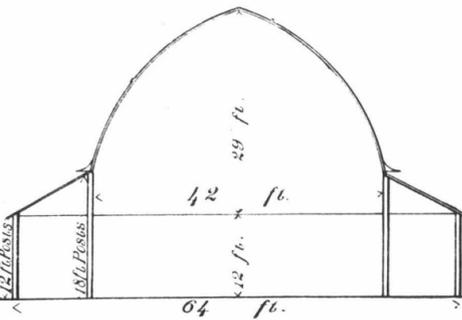


FIG. IV.—END ELEVATION OF CENTER BARN, WITH LEAN-TOS.

for heavier harness. For carriage harness, finish with a wet sponge and castile soap, using a chamois skin to dry with.

An old but very good recipe for making harness and leather blacking is as follows: Mutton suet, 2 oz.; beeswax, 6 oz.; white sugar, 6 oz.; soft soap, 2 oz.; powdered indigo, 1 oz. When all have been melted together and well mixed, add 4 oz. of turpentine. A good grease for heavy farm harness may be made as follows: Melt three pounds of clean beef tallow, melting slowly and not allowing to get hot; pour slowly into this one pound of neat's-foot oil, and stir until the mass is cold. Much depends upon this stirring; if done well the mass will become thoroughly amalgamated; otherwise the tallow will granulate and show white specks. It should be soft and smooth. Add a little bone-black to color it.

Commercial Fertilizers.

The fertility of the soil would remain practically unchanged if all the ingredients removed in the various farm products were restored to the land. This is, to a large extent, accomplished by feeding the crops grown on the farm to animals, carefully saving the manure and returning it to the soil, and if it is practicable to pursue a system of stock feeding in which those products of the farm which are comparatively poor in fertilizing constituents are exchanged in the market for feeding stuffs of high fertilizing value, the loss of soil fertility may be reduced to a minimum, or there may be an actual gain in fertility.

To keep rich land in its present state of fertility, or to, at least, farm so as to prevent an annual decrease in fertilizing elements, is a very important factor in successful agriculture, which, had it been observed fairly closely in the past, many now almost worthless farms would have still ranked with first-class lands that are profitable to their owners.

Changed conditions of farming, which have an important bearing upon this point, may be observed in two directions: (1) In the increased cost of labor and in the lower price of products, and (2) in the increasing demand for garden products and fruits of more refined character. For example, in growing wheat the labor of preparing the soil, of cultivation and of harvesting is practically the same whether the yield is 10 bushels per acre or 30 bushels. The same is true of a number of other crops; hence, in the larger yield the cost of labor per bushel is materially reduced. Meager crops of a relatively low value cannot be produced profitably with high-priced labor.

This fact has driven men to more extensive farming, or that of undertaking more land than can be anything like properly farmed, instead of the wiser and more profitable method of reducing the area under cultivation to what can be conveniently and properly handled. The result is the land is becoming poorer and dirtier from year to year.

When the most profit is to be made from land the maximum yield must be obtained, which can result only from the best possible mechanical condition, as well as the presence of the three essential elements—nitrogen, phosphoric acid, and potash—in available forms. The best mechanical condition can be obtained only when the area is within easy control and modern implements are used along with a wise rotation and the like. The method of determining the needs of a soil in elements is by growing a crop upon it with different kinds of fertilizers and noting the result. As a rule, however, one is inclined to look upon such experiments as something too costly and complicated for them to undertake, and consequently there is a tendency to use fertilizers or do without them in a haphazard manner, and in many cases, no doubt, at a great financial disadvantage.

In the older American States, where stock raising is not general, it has become necessary to use artificial fertilizers in order to get a crop. In this country they have not become so generally used except for garden crops, fruit culture and specialized intensive farming.

Prof. E. B. Voorhees, M.A., of the New Jersey Experiment Station, has prepared a bulletin upon the composition and use of commercial fertilizers, in which he shows the most desirable forms of the three principal fertilizing materials. Nitrogen, which can be most cheaply obtained by growing legumes, in the shape of clover, tares, etc., is the most expensive of all manures to buy, being usually incorporated with dried blood, dried meat, and other refuse of slaughterhouses, or in cottonseed meal and the like. It can be procured in more available form in nitrate of soda, sulphate and chloride of ammonia.

Phosphoric acid is best procured in the form of bone meal. The finer it is ground the sooner will it become available by the action of the atmosphere, etc., and boiled or steamed bone, when finely reduced, is readily taken up by plants. Phosphatic rock is also a source of phosphoric acid. It is finely ground and used largely in the manufacture of superphosphates.

Potash is largely derived at the present time from Stassfurt mines of Germany. The products obtained are manufactured into kainit, sylvinit, muriate of potash, and other preparations, all of which are readily available as plant food. Wood ashes also contain a large percentage of potash.

In answer to the question, Will it pay to use artificial fertilizers? Prof. Voorhees says that the profit from the use of fertilizers is measured to a considerable degree by the perfection of soil con-

ditions, which are entirely within the power of the farmer to control. Of course it does not follow that no returns are secured from plant food applied under unfavorable conditions, but it needs to be emphasized that full returns can not be obtained under such circumstances, either with or without fertilizers. Good plant food is wasted and the profit possible to be derived is largely reduced.

The very high prices paid by many for fertilizers, though admittedly due to their lack of knowledge concerning what constitutes value in a fertilizer, renders it impossible to secure a profit by their unsystematic use upon such staple products as wheat, corn, oats, etc., which absorb large quantities of manurial constituents, while these crops sell relatively low. The growth of potatoes, tomatoes, forage crops for the dairy, and vegetable crops for the market by the aid of fertilizers is more often attended with profit, because they usually sell well if of good size and quality, and are proportionately less exhaustive. The bulletin referred to concludes with the following summary:—

Commercial fertilizers are mainly valuable because they furnish the elements—nitrogen, phosphoric acid, and potash—which serve as food, not as stimulants.

The kind of farming in the past and the demands for special products in the present make their use necessary in profitable farming.

In order to use them profitably the farmer should know: (a) That nitrogen, phosphoric acid, and potash are the essential manurial constituents; (b) That the agricultural value of these constituents depends largely upon their chemical form; (c) That these forms are contained in specific products of a well defined character and composition, and may be purchased as such from dealers and manufacturers, and may be mixed successfully on the farm.

The agricultural value of a fertilizer bears no strict relation to the commercial value; the one is determined by soil, crop, and climatic conditions, the other by market conditions.

The ton basis alone is not a safe guide in the purchase of these commercial fertilizers. Fertilizers high-grade both in quality and quantity of plant food can not be purchased at a low price per ton.

The best fertilizers can not exert their full effect on soils that are too dry or too wet, too compact or too porous. They can furnish but one of the conditions of fertility.

The kind and amount to use should be determined by the value of the crop grown and its power of acquiring food.

A definite system or plan should be adopted in their use; "hit or miss" methods are seldom satisfactory, and frequently very expensive.

Handling the Turnip Crop.

To the Editor FARMER'S ADVOCATE:

SIR,—I thought the days of the grub axe and knife were past as far as harvesting turnips are concerned, but I see some advocate their use still. The plow is very good, but leaves too much dirt on them. I think our method is better, leaving the turnips clean and ready to pick up without having to knock off the dirt. We also took to saving the tops, which none of your writers seem to think anything about; but we look on them as being a very valuable food, if properly saved. Our method is this: Cut the tops off with a sharp hoe, throwing two rows into one. A boy (or man) goes along with horse and cart, gathering the tops with a fork and throwing them into the cart. When he reaches the end of the row he dumps his cart on any clean ground—a grass plot being preferable. He returns with another row of tops and dumps it at the other end of the field, or any place desired, being careful not to tramp or even put a foot on them after being dumped. When the tops are cut and gathered off, the harrow is used to take out the turnips. It may be passed over them as often as the operator thinks necessary to remove the dirt; a dull harrow being preferable to one with sharp teeth. If very dirty, they may lie a few hours to allow the clay to dry, when another stroke of the harrow will leave them very clean and ready to haul to roothouse or pit. The wagon is loaded from one side. On the other side of the wagon-box is put an extra board to prevent the turnips hopping over. In pitting, carts are preferable to wagons where the distance is short, as they are much handier to unload at pit. We prepare the pit as follows: With a wide plow the ground is plowed six inches deep, throwing the clay to both sides, finishing with furrow in center. With a shovel remove two sods on either side of the furrow, throwing the clay to both sides. This will leave a level, clean bottom for your pit. Sinking it in this way enables you to put in more turnips with less exposure. The pit is now ready to receive the turnips, which are put in as free from clay as possible, always picking or throwing them out of the cart or wagon by hand or with a grape; never dumping the cart unless it be in the bottom of the pit where the loose clay will reach the ground and not remain among the turnips. When the pit is full, pick up the sides, leaving them as even and straight as possible; have your pit high rather than broad and flat. Put on about six to eight inches of straw; spread evenly over the pit. Follow this with about three inches of clay; the clay thrown from the bottom of the pit being useful for this. The clay is put on to within eight inches of the top on either side; this being left without clay until

the second covering is put on. This light covering is all that is necessary until hard frost sets in, when a second covering of four or five inches is put on. It is an advantage if the first covering is frozen before the second is put on, as it assists in bearing the weight, thereby keeping it off the turnips. When putting on this covering, drain tiles or small wooden boxes are placed every eight or ten feet apart along the top of the pit. These may be stuffed with straw in very severe weather.

The tops are hauled to the stock and fed in the pasture or stable as the weather permits. They are fed to all kinds of stock, even to milk cows in moderate quantities. Young cattle relish them very much and, if properly fed, will thrive on them. By handling in this way none are lost by being trampled or dirtied. There is a lot of feed in the tops of ten acres of turnips if judiciously used. Our tops often last till well on in December if frost is not too severe.

I agree with Mr. Smith in his method of handling mangels. J. C. H. S.
Carleton Co., Ont.

DAIRY.

Branding Canadian Dairy Products.

A reader asks, "What has become of the Dairy Products Act, dealing with the branding of cheese, lately before the Dominion Parliament?"

In reply to this question it might be stated that the Bill originally introduced by Mr. McLennan, M. P. for Glengarry, was, at his request, taken in charge by Hon. Mr. Fisher, the Minister of Agriculture, who incorporated additional provisions and advanced it to a second reading, though Mr. McLennan strongly urged its final passage. However, the Minister being desirous of having it discussed at the various representative dairy gatherings this fall and winter before being made law, its final passage was deferred till the January session of Parliament, so that it may be made as nearly as possible a perfect measure. It provides that in the case of cheese the word "Canada," "Canadian" or "Canadienne," the date of manufacture (month and day), and the registered number of the factory (to be obtained from the Dairy Commissioner at Ottawa) must be branded upon the cheese itself in letters not less than three-eighths of an inch high and one-quarter of an inch wide; and upon the box the word "Canada," "Canadian" or "Canadienne," the month and the factory number. In case of butter the word "Canada," "Canadian" or "Canadienne," and the registered number of the creamery must be put on the box or package. Provision is also made for syndicate trade-marks for groups of cheese factories or creameries (not less than 15) united for the purpose of having the services of a dairy instructor and inspector. No factory salesman or other person will be allowed to sell, offer, expose or have in his possession for sale, cheese or butter made at any factory or creamery, unless branded as above stated. Severe penalties are to be enforced for violation of the Act, copies of which, together with the schedules to be filled out in applying for the registered number, may be obtained from the Dairy Commissioner or Minister of Agriculture at Ottawa.

Dairy Tests at Local Shows.

At the "Southern Fair," Brantford, on Sept. 24th, a milking trial was conducted, "For the best cow supplying milk to a cheese factory represented on the Brantford Cheese Board." Mr. Harold Eagle, of Attercliffe Station, and President of the Brantford Cheese Board, gave a silver cup (value \$40); to this \$10 cash was added, making a special prize of \$50. There were just two cows competing, both Shorthorn grades. Mr. J. R. Alexander, of Brantford, and a patron of the Cainsville factory, captured the prize. His cow gave (in 24 hours) 41.5 lbs. of milk, containing 1.726 lbs. of butter-fat. The other cow was owned by Wm. Nunnick, of Brantford, a patron of North Brant factory. This cow gave 26.5 lbs. of milk, containing .900 lbs. of butter-fat.

At the Ripley Fair, on Sept. 29th, another 24-hour test was conducted, for which three prizes were offered. The result was as follows:—

1st. S. T. Jackson, Ripley; Jersey cow, 37.5 lbs. of milk, containing 2.063 lbs. butter-fat.
2nd. Dr. McCrimmon, Ripley; Jersey grade, 21 lbs. of milk, containing 1.039 lbs. butter-fat.
3rd. Mrs. Irwin, Ripley; grade cow, 26.25 lbs. milk, containing .907 lbs. butter-fat.

The above trials were under the supervision of Mr. T. B. Miller, Instructor for the Western Dairymen's Association. Such tests are a feature of the local shows which hitherto have received little or no attention, but doubtless will in the future. They might be the means of effecting great improvement in the cows owned by the patrons of cheese and butter factories. We have no hesitation in commending the idea to township and othersocieties. A little healthy and properly directed rivalry of this sort between the patrons of different factories and creameries will certainly do good. There are throughout this country large numbers of cows capable of making highly creditable records, but which would never be found at the larger shows where these tests are usually carried on. The capacity of these cows will be accurately tested, so far as a one-day test is capable of doing it, and a host of people interested in the actual performance of their cows at the pail.

Australian Butter.

REMARKABLE GROWTH—GOVERNMENT ENCOURAGEMENT—BREEDS OF CATTLE, AND FEEDING.
[Specially prepared for the FARMER'S ADVOCATE by J. S. Larko.]

The development of the export of butter from these colonies is remarkable. In 1890 the four dairy colonies, New South Wales, Victoria, South Australia, and New Zealand, exported 4,863,441 pounds of butter; in 1891 the export had increased to 37,618,416 pounds. Two-thirds of this increase (from 1,286,583 pounds in 1890 to 23,678,718 pounds) was in the smallest of the number, Victoria. In 1895 the drought seriously affected this branch of agriculture, as it did all others. The exports of butter in 1894 must have netted the producers of these four colonies about five and a half millions of dollars, and as the number of persons engaged in agriculture in these colonies is not much more than one-third of the number in Canada, the dairy receipts from butter alone, per capita, must have been greater than the receipts from all export dairy products in Canada. Prior to 1890 Victoria produced more butter than was required for home consumption, but 70 per cent. of it was of so bad quality that it was only fit for soap grease. When the production of farmers' crops was more than the home market required and prices were reduced to the world's prices, it became a matter of the greatest importance to discover some article that would best bear exportation to Great Britain without the receipts being swallowed up by freight and expenses, and in 1888 butter was wisely chosen.

Government Aid and Oversight.—In New South Wales there is, along the south-west coast line, a narrow strip of very rich grazing land, and as it was within easy reach of Sydney special attention had been given to the production of milk and butter for the increasing market of the capital. A suitable breed of cattle had been evolved, the centrifugal separator had been introduced, creameries and butter factories had been successfully experimented with, and artificially cooled dairies and storage had been adopted. The other colonies sent experts there to examine into the workings of the system. The Government of New South Wales sent out a traveling dairy in 1891 and gave instructions to butter producers, but beyond that it left its dairymen to work out their own trade. The Victorian Government did more. It offered a bonus for export butter, it controlled the shipments and rejected such butter as did not come up to the standard required, provided free refrigerating chambers for freezing the butter before exportation, and arranged with the steamship companies for shipment in cold chambers. The result was a remarkable development, not only in the quantity, but in the quality of the butter shipped. In 1891 its butter averaged 19 cents per pound; in 1892, 21 cents; and in 1893, 24 cents per pound. When the industry had been firmly established, these privileges were rescinded and charges were made for freezing and storing. South Australia charges 12 cents per box. Victoria's rate is much less, and the State last year lost money in the operation, and it is now proposed to increase it to make it self-sustaining. The colonies have passed Acts placing the industry under supervision. The most stringent of these is that of New Zealand, passed in 1894. Inspectors are appointed who have power to inspect any farm, cowshed, or premises where milk is stored. Should they find these in an unsatisfactory state, they may notify the owner to remedy the defects or may prevent the sale of the milk. They are also armed with powers such as stock inspectors have under the Stock Act, so that they may deal with disease in stock. The Act provides that no person shall supply, send or bring to a factory, creamery or the public, any milk which has been near any person or animal suffering from or affected with an infectious or contagious disease, or any milk that is tainted or sour. It empowers the inspector to enforce the artificial aeration of milk when freshly drawn from the cow. It provides also against the adulteration of butter and cheese by the addition of any animal fats, or animal, mineral or vegetable oils. It requires each package to be branded with stencil-plates issued by the Government, bearing a description of the contents and registered number. This, besides being in effect equal to a trade-mark, enables the inspector to see at a glance who was the manufacturer of any particular lot. Any person, however, may add his "registered trade-mark" if he so desires.

One of the most important clauses in the Act gives the Government, by Order-in-Council, power to declare that:—

- (a) All butter shall be placed in a proclaimed cool-store at least four days prior to shipment;
- (b) All cheese shall be treated in the same way, but for two days;
- (c) On the despatch of any butter or cheese to a cool-store, a full description shall be immediately forwarded.

It requires that the inspector shall grade each lot of butter and stamp it with the official mark. The official mark is , and the grades are Nos. 1, 2 or 3. If the butter is found to be inferior it is so stamped. In the carrying out of this part of the Act great interest has been taken, as immediately after each lot was graded a note was sent to the owner informing him of the grade and pointing out any defects. In the earlier shipments a considerable quantity of the butter was not up to the mark; but after the faults were pointed out a

great improvement was shown, and towards the end of the season very few faults could be found. There were, however, several lots showing little or no improvement. This is believed to have been in most instances due to defective cooling and aerating. It is now found imperative that factories should be supplied with a proper cooling plant.

The Dairy Cattle preferred in New South Wales are known as the South Coast or Illawarra breed. They are the product of various crosses, mainly of a milking strain of Shorthorn and Ayrshire, with more of the characteristics of the former than the latter. In color they are roan, red, or red and white; in size are nearly as large as Durhams. A special herd book has been created for the registering of these animals. To be eligible for register it is required that each cow shall yield at least 3½ lbs. of butter or 100 lbs. of milk in two consecutive days. Any bull four of whose progeny had passed this test is eligible to be registered. When undergoing this test the food must only be best pasture available, or in time of scarcity, green fodder. Prizes are offered at the annual shows, and winners have recorded 5 lbs. 2 oz. butter and 110 lbs. milk, 5 lbs. 1 oz. and 139 lbs. milk in the two consecutive days on green rye grass, clover or oats. There are records better than these, and cows have given 17½, 18, and 19 lbs of butter in a week. This does not compare with records of Jerseys in Great Britain or America, but there can be no doubt that a variety of cattle has been evolved suited to the rich pastures of this district.

Feeding.—It was supposed that cattle could live on the coast lines of Australia on pasture all the year round, but there is a winter, though there is little or no frost, and it is found advisable to furnish shelter, and there are droughts during which it is necessary to hand-feed. Indian corn, sorghum, and pumpkins or squashes are grown for this purpose, and the making of ensilage is recommended. On the higher lands this is still more essential. Rotation of crops and pasturage, and top-dressing pastures with barnyard and artificial manures, are found necessary, notwithstanding the natural fertility of the soil. The production of the best butter, therefore, is not so much cheaper here than in Canada as the difference in climate would seem to indicate. While there is a little more labor entailed in the shelter and feeding, the acre of land in Canada averages a higher product of butter than in Australia. In one or two of the largest dairy farms the Thistle milking-machine was used last year. It was economical and gave excellent results, but it is too expensive to be adopted on the average farm.

[TO BE CONTINUED.]

Food Preservatives.

The subject of the preservation of articles of food against decay is of no little importance. If in any way the germs which cause fermentation can be destroyed or their development prevented without any change in the food product itself, it seems possible that food can be preserved for such a duration that none need waste from decomposition. We have now in use at least three mechanical modes of preserving food products: 1st, the canning process, which destroys the germs by heat and prevents the introduction of more germs; 2nd, refrigeration, which hinders the multiplication of germs; and, 3rd, the evaporation of fruits, which also prevents fermentation, by lack of sufficient moisture.

We have also another means of preserving meats especially, and that is by the application of salt, as with pork, etc. Other substances have also been used, but not without prejudice on the part of dealers and consumers, viz., borax, boric acid, salicylic acid, benzoic acid, sulphate of soda, saltpeter, and formalin. From these substances preparations are being made and placed upon the market for use in milk and milk products. Two of these compounds have been recently examined and tested at the New York (Geneva) Experimental Stations, which have issued a bulletin regarding their experience with them.

The first used bore the name of "preservitas," especially for cream. [NOTE.—A substance of this name is commonly used by the Australians in buttermaking.—EDITOR.] It is a fine white powder that dissolves readily in water. An analysis showed it to contain 30 per cent. borax, a small proportion of salicylic acid; the remainder, sugar. This, if added ½ to 1 ounce to a gallon of fresh cream, will keep it sweet with full flavor for a fortnight or longer.

The second preparation is called "callerine," a colorless liquid having a disagreeable, pungent odor. An analysis shows it to be a 7 per cent. solution of formalin, or formic aldehyde. For milk, 1 ounce of callerine to 14 gallons of water will keep it fresh three days in a temperature of 75° Fahr. For longer keeping more callerine should be used. A solution of two ounces of callerine to one quart of water will be found an efficient wash for preserving meat, poultry, game, fish, vegetables, etc. Articles should be carefully washed with the solution or allowed to remain in it for a few minutes.

As to the effects of these substances on digestion, Prof. R. T. Thompson, in quoting from Dr. Leffmann, says that "we may infer that whatever prevents putrefaction at least delays digestion." Dr. Leffmann states that it is advisable to be cautious about the use of formalin in any considerable quantity. Digestion experiments have been

made upon milk with and without the presence of formalin. In the cases so far reported, the milk containing the formalin required a longer time for digestion than that which contained no formalin. Furthermore, the behavior in the Babcock test of milk which had been preserved by formalin shows that its composition is in some way affected. Ordinarily the curd of milk is dissolved by the sulphuric acid used in the test. Where formalin is used, the curd often fails to dissolve and becomes a compact mass, which indicates fairly conclusively that the gastric juices of the stomach would have some difficulty with milk or other food treated with formalin or any like substance.

If any dairymen resort to the use of these substances to cover up the results of careless, unclean methods in handling milk and its products, then we must regard their advent as a misfortune.

GARDEN AND ORCHARD.

The Farmer's Fruit Garden.

[Farmers' Institute paper by H. L. Hutt, B. S. A., Horticulturist, O. A. C., Guelph.]

It has been said that "farmers, as a rule, use less fresh fruit than city people," and I believe this is true. The importance of fruit as an article of diet is recognized by all medical authorities, and the testimony of those who enjoy the use of an abundant supply goes to show that the fruit garden is to a great extent a profitable substitute for grocery accounts as well as a good alternative for doctors' medicine. Many who are well aware of the value of the fruit supply still fight shy of putting out a small plantation, thinking they can buy what they need cheaper than they can grow it. In this they are mistaken; but that is not the worst of it. They will not buy the one hundredth part of what their families would use if they had it to pick for themselves. The truth of the matter is, any farmer who can grow fodder for his cattle cheaper than he can buy it, can do the same with fruit for his family. Probably the main reason why fruit gardens are not more common throughout the country is because the majority of farmers are not sufficiently acquainted with the management of the different kinds of fruit to know they can be grown just about as cheaply as any hoed crop on the farm. When this fact is more generally known no doubt well-kept gardens will become as common as cornfields.

One of the first things to be considered is the selection of a suitable piece of soil. This should be the best on the farm. It should be well drained, either naturally or artificially; situated, if possible, near the house, where it will be convenient not only for the women to gather the fruit, but for the men to utilize to advantage their spare moments in caring for it; and all the better if it can be sheltered from the prevailing winds by an orchard or some other windbreak. Land on the farm is not a scarce article, therefore do not scrimp the size of the fruit garden. Make it one hundred yards long, at least, and as wide as you choose. Extend the rows the long way, and as far as possible, so that all the cultivation may be done by horse power instead of by hand power. The extent will, of course, vary with the requirements. From one-half to one acre in small fruits should abundantly supply the wants of an ordinary family. In selecting the kinds and determining the number to plant, the aim should be to provide a succession of fruit, fresh or preserved, throughout the year. A succession of fresh fruits may be kept up by having not only a succession of the different kinds of fruit, as strawberries, raspberries, blackberries, etc., but by having early and late varieties of these. I will give the different fruits which should be found in the farmer's garden, mentioning them in the order in which they come to us through the season.

Rhubarb, although not a fruit, is the first thing in spring which answers that purpose, and gives us a wholesome foretaste of sweeter things to come. Two or three dozen plants, set about three feet apart in the row, will yield all that is required for a number of years. All this plant needs is clean cultivation and liberal manuring. It is well, too, to break off the large seed stalks whenever they appear, so as not to allow the plants to exhaust themselves by producing seed.

Strawberries are the first fruit of the season, and at that time are perhaps more relished than any other. They are best grown in rows about four feet apart, the plants set about fifteen inches apart in the row. They may be planted in spring or early autumn, but, as with all other fruits, early spring is the best time. Only young plants from a plantation which has not yet fruited should be planted. Planting can be made a very easy operation. Mark out the rows with the corn marker or use a garden line. Open the holes for the plants with a spade by striking it into the ground five or six inches and then pressing the earth back on each side. Slap in the roots, spreading them out fan-shape, and close the earth firmly about them again with the feet. Pick off all blossoms the first year. It is well to place the first runners so as not to let them take root too close together. They may be allowed to spread, forming matted rows about a foot and a half wide. Keep well cultivated and free of weeds. In the fall, as soon as the ground is frozen hard enough to bear a team, cover the rows with a mulch of straw, or better, strawy stable manure. In the spring, when severe frosts are over, remove the coarsest of this mulch and tread

it down between the rows. This will preserve the moisture and ensure a good crop of berries even in a dry time. The season of ripening may be prolonged a week or more by leaving a portion of the patch covered for a longer time in the spring. When once planted, strawberries will bear fruit for several years, but the longer they are left the more numerous become the weeds and the fewer and the smaller the berries. As planting out a new lot is much easier than keeping the old one clean, it is found that we get better berries with less labor by planting out a new lot every spring, and plowing up the old one after it has fruited once or, at the most, twice.

The varieties that will give the best results can be determined only by experiments for each locality. It is advisable to start with a few varieties such as Haverland, Wilson, Buback, and Beder-Wood, which have established a reputation for themselves in other places, and then test from time to time with these a few of the other varieties which may prove productive or may be valuable for extending the season by ripening very early or very late. To ensure the fertilization of the blossoms and the setting of fruit, varieties with imperfect blossoms, like the Haverland and Buback, should always be grown in adjacent rows to those bearing perfect blossoms, like the Wilson and Beder-Wood.

Raspberries.—Next in order of ripening come raspberries. These begin to ripen before the last of the strawberries are gone, and, with a good collection of varieties, extend the season of fresh fruit another month or six weeks. Raspberries should be planted in rows about five feet apart. The plants may be set two or three feet apart in the row, so that they will in time make a close hedge row, but it is a much better plan to arrange the raspberries, blackberries, currants, and gooseberries in a block, in rows five feet apart each way, so that horse cultivation may be given both ways. In this way much hand labor will be saved, and the small fruits may be cultivated as cheaply as corn in hills. The cultivation should be thorough. Keep all weeds down and keep the surface soil loose and mellow; it will then act as a mulch to retain the moisture. Three inches of surface soil well stirred is better than plowing twice as deep. If the cultivator is started early in the spring and used often enough to keep all weeds down there is no necessity of plowing among the bushes at any time.

Pinching back the tops of the new canes in the summer is advisable in all parts of the country except where the canes have to be laid down in the fall for winter protection. This pinching back should be done as soon as the canes reach two and a half or three feet in height. It causes them to branch out and grow stout and strong, so that they will bear their load of fruit without requiring to be staked up to keep it off the ground. The regular annual pruning may be done at any time in the fall after the fruit is picked. It consists in cutting out all the old wood that has borne fruit and leaving only four or five of the strongest new canes to each hill. Raspberries begin bearing in a couple of years from planting, and with good care will bear profitable crops for ten or twelve years. A new plantation should be set out, however, as soon as the old one shows signs of failing. The following named varieties have proved their excellence in many parts of the country, and make up a collection of the late and early varieties of the different colors: Red—Marlboro and Cuthbert; black—Souhegan, Hillburn, and Gregg; purple—Shaffer; yellow—Golden Queen.

Blackberries.—The large blackberry, or bramble, as the wild species are called, is not grown as generally as it should be. Some dislike growing it on account of the sprawling growth of the canes and the stout, hooked prickles which they bear. These objectionable features may be overcome by nipping back the young canes when they reach a height of three feet and wearing a leather glove while cultivating them. The blackberry requires much the same attention and pruning as the raspberry. The fruit begins to ripen after the raspberries are gone and keeps up a succession of fresh fruit for the table. The Snyder and Stonis Hardy are hardy varieties which will succeed where some of the finer varieties, such as Agawam and Taylor, cannot be grown.

Currants and Gooseberries are perhaps not so much prized in their season as raspberries and strawberries, yet they have a place which cannot well be filled by any other fruit. I can well remember, from experience, that these fruits, in the form of jellies and jam, often make the most interesting portion of schoolboys' lunch. Like raspberries, they require clean, shallow cultivation and are always benefited by liberal applications of wood ashes scattered evenly over the surface of the ground. A mulch of some kind, scattered under the bushes before the fruit begins to ripen, answers the double purpose of retaining the moisture and keeping the fruit free from being splashed with soil during heavy rains.

Currants and gooseberries may be grown in either bush or tree form. In the bush form about six branches should be allowed to form the bush. Train these up from the ground, keeping the bush symmetrical. The annual trimming had better be done early in the spring and consists in removing a couple of the oldest branches that have fruited for two or three years and allowing a couple of the strongest new shoots to replace them. Shorten in the new wood where necessary to keep the bush symmetrical.

The worms common to both currant and gooseberry bushes must be watched for and attended to as soon as they make their appearance. They can easily be killed by spraying the bushes with Paris green at the rate of one-quarter pound to a fifty-gallon barrel of water. A pail of lime water added lessens the liability of the Paris green to injure the foliage. The following named varieties should give good results in most localities: Currants—Victoria, Fay's Prolific, White Grape, and Black Naples; gooseberries—Houghton, Downing, and White Smith.

So far we have mentioned only the small fruits which go to make up a well-stocked fruit garden. In addition to these, enough of the larger fruits (such as grapes, cherries, plums, apples, and, when the climate will permit of it, peaches, pears, and quinces) should be grown to provide an abundant supply for home use. Time will not permit me to speak of the management of each of these in detail, but in conclusion I would like to give a few general directions applicable to these and most other kinds of fruits:—

GENERAL DIRECTIONS.

(1) Cultivate thoroughly, repeatedly, and as soon as possible after every heavy rain. Surface cultivation about fruit trees and bushes is preferable to deep plowing.

(2) Apply fertilizers liberally. Unleached wood ashes is one of the best fertilizers for fruit trees, vines and bushes, and may safely be applied at all times. Barnyard manure should be withheld where there is a tendency to excessive wood growth. Scatter all fertilizers evenly as far as the roots extend.

(3) Prune every year without fail. For trees, currant and gooseberry bushes, the best time to prune is early in the spring before the buds start. Vines may be pruned in the autumn as soon as the leaves have fallen, and berry bushes in the summer as soon as the fruit is picked.

(4) Keep a vigilant watch for injurious insects and fungous diseases. The Bordeaux mixture applied in a fine spray is one of the chief and most effective means of preventing nearly all fungous diseases affecting fruits. A simple formula for making this is four pounds of copper sulphate, four pounds of lime to forty gallons or a barrel of water. As a combined insecticide and fungicide, four ounces of Paris green should be added to a barrel of the mixture.

(5) In conclusion, do not expect an abundance of fruit without making an intelligent effort to grow it. But rest assured that with proper management the fruit garden will yield more profit and pleasure than any other equal area on the farm.

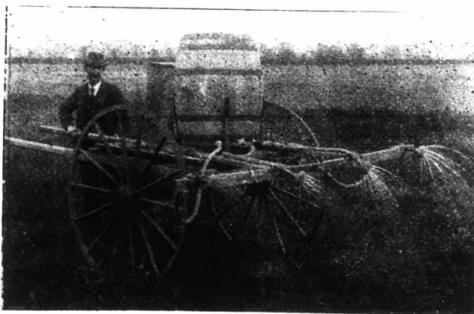
THE HELPING HAND.

Handy Farm Contrivances and Methods.

Upon almost every farm there are some handy original devices, or improved methods and practices not generally known, which, if given to the public, could be utilized by others in rendering farm management more economical and remunerative. This department is intended to bring out such information for the benefit of our readers, and is to be maintained by them in holding out a helping hand to their fellow-workers by the interchange of descriptions of labor saving tools and contrivances, particular ways of management, original and successful experiments tried, or any other feature in connection with farming not generally known.

To encourage subscribers to contribute to this department of the FARMER'S ADVOCATE, we offer a cash prize of \$2 for the best, and a second prize of \$1 for the next best, contribution received prior to the 15th of each month. These and other contributions deemed of sufficient merit will be published as rapidly as our space will permit, but will not necessarily appear in order of merit. Compensation according to our standing offer for accepted matter will be allowed for suggestions published but not awarded a prize. The decision in every instance will be final. Descriptions must be written upon one side of the paper with pen and ink, and must bear the contributor's full signature and address. They must be as short and concise as possible, 100 words being just as good or better than 500 if they tell the same story. Where an illustration will assist in making a description clearer, a rough pen sketch should accompany it on a separate sheet from the written matter. Every contributor must be a subscriber to the FARMER'S ADVOCATE. These contributions must not be mere reproductions of what have been published elsewhere. What we want is *original matter*. Plan sufficiently ahead so that the contributions will be as seasonable as practicable. The following illustrates one class of articles suitable for this department:—

A Homemade Potato Sprayer.



The accompanying illustration represents the sort of sprayer used in the Central Dominion Experimental Farm potato field, at Ottawa. The wheels and axle of an old buggy, or even of an old cultivator, will answer well, or the barrel may be loaded into a farm cart. The four lines of rubber hose are attached to the barrel over pieces of gas pipe entering bored holes. Upon the outer end of

the hose are fastened roses of watering-cans. The solution may be stirred occasionally by a hand dasher. The sprayer represented has springs beneath the barrel, but the farm foreman, Mr. Fixter, recommended the absence of these, which would tend to keep the mixture stirred up in the barrel. The distance between the nozzles can be adjusted by tying them upon the cross-piece at the back the desired distance apart. It disposes of four rows of potato bugs at one sweep.

APIARY.

Wintering Bees.

An understanding of the best method of carrying bees through the winter without loss and in good condition is desired by every one who owns one or more swarms. To this end there are certain conditions agreed to by all apiarists with any considerable experience, while other important points receive different lines of treatment at the hands of different people. A requisite, however, is the presence of a good queen not over two years old and showing no signs of failure. It is also important that we have a good cluster of healthy bees, bred the latter part of the season; that is, of sufficient numbers so that when closely clustered during quite cool weather late in October or November, not less than six spaces between the brood combs, and preferably eight or nine spaces, should be occupied by a good number of bees, or that the cluster shall be at such a time not less than eight, and preferably ten to twelve, inches in diameter. The stores should consist of thirty pounds of well-ripened honey or thick sugar syrup stored and mostly sealed over. The colonies must also have free access of pure air, but without the creation of draughts; hence the entrance should be indirect or screened in some manner. The ventilation should permit the gradual passing away of the moisture-laden air of the hive, but not the escape of heat; hence six to ten inches, in the coldest portions of Canada, of dry, porous material, soft and warmth-retaining, should be on all sides of the cluster and near to it, the whole being protected by waterproof walls from any access to outside moisture. Fig. 1. shows the sort of hive much in use for

Outdoor Wintering.—It is double-walled, made of 3-inch lumber, having packing space between walls—from two to six inches, according to the temperature and exposure—packed with dry chaff, ground cork, or dry sawdust.

The subject of ventilation has received much attention during the last few years. At the 1896 Bee keepers' Convention several expert bee-keepers related their experience. Mr. Gemmill, of Stratford, left no ventilation on top, and his bees came through in excellent condition. Mr. Pettit, of Belmont, emphasized the necessity of having plenty of bottom ventilation. He said: "Last year I experimented with seven different colonies. In the first place there is a vertical entrance. You can keep a vertical entrance open very much better than you can a horizontal entrance, and that vertical entrance is made in a box that sets under the hive—not in the hive. These boxes were three inches deep and there were two vertical entrances the whole depth of that front, pretty well towards the corner of the hive—each of them three inches from the center. These vertical entrances were three-eighths of an inch, and that would be quite sufficient if they would stay open, but lest they might get partly choked the boxes had, around the sides, other holes for ventilation (two inches by three-eighths), one in the south and one in the east and west. Now, you will see, taking these together, it makes a lot of ventilation, and that was a great success. It is a great factor in wintering outdoor hives to let the bees have plenty of air from the bottom, and then they do not want any above. I say they are better without it. These openings around the hive were covered with straw six inches deep, held there by binder twine wound around the hive. That keeps the snow away and insures them being open all winter. The bees come through in fine shape. They were not completely covered with snow. The top of the hive had about six inches of packing on it. This straw that I spoke of being around the sides came up to the top of the hive and came out about six inches above, and then there were chaff cushions on top of them. There was six inches of packing on top."

Mr. Pringle [deceased] stated that hives could be hermetically sealed at the top if you are careful of the lower ventilation. In such a case the hives must be attended to after a snow storm. Mr. Hall, Woodstock, has no top ventilation, but leaves the front bottom opening some four or five inches wide. Mr. Hall uses, for packing, dry leaves—three and a half inches at the sides and six inches on the top. The leaves should be tightly packed, and a water-tight cover is necessary. Some of the members believe in securing the benefit of solar

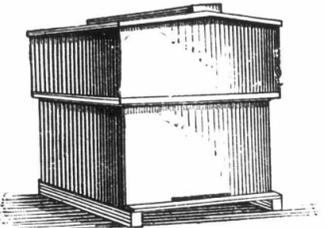


FIG. 1.

heat, and therefore use less packing (say two or three inches) on the south side.

Indoor Wintering.—While outdoor wintering is successfully practiced in all parts of Ontario, many bee-keepers in the coldest portions use the cellars almost entirely. Economy of food is one of the chief advantages. But two-thirds as much, or about twenty to twenty-five pounds per hive, are needed to bring a colony through if other conditions are favorable. The colonies, prepared, as regards bees, queens, character of stores, etc., the same as for outdoor wintering, are carried into the cellar or repository just before the first snows come or severe freezing occurs. Caps are removed or lifted up and cushions or mats laid on the frames. Light is excluded and all other disturbing influences, in so far as possible, the effort being made to keep the temperature at about 42° Fahr. during the earlier part of the winter. Later, especially after brood-rearing may have commenced, 45 to 48 degrees may be allowed. No definite rule can be given. As long as the bees remain quiet, the temperature is not too high and is preferably to be maintained. Frank Benton, in his Bee Manual, says: "Should the bees become exceedingly restless, and the opportunity occur during a winter thaw to give them a cleansing flight, they may be returned for a few hours or a day to their summer stands, and when they have flown and quieted down, replace them in the cellar or repository." This should only be done in a very favorable time, because if the bees get chilled while on the wing they will drop and never return to the hive.

Regarding ventilation, the same points as for outdoor wintering must be observed. The cellar should have ventilation pipes which can be closed in windy weather. The top being sealed, bottom ventilation can be secured by tilting the hive three inches higher at the back than the front. The hive should be free from the bottom board and raised at

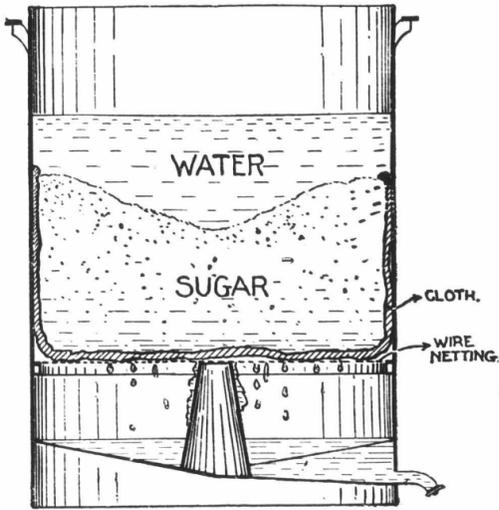


FIG. 2.—PERCOLATOR FOR PREPARATION OF WINTER FOOD.

the back three-eighths of an inch higher than the front. This will allow automatic ventilation, and keep the bees, other conditions being right, as near a state of hibernation as possible, which is desirable. The hives should be set in tiers, commencing fifteen inches from the floor.

Winter Stores.—When natural stores are found lacking in the brood chamber, the best substitute is a syrup made of granulated sugar, which should be fed in the autumn as rapidly as the bees can manipulate it and store it away. If several pounds be given at a time—placed in a shallow vessel, with straw or sliver floats, in the top story of the colony to be fed, just at nightfall—it will be stored away quickly, so that in a week at most the full winter stores will be completed. The bees will seal it over better if fed slowly at last—that is, after the main feeding. Syrup made by percolation of cold water through a mass of sugar and then through some porous material, as cotton, is what is called a completely saturated solution. Fig. 2 shows a good sort of percolator, taken from Benton's Manual, issued by the American Department of Agriculture. Buckwheat honey is now much used for feeding, as it answers as well as white honey and is worth only about two-thirds as much per pound.

The World's Wheat Crop.

U. S. Consul-General Karel, at St. Petersburg, has supplied the State Department with statistics of the world's wheat harvest of 1896. His figures show that in general the harvest of this year decreased 185,485,542 bushels as compared with the harvest of 1895. The harvest in the United States, Canada, Argentina, Uruguay, Chili, Australia and the East Indies shows a decrease of 165,322,959 bushels. Of the European producing countries, Russia only shows a large decrease of 56,575,467 bushels. The rye harvest shows a still greater decrease proportionately, it being estimated at 151,765,714 bushels. A slight decrease in oats and barley is also noticeable.

POULTRY.

Winter Management of Poultry.

BY M. MAW, WINNIPEG.

Many a fine flock of poultry is spoiled by the neglect of the owner to provide proper quarters and a suitable supply of food for the winter months. During the spring and summer many get quite enthusiastic over their poultry prospects, but fail to carry out their plans, and a miserable failure is the result. At this season it is necessary to cull out all birds not intended for use next spring, and the culling should be thorough. Dispose of all the cockerels; they are very annoying to the hens during the moulting process and often destroy the plumage, putting the hens back from laying by having to make new feathers. If any of your neighbors have a good variety that you think would be advisable to cross with your flock, trade for one or two of his best cockerels, even if you have to give two for one, or purchase a first-class bird to mate with your best pullets and young hens. It is fatal to inbreed, and now is the proper time to prepare your flock for next season's crop. All early hatched pullets should have comfortable quarters provided; they will soon commence laying and pay well for any extra attention. Old hens, as a rule, do not lay much before spring, especially those that are late moulting, and it is well to dispose of most of them, keeping only those that you know to be good layers. If possible, provide a separate house for the poultry, well sheltered, with windows low down, facing the south and east; see that all cracks are closed, especially in the roof, and have a ventilator in the center (old stovepipes will answer well), commencing near the floor and penetrating the roof. Hens give out a considerable amount of heat; and if there are no drafts and the ceiling is perfectly close, the atmosphere will always keep above freezing. Give every part of the house a good coat of whitewash; it gives increased light and destroys vermin. Put a good depth of light, dry dust for a floor and provide plenty of sharp gravel; let the water vessels be distributed around the house. A good plan is to get large-sized vegetable tins and hang them to nails; they are easily cleansed, and in case of freezing can be put on the stove and thawed out. A few degrees of frost will not hurt the chickens, and I prefer frost to a raw damp, just above freezing, atmosphere. I object strongly to a stove in the poultry house; it is unnecessary and makes the birds very delicate and liable to roup. If you can manage to maintain a good, healthy atmosphere, there are lots of warm sunny days during winter when you can open the door, clear a space of snow, and your birds will enjoy a sun bath and fresh air that will invigorate and give them a healthy relish for their food. Do not overcrowd. A great many advocate two square feet floor space for each hen, but varieties differ in their requirements. The best plan is to use your own judgment, seeing that they have plenty of room to scratch and exercise. Roosts should be square on top and about four inches wide, with plenty of space for the number of hens. Set the roosts about two feet from the ground and place a wide board underneath to catch the droppings; it will save cleaning. The droppings should be saved for garden use; they are very valuable for forcing early vegetables. Nest boxes should be placed in the darkest part of the house, the entrance facing the wall, and lower than the roosts, to prevent chickens roosting in them; put a China egg in each nest. Egg-eating is a bad habit and almost incurable. Always collect the eggs at least twice a day during extreme cold weather, and give plenty of shell-making material, such as lime, grit, ashes, charcoal, etc. My plan of feeding is to make the hens work for the bulk of their food. In the morning, when their crops are empty, give a moderate supply of food that is easily digested. If you have plenty of table scraps cook them up and thicken with bran or shorts, letting it stand overnight, and feed warm in the morning. A little grain scattered in straw or dug in the dry earth will keep them scratching, and always have a cabbage hanging from a string; they will eat it to the stump. At night, give all the wheat they can eat up clean. Vary their food to suit what you have on hand or can obtain easiest, but don't feed musty or smutty grain; it won't pay. Screenings are all right, and hens will succeed on almost any kind of good food. What they want to keep them healthy, and be a source of pleasure and profit, is good, clean, light, comfortable quarters, plenty of clean water, sharp grit, and make them work for their food. If you keep ducks and geese, make a pen for them in the stable or cow house, away from the chickens, and give them plenty of litter; don't feed with hard grain. Oats in a bucket of water and nice early cut hay and cabbage will suit the geese. Ducks do better in the chicken house; they want a dry, cold building and plenty of fresh air. They are very hardy and will winter best in a loft. Feed them wheat, plenty of sharp grit (they must have it), cabbage, and snow will do all right for drink. A good plan is to save all the unfurmed cabbage; place them in a loft or outbuilding, with roots and outer leaves attached; let them freeze, and feed as required.

Raising Ducks.

BY MRS. IDA E. TILSON, WISCONSIN.

As ducks are called rather careless sitters and mothers, their eggs are generally set under hens. The nest should be roomy and well-packed, and six or seven eggs are enough, or some little ducky will get crowded and killed. Since the ducklings have bodies which seem decidedly heavy for their underpinning, and are not very steady on their legs, nor swift of motion at first, they need a tame, quiet hen that will bear confinement in a small yard for a while. During these early days the ducklings need to be watched a little, as they are prone to get on their backs, unable to rise unless turned over. The only one troubling me thus this year was ambitious to perch on its foster mother's back when the latter sat down. As the hen usually arose without notification, Miss Ducky went off, head over heels, like some luckless performers on toboggan slides. I began by letting them range two hours a day, then longer and longer, till when two weeks they roam nearly all day.

Nothing is more sensitive to dampness than very little ducklings. They are marines, not aquatics—that is, sailor-like, not fish-like—hence, whenever a shower loomed up I immediately drove my flock to their yard, and if possible, into the coop itself, till at least three weeks old. A drinking-dish should not be large enough for them to get into at first, but deep enough for washing out nostrils and eyes. I have seen cups sunken in the ground, but I use what I call a "double-decked" sardine can, or one of those about 1 1/2 or 2 inches deep. On the bottom of this gravel is kept.

Ducklings, like pullets, are rather slow to learn eating. I taught mine this summer by sprinkling rolled oatmeal on top of water in the above dish. After a day or so they tired of oatmeal and were ready for bread and milk, cottage cheese, lean meat, boiled egg, and, eventually, pudding. The food is like that for chicks, except more eggs and meat are needed and less pudding. A tender grass run, green peas or chopped onions seem a necessity. When at an Institute I was telling how little harm fowls had done our garden produce, and how many worms they had eaten, one gentleman gravely asked me, Yankee fashion, whether I would turn ducks into my bed of peas? At first, I fed two hours, gradually lengthening intervals.

I spoke of driving them into the coop before showers, but more truly might I say I called them. They are somewhat like pigs to drive, but early learn to follow a call and their feeder. Unwillingness to be driven does not apparently proceed from obstinacy so much as from bewilderment. My mother declares ducks "the lambs of the poultry yard," and they so soon teach themselves to eat out of one's hand and are so easily caught and handled they bear out her name. They are always happy and good-natured, and have next to no ailments nor parasites. Occasionally a sore eye appears, doubtless from mud splattered in it, and I saw one duck gape this summer, but never saw it repeat such operation.

By the way, a feather may tickle or louse bite any fowl under the throat, and cause a gape which is not at all the persistent disease called "gapes," much commoner, too, East than West. In true "gapes" a fowl describes a sort of double curve of neck when gaping, and often makes hard work of swallowing. But this hard swallowing is a symptom of roup, and also of congested crop. The point is, "One swallow does not make a summer," nor one gape the "gapes."

When my ducklings were about three weeks old, their foster mother wished to lodge in the hen-house, which I permitted, but soon had to take the ducklings out again for a week or so, because the old hens were cross to them. "Ducks like hens better than hens like ducks."

In due course of time we filled a tank with water, caught two of the young ducks and put them in, expecting their thanks, but such was their ignorance and dread of water that one, hurrying to get out, tumbled head over heels. We caught and put them in two or three more times, with no avail, and we think it was during this melee that two wings got strained, so they each stand out from body. I have read of bands sewed around body over wing to hold it back, but never tried such a plan, thinking it would irritate a fowl. Repeated trimming of wings, as close as possible and not bleed, has lightened their weight, and one is nearly restored. I have often thus cured defective chicken wings. These ducklings are out of blooded eggs from Missouri, and mother says she had as lief have a china duck as one that will not swim and even runs under a shed during a heavy shower. A Pittsburg gentleman, with large grounds and a pond, bought some ducks for ornamental purposes. He was nonplused at their non-swimming, and wrote for an explanation. The reply was that swimming had been bred out of them. A duck raised for profit, not amusement, is easiest cared for on dry land. Ours are incessant paddlers, however, in every pool, puddle or water-dish. As I renew the water twice a day, to make it cool for summer and warm for winter, the chickens do not get particularly disgusted.

Ducks will take coarser food than chickens, and proved excellent to devour the army worm this year. Every morning early they started for their pasture, as we called that part of the yard where worms were advancing.

Ducks must have plenty of shade, as they are inclined to fall over in a sort of faint or stupor if exposed too long to a hot sun.

The Perches.

BY J. E. MEYER, WATERLOO CO., ONT.

The proper arrangement of the perches is of much more importance than most farmers think, because upon their position very largely depends the health and comfort of the fowls when confined and the ease with which the house can be kept clean. They should not be over two and a half feet above the floor of the house, and they should all be on the same level. Those perches so commonly seen in farm poultry houses that are built like a ladder against one side of the building are very awkward to keep clean, and besides, all the birds are sure to crowd for the top perch and the weaker ones are too often crowded off and fall down into the filth that is too generally below them; because in the first place the owner does not consider it necessary to clean out his henhouse more than once or at most twice a year, and in the second place they are awkward to clean out. We admit that it is natural for fowls to try to roost on the highest place within their reach, but that is because of their desire to be safe from enemies. Then, again, when a bird flies down out of a tree it flies obliquely and lights easily on the ground, whereas in the house, where their quarters are much more limited, they must fly down so straight that especially heavy birds are very apt to injure themselves. We have been in henhouses where the perches were placed right under the ceiling and stairs built for the fowls to walk up and down. The owners of these two styles of perches are sure to be troubled considerably with lice on their birds, because it is very inconvenient for them to keep the perches cleaned of the pests and because they generally have their birds wading through the droppings, which in warm weather is the very best breeding ground for lice that you can possibly get. Their fowls, too, are sure to be troubled to a greater or less extent with that unsightly disease, scaly leg. If their birds are of a heavy variety they will have bumble foot from flying off of the high perches or from being knocked off. The lice, scaly leg, and bumble foot are all diseases, and if you are going to reap the greatest profit from your fowls they must be free from all disease.

Cleanliness in the poultry house is the first requisite to health in our fowls, and we claim that the building of our perches properly, and the caring for them as they should be cared for, goes a very long way towards keeping our birds healthy and profitable. Build a tight platform 2½ feet above the floor, and say 8 inches above this place your perches on a level. We use 3 by 1 inch strips with the corners rounded, and have them movable. The droppings can, with the use of a hoe and a light box, be scraped off of this platform in a few minutes, and you cannot do it too often. These droppings should be carefully put away in a dry place, as they are most valuable. Dry earth scattered over the platform after each cleaning will keep it pure and sweet and absorb all liquid which would otherwise be lost. The fowls can run under this platform, so that none of the floor space of the house is taken up by the perches. This is another great advantage, because the more room fowls have in confinement the more profitable they will prove.

We have now described the treatment that the platform should receive, and shall turn to the perches. Perhaps the very worst and most destructive enemy that the hen has is the little red mite that goes upon her body at night and sucks her blood, returning to the perch before morning, there to remain until the following night. Coal oil is sudden death to those pests. We take the coal oil can once a week in summer and once in two weeks in winter (put a straw in the spout to lessen the flow of oil) and then pour oil over the perches—first on top, and then turn them over and do the same on the bottom. Also put some about all cracks that there may be about the immediate roosting place. Under a regular course of treatment like this the lice can never get such a headway as to overrun the whole henhouse, which they are sure to do—during summer especially—unless carefully watched. The little time and trouble required to keep such perches clean and healthy can be spared by everybody who keeps a hen, and we assure you that you will be more than paid for it all.

In our cold climate birds with large combs are very liable to get frozen during the nights, when the temperature of their house often falls many degrees below freezing. All those who find their houses so cold that they cannot keep their fowls from having their combs frozen can get over this difficulty by having the roosting place enclosed above the platform or drop-board. If your roosts are across the end of your building you can easily build another platform, say four feet above the drop-board, and partly enclose the front. If your ceiling is not more than six feet from the floor, and we consider that quite high enough, you might enclose the space above the drop-board right to the ceiling. Leave a number of openings for the passage of the birds in and out. There should be a small window in the front to admit enough light for the fowls to see to go to roost, and ventilators should be built from within four inches of the drop-board out of the roof. Pure air, without draughts, must be provided. In a place of this description the tenderest combs will not become frozen.

Now is the time for the readers of the *ADVOCATE* to get up a club of new subscribers and secure some of our premiums.

VETERINARY.

Micro-organisms and Disease.

BY WM. MOLE, M. R. C. V. S.

Before discussing the subject of inflammation we must explain what is known by the scientific term bacteriology, or that branch of it relating to the theory of disease. For many years scientific men have been endeavoring to discover the nature of the so-called contagion of the acute specific fevers, and to the credit of the veterinary profession belongs the honor of first directing the attention of scientific men to these minute organisms. Credit is rarely given to the gentleman who made the first discovery, and by his observations laid the foundation of the germ theory of disease and the introduction of antiseptic surgery. Veterinary Surgeon Delafond was the very first to demonstrate the constant presence of the rodlets we now know as *Bacillus Anthracis* in the blood of animals affected with splenic fever. The superstructure has been built by Pasteur, Lister, Klein, Koch, Burdew, Sanderson, and many others. The first of the virulent and contagious diseases in which the presence of a microbe was positively ascertained was anthrax, or splenic fever, which attacks most of our animals, especially cattle and sheep. Professor Chauveau, a French veterinary surgeon, was the first practical worker in this field of bacteriology, and the first to demonstrate that infections were not liquid but particular organisms. Now, each of these fevers runs a more or less definite course and presents special characteristics of its own by which it is recognized, and is named specific; that is to say, that one attack, when not fatal, confers immunity from others. The poison of each multiplies in a most marvelous manner, and one affected animal may spread the disease among countless numbers, by the agency of contagion and infection. Even so long ago as the Great Plague of London, Eng., 1666, the belief was expressed that the pestilence was probably due to some living organism which entered the blood of man and multiplied, and that the virus was capable of passing from him, through the medium of air or by actual contact, to others. As early as 1850, Davanie had observed the presence of minute "rods" in the blood of animals which had died of splenic fever, but it was only in 1863, after the late Mons. Pasteur's first researches into the part played by microbes in the fermentation of wine, that Davanie suspected these rods of being the actual cause of the disease. He inoculated healthy animals with the tainted blood, and thus ascertained that even a very minute dose would produce a fatal attack of the disease, and the rods, to which he gave the name of Bacterida, could always be discovered in enormous numbers in the blood. The microbe so named by Davanie, must, from its characteristics, be assigned to the genus *Bacillus*, and is now termed *Bacillus Anthracis*. This disease (anthrax), which affects man as well as animals, is characterized by general depression, by redness and congestion of the eyes, by short, irregular respiration, and by the formation of abscesses. This feature, in the case of the human subject, has procured for it the name of malignant pustule, or wool-sorter's disease.

The fact that this disease, anthrax, is transmissible to human beings should be known to everyone. It is essential that stock owners should have some knowledge of its development. On account of the extreme degree of infectiousness possessed by this disease, the stock owner or veterinary surgeon must ever remember that he takes his life in his hands when making post-mortems upon animals which have died from this complaint. The disease is quickly terminated by death, and an autopsy shows that the blood is of a tarry black color, that intestinal hemorrhage has occurred, the spleen is abnormally large and gorged with blood. Particular care must be taken not to wound or cut the hands upon the sharp edges of broken bones, for death is sure to follow. The disease may be inoculated by the bite of flies which have settled upon carcasses and absorbed the bacteria, or poisoned by some accidental scratch. This is especially the case with butchers, tanners or knackers who handle the skin and bones of those which have died of anthrax. In many infective diseases, though not as yet in all, the existence of minute living organisms has been established beyond all doubt, but the question arises as to what is the precise nature of the connections of such organisms, if any, with the diseases in which they are found.

This so-called germ theory assumes that all infective diseases are directly due to the presence and development within the body of a specific living contagia or germs. This theory is mainly based (first) on the capacity of such contagia for indefinite multiplication within the body, however small the quantity which is originally introduced; (secondly) on experimental and clinical evidence that the contagium of any one disease produces that disease and no other; (third) on the latent period which separates the moment of exposure to the contagious influence from the actual appearance of the symptoms; (fourth) on the definite course of such diseases; and (lastly) on the experimental form of at least one infective disease by inoculation. That is to say, a disease must appear from material after repeated artificial cultivation outside the body of a living animal of material living organisms originally derived from a similar case of disease—such as anthrax. These micro-organisms

go by the name of bacteria. They are of a vegetable nature, belonging to the order fungi, and are of various kinds. Those known as micrococci consist of exceedingly minute spherules isolated from each other, arranged in rows or masses (*Zoogloea*); others resemble minute straight rods, also existing separately or in rows, and are called bacilli, while in a third variety the rods exhibit a spiral shape and are termed spirilla. They multiply either by transverse subdivision or by the formation of minute, bright-looking particles called spores, which, under favorable circumstances, develop into bacteria similar to those from which they are derived.

Vegetable organisms answering to this description are found in abundance almost everywhere, in the soil, in the water, and in the air. It is clear, therefore, that enormous quantities must be introduced into the body with the food we eat, the water we drink, and with the air we breathe. Of the bacteria thus introduced the vast majority are either incapable of development, or are altogether destroyed by reason of the unsuitability of their new surroundings. It is a curious fact that invasions of this kind leave the system in a condition which is insusceptible to a repetition of the same bacterial attack, and thus a more or less complete immunity from a second attack of the specific disease is conferred upon the patient. This same immunity may be and is often conferred by inoculation, or vaccination, as it is so termed.

We are afraid to proceed any further in this important and interesting field of research. Sufficient has been said to stimulate the desire of those anxious to investigate this vast new field of science, so that we may now mention the names of those diseases met with in veterinary medicine, due entirely to micro-organisms: In the horse—Glanders, influenza, anthrax, rabies, actinomycosis. In cattle—Many of the above, and pleuro-pneumonia, tuberculosis, rinderpest, Texas fever, foot and mouth disease. In sheep—Small-pox, apthæ. In swine—Hog cholera. In the dog—Rabies and distemper. Notwithstanding this formidable list of diseases, they all give rise to inflammation—in some cases acute, others chronic.

How to Treat Wounds.

On every farm where stock is kept wounds are continually being met with, and on this account it is a pity that every farmer has not some knowledge of veterinary surgery. In fact, a very slight understanding of veterinary science would often guide owners of animals past applying treatments which tend to prevent rather than facilitate the healing of wounds. We agree with Dr. Smead, V. S., where he says in the *National Stockman* that nature does the curing and not the remedies we may apply. If this were better understood, application of fiery patent liniments would be less used than now upon open wounds and raw sores.

Nature's method is to strive to heal a wound as soon as it is made. She sends out a glutinous substance, called plastic lymph by medical men, and forms a scab. This shuts out the air that always contains more or less germs that will inflame or even poison the wound; and also holds within the elements that are secreted to form new tissue and thus build up that which is destroyed.

As a rule, when a horse or other animal is kicked with sharp shoes, or otherwise ripped, the thoroughgoing attendant will frequently wash and wash away day after day, thinking that cleanliness must be observed in order that healing may take place. Besides this, fiery liniments are used, and the healing is actually much delayed, and often leaves an unsightly scar.

What is the proper way? Just stop and think a minute. Nature is trying to cover the wound with plastic lymph. If there is dirt in the wound use just enough lukewarm water to remove it. Then as nature wants to cover it up to keep the germs out, let us help her do it by putting a clean white cotton or linen cloth over the wound. In short, carefully wrap it up with a bandage, if it is on the leg, and tie just tight enough to keep in place. But is there no medicine to be used? you may ask. Yes, there may be germs that have already entered the wound, and others that may get there. We can use with advantage an antiseptic dressing, and a very effective one is pure white pulverized sugar, and as everybody has sugar in the house and everybody has a camphor bottle, or at least the next neighbor has, we will sprinkle some sugar on some white cotton batting and lay on the wound first before putting on the bandage. Then put on the bandage one or two thicknesses, and wet with the camphor. But why do we do all this? Simply because the alcohol in the camphor is an antiseptic and the camphor is an anodyne and will remove the soreness. Let entirely alone for two days. Then remove and saturate a little cotton with carbolic oil, made by mixing carbolic acid one part in twelve parts of raw linseed oil, and wrap up again, using a clean bandage. Continue to remove and apply daily until the wound is healed. Use no water at all unless matter is formed, when a little warm water may be used with a soft rag, using just enough to remove the matter. By following the above treatment all flesh wounds will readily heal unless they have been mangled and there is a condition present which will require the removal of mangled flesh, which will require the services of a competent veterinary surgeon.

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.]

Miscellaneous.

PEAS AND OATS SILAGE.

SUBSCRIBER, Simcoe Co.:—"I would like to know, through the columns of your paper, whether peas and oats, cut green and put into the silo about July 12th, would keep so as to feed my cows from that time until corn would be fit to put in. As a rule, pasture begins to fail about that time, and I would like to try the above plan if I thought it would answer. Is there any better or cheaper way of feeding?"

[There is as yet very little evidence at command regarding the ensiling of green oats and peas, but what we have come in contact with points in the direction of success. Mr. Angus MacKay, Superintendent of the Experimental Farm at Indian Head, N.-W. T., has very successfully ensiled green oats and barley. The process of cutting and filling is the same as with corn. If the crop is quite green, a day or two is given it to wilt after cutting, but when approaching maturity it may be hauled directly from the binder to the silo. We understand that it is well to cut it up pretty short and sprinkle it with water occasionally, unless it is very green and sappy. While corn ensilage packs without much tramping, grain ensilage requires a great deal to make it a success. Mr. MacKay says that "in 1894 part of his ensilage was made from oats with the grain well formed, resulting in its drying out and being almost an entire loss. In 1895 the fodder was quite green, with little or no grain in the heads. This was placed at the bottom of the silo, with corn on top, both of which gave excellent results."

Regarding a better or cheaper method of feeding, we hear of nothing but satisfaction from men who put an extra supply of corn into the silo in autumn and kept it over for summer feeding. Quite a number, too, speak very highly of clover silage, which could be put in about the last week in June.]

PRICKLY SOW THISTLE (Sonchus asper).

READER, Stonewall, Man.:—"I send herewith a weed for which I desire name and treatment."

[The weed is prickly sow thistle (Sonchus asper). This is one of the two annual species of sow thistle which occur as farm weeds in Canada. The other species, the common sow thistle, resembles it closely, but is less prickly, and may also be distinguished by the basal lobes of the leaves being acute, while in the prickly-leaved sow thistle they are rounded. Both of these plants are annuals, and the same treatment will answer for both. They are very soft and succulent, and easily killed by pulling, hoeing or cultivating. However, they grow rapidly, and many seeds germinate so late in the summer that they are frequently neglected.

[A far more difficult plant to eradicate is the perennial sow thistle (Sonchus arvensis), than which I believe there are few noxious weeds in the older portions of Canada which are spreading more rapidly and doing more harm. It is a perennial, with strong underground root stalks which spread out a long distance from the center. The leaves lie out flat on the ground, covering it closely and choking out any crop among which the plant grows. The flowering stems grow up about three feet high, having no leaves towards the top, where they bear three or four large yellow flowers nearly as large as those of the common dandelions. These are conspicuously glandular, hairy on the outside and on the foot stalks. The seeds are provided with a copious pappus of pure white silky down, by means of which they are blown long distances. At the time the small grains are in flower, or a little later, this plant is easily detected in a crop by its conspicuous flowers, which generally stand up a few inches above the grain. As soon as these are noticed every stem should be pulled up, as well as the rosette-like tufts of leaves, a colony of which will always be found around the base of each main stem. This can easily be done at that time of the year, and then as soon as the crop is harvested the stubble should be plowed. As stated above, this plant is a most troublesome one, and when once detected on a piece of land every effort should be put forth to eradicate it, an operation which will require a great deal of care and perseverance.

J. FLETCHER, Dominion Experimental Farm.]

DISEASED GRAPES.

Wm. M., South Middlesex, Ont.:—"Am sending you a small quantity of grapes, two varieties, Rogers No. 15 and Niagara. The Rogers began to be affected several years ago. The vines fruit all right in the spring and there seems to be nothing the matter with the leaves, though they begin to fall off very early in the season. The fruit soon after it reaches about normal size begins to turn hard about the stem, then changes color gradually, shrivelling up till they become quite dry and hard. This season the Niagara began to be affected in the same way for the first time. The Rogers grape a few years ago, on the vine in question, took the prize at the Western Fair, but this year no crop

was gathered at all. The soil is quite light and sandy on the surface, but has a heavy, hard clay subsoil. The vines have been well cared for. I hear of some others in the locality beginning to be affected in the same way."

[With reference to specimens of Rogers No. 15 and Niagara grapes sent for examination, I find that Rogers No. 15 shows the presence of anthracnose. This is a very troublesome disease to treat satisfactorily. It does not readily yield to Bordeaux mixture. In France, where it causes a great deal of damage, vine-growers recommend the following wash to be used on the vines in early spring. It is applied with a whitewash brush:

- Water.....3 gallons.
Sulphate of iron.....7 pounds.
Sulphate of copper.....2 pounds.
Sulphuric acid.....1 gill.

When the vine is old and seriously affected by this disease, I would recommend rooting it up and replacing it by a young and vigorous plant. The Niagara grapes are probably suffering from another trouble, which I judge is imperfect drainage, coupled with a hard and impervious subsoil. In situations of this kind the feeding-roots of grape vines of nearly all but the native varieties—and I mean by native varieties, those of the type of Clinton—soon become enfeebled and the vine suffers from lack of nutrition. Too much water lying over the subsoil will cause a decay of the lower system of roots; dropping and shrivelling will be sure to follow. Vineyards, and parts of vineyards, suffer from this cause in many parts of the country. The only satisfactory remedy lies in perfecting the drainage system and in thoroughly subsoiling the vineyard area before planting the vines. Vines which are suffering from this cause—and there are undoubtedly many thousands in Ontario—may be very much benefited by tile drains put in at the present time.

JOHN CRAIG, Dominion Horticulturist.]

LIVE STOCK MARKETS.

Montreal Markets.

Little change has taken place in this market since our last report. Receipts have continued heavy and the demand slow, so that no market has a clearance been effected for a long time. One would naturally think that with meat the price it is butchers are coining money, but such is apparently not the case, as they on their side claim that the demand from the beefing population has fallen off considerably, and to those that do buy a larger amount of cream has to be given. Be this as it may, there has been very little money in it to the farmer at the prices he has been paid for his stock this season. Another prime factor is the absence of export demand, from two reasons—the scarcity of space and the fact that the Northwest is furnishing the larger proportion of cattle going forward, which causes after their quota toward depressing the market here.

Export Stock.—Good choice cattle are not to be had at hardly any price, though if such were offered good prices would be realized. The outside figure for the best cattle on the market for the week just ended has been 3 1/2c. per lb., and this only for a few of the very best. For good butcher stock from 2 1/2c. to 3c. was paid, and as low as 1c. per lb. for culls and inferior sorts. Of course these figures—2 1/2c. to 3c.—are only for a few lots, the larger percentage of the cattle sold ranging from 2c. to 2 1/2c. per lb. for medium grades.

Sheep and Lambs.—The demand for export sheep has been rather shy—one day very good, the next no demand whatever; but for all this the values have remained at the bottom figure quoted in our last report, 2 1/2c. per lb., nothing going higher than 2 3/4c. to 2 1/2c. per lb. Lambs remain fairly steady, and on the whole are about the best trade there is in live stock here; good lambs readily selling for 3 1/2c. to 3 3/4c. per lb., live weight, or from \$2.25 to \$3 each.

Calves.—The offerings are light on each market, ranging from 75 to 150 head, and are pretty well cleared up, at \$1.50 to \$3 for common, \$3.50 to \$6.00 for good, and up to \$7 and \$10 for choice.

Live Hogs.—A slight decline from last report has taken place this week, but it is really more in the quality of the hogs offered than any change in the market, good bacon on Monday last making \$1 per cwt. in the yards, heavy fats and mixed lots from \$3.50 to \$3.75 per cwt.

Space.—No change has taken place in ocean freight space; it continues scarce, and every steamer leaving the port is loaded to its full carrying capacity. Contracts this week called for 45s. to London, 47s. 6d. to Glasgow, and 47s. 6d. to 50s. to Liverpool for cattle space; sheep 5s. and 10s. extra for fittings.

Hides and Skins.—The recent advance has been maintained, and tanners are free buyers of beef hides at 7c. for No. 1, 6c. for No. 2, and 5c. for No. 3, the butchers receiving 1c. per pound for the hides. A company of butchers have been formed to operate in the hide market, and the prospects are that some keen competition will result. Lamb skins have advanced 5c., to 45c. each; calf steady—6c. for No. 1, 4c. for No. 2.

Shipments for the Week:—

Table with 3 columns: Cattle, Sheep, Horses. Total for week, Last week, Total to date.

Toronto Markets.

Export Cattle.—Very few loads being handled; cables are discouraging. Canadian cattle are only just holding their own, with no prospects of any advance at present. If anything, the Glasgow market is slightly firmer than either Liverpool or London. The best price for shippers was \$3.90, and many sales were forced on unwilling buyers at \$3.50 to \$3.75 per 100 lbs. live weight. Prime top sorts, 4c. for extra choice quality; very few brought this price. One carload, 1,310 lbs. average, very good cattle, sold for \$3.70, a fair indication of how cattle were selling.

Butchers' Cattle.—Dull is not the word for this trade; in fact, the market was featureless. Plenty of stock sold around 2c. One load went a quarter of a cent lower than 2c. per lb. What seems remarkable is that, notwithstanding these prices, men will send their stock for sale, and it is generally sold before the close of the day. Ten cattle, 11,800 lbs., bought by Mr. Levaak. One fat cow, 1,680 lbs. live weight, fetched 3 1/2c. per lb., \$38.40. One steer, 1,020 lbs. live weight, fetched 4c. per lb. Some of the common cattle went below 2c. From 2c. to 3c. a lb. might be quoted as market price. One carload of cattle, 1,000 lbs. average, \$2.60 per cwt.; 22 cattle, 990 lbs. average, \$2.30 per cwt.; 20 cattle, 25,400 lbs., 3 1/2c. per lb. One bunch of cattle, 1,000 lbs. average, brought \$2.65. Twenty cattle, 25,400 lbs., brought 3c. per lb.; 19 cattle, 27,010 lbs., at 3 1/2c. per lb. Buying for Montreal was slow, only eight carloads being taken. Receipts were heavy; 100 carloads of cattle, 1,170 sheep, 2,000 hogs, 12 calves, and about 14 cows and springers.

Bulls.—Mr. Crawford reports that there is a good demand for choice shipping bulls, some selling to-day at from 3c. to 3 1/2c. per lb. Generally the run of prices is from 2 1/2c. to 3 1/2c. per lb. A very nice Jersey bull sold for \$3 per 100 lbs.

Calves.—One or two fancy veals sold at \$3 per head, but the average was from \$3 to \$5. Mr. Shortmiller, of the Stock Yards, Buffalo, was over this week and took over 50 head. Poor calves are hard to sell.

Stockers and Feeders.—Quite a good demand for best kinds of feeders, especially if of good quality. Good steers averaging from 1,000 to 1,100 lbs. will sell readily at from 2 1/2c. to 2 3/4c. per lb.; light stockers, 2 1/2c. per lb.

Sheep and Lambs.—Shipping sheep were quiet to-day, selling at 3c. One or two lots of better quality went a little higher, a trifle over 3 1/2c. per lb. Butchers' sheep are dull, at \$2.50 to \$2.75 per head, or 2 1/2c. per lb.

Lambs were not quite steady, selling at from \$2.20 to \$3.00 per head. Only a very few taken for Buffalo.

Milk Cows and Springers.—Mr. Ryan reports that sales are good for the time of year. Cows showing well in flesh are in demand for family trade, and fetch from \$50 to \$55 per head. Poor and late springers are dull.

Hogs.—There is a weaker feeling, and best hogs declined 1/2c. per lb. Choice hogs are quoted at 3 1/2c. per lb. weighed off cars. The tendency is still downwards. Thick fat hogs fetch 3 1/2c. per lb.—a better price than beef, and grows twice as quick. There is no demand for stores. Prospects point to this price holding steady for next week. Thick fat hogs continue to move slowly, at 3 1/2c. per lb.; sows, \$2.75 to \$3.00; boars, \$1.25 to \$1.50.

Dressed Hogs.—Dressed hogs have been coming more freely the last week. Deliveries have met a ready sale. Farmers' loads of select weight brought \$5 all round. Packers are buying at from \$4.50 to \$4.75, and \$5 for carloads of light weights.

Wheat has made a good advance since our last quotation. Receipts on the street market to-day were large. Prices continue firm, 400 bushels selling at 70 1/2c. to 71c. for white; red, 75c. to 76c.; goose, 53c. to 54c.

Oats.—One thousand bushels of oats were on offer, and sold at 20c. to 22 1/2c. per bushel; market firm; demand fair.

Hay.—Twenty-five loads of hay, selling at from \$12 to \$14; good timothy in best demand, \$13 to \$15 per ton. Straw was in fair supply and sold at from \$3 to \$9 per ton. Farmers' loads of select weight brought \$5 all round. Packers are buying at from \$4.50 to \$4.75, and \$5 for carloads of light weights.

Barley.—Steady, 1,000 bushels selling at 32c. to 33c. Eggs.—There is a continued call for strictly choice fresh eggs, with the supply of this class very light and not of a very good quality. Choice candled stock is selling at 13c. for small lots.

Hides and Skins.—There is little activity on this market. No. 1 green are quoted at 6 1/2c.; steers, 7c. per lb.; No. 2 5c.; No. 3 4 1/2c. Skins.—No 1 green calfskins are quoted at 6c. to 7c., and sheepskins at 60c.

Wool.—Fleece combings, 18c. to 19c. Butchers.—The supply is good; prices firm. Choice dairy rolls sell at 14c. to 16c. per lb. Cheese continues firm with a disposition to advance, 9c. to 10c. per lb.

Toronto, Oct. 10th., 1896.

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, Present Prices, Top prices two weeks ago, 1895, 1894. Lists prices for various grades of cattle, sheep, and hogs.

Combined receipts of cattle, hogs, and sheep at Chicago, St. Louis, Omaha, and Kansas City for the first nine months of this year, 17,673,364, of which Chicago received 10,147,116. Here is the way live stock has been received at the four above mentioned markets for the first three quarters of the years given below:

Table with columns: Receipts, Cattle, Hogs, Sheep. Shows data for nine months 1896, 1895, and 1894.

Receipts of calves at Chicago for the first nine months of this year, 117,314, and shipments, 4,496, against 141,847 received and 6,939 shipped the corresponding period of 1895.

At the present rate of decrease the year's gain in cattle receipts will all be wiped out before the end of the year. The chances are that cattle receipts the remainder of the year will decrease very largely compared with last year. September hog receipts at Chicago were the largest on record for the month. Sheep receipts continue to press the records, and the supplies are almost wholly of far Western sheep, many of them coming from the Western part of Nevada, and a great many from Washington. Supplies of inferior hogs continue large, with small offerings of really good ones, and prices well maintained on good ones.

W. H. Mallory has returned from Texas and the Indian Territory, where he went to look over the ranch and feeding interests of Nelson Morris. He says the prospects for cattle feeding is poor, and that there will be fully one-third less cattle fed than last year. He says the cotton crop is about the same as last year, as the larger acreage makes up for the smaller yield. The failure of the corn crop in Texas was due to the big drought, and it was about the only part of the country that did not raise a fine corn crop the past year.

The quality of the hogs is running much poorer than it was. Tight money and fear of, or the reality of, hog cholera are given as reasons for the marketing of so many hogs that need more feeding, while the Western country is loaded with corn cheaper for fuel than coal. The 186,481 hogs received at Chicago last week averaged 253 lbs., against 252 lbs. the previous week, 255 lbs. a month ago, 244 lbs. two months ago, and 231 lbs. the corresponding week last year. The 694,085 hogs received at Chicago last month averaged 257 lbs., the heaviest average since November, 1893. Last August the average was 253 lbs.; September, 1895, 242 lbs.; September, 1894, 232 lbs.; and September, 1893, 268 lbs., the heaviest September average on record.

The upward movement in the hide market continues, and there is quite a healthy tone to the general trade, with packers pretty well sold out. The small receipts of cattle present and prospective make the hide and leather dealers feel very sanguine of higher prices.

Some young Hereford calves lately sold to ranchmen at \$60 to \$75 per head.



A VERY WOMAN.

BY PHEREA ALLEN.

It was quite clear that something had gone wrong with my Cousin Hephzibah. I saw it at a glance as I entered her morning room, where I always found her day after day in the same straight-back elbow chair, with the tortoise-shell cat at her feet, and the low claw table beside her, on which lay book and gold-rimmed spectacles, to be taken up in turn, and when the knitting (with which she was always busy) should be laid aside. But this morning the knitting was neglected, and her little black-mitted hands were folded over a letter which lay on her knees, whilst I could see by the height and color in her unusually pale face, and the peculiar twitching of her mouth, that the contents of that letter had seriously affected my aged relative.

"Good morning, Cousin Hephzibah," I said. "Have you had any news of Maud, to day?"

"Indeed I have," she answered, "and really I begin to think that it is time I went out of the world. There! I can't conceive what the women of the present day are coming to!"

"That sounds as if Maud had written something startling," I said.

"And so she has," was the indignant retort.

"Upon my word, Rose, it seems as if the young women of the period will never know where to stop in their imitation of men and men's ways. There's Maud writes me word that her husband—more shame for him—has bought a revolver for her, and is teaching her how to use it, so that in the event of a burglar alarm she might have the means of defence in her pocket. Defence, indeed! She's much more likely to blow out her own brains or her husband's (if he has any, that's to say, which I take the liberty of doubting) than to find any other use for her revolver. Dear, dear, when I think what my grandmother would have said of such doings!"

"But Maud does live in rather a lonely place, you know," I ventured to observe.

"A lonely place! Fiddlesticks and blue gum!" ejaculated my cousin (I always wonder why she is so fond of invoking that sticky substance). "Why, you should see the lonely places folks used to live in when I was young, miles away from town or village, and cut off from all easy communication with their fellow-creatures. I'm sure, when I remember where my great-Aunt Penelope lived and died, it seems as if it were a different world altogether. That was a lonely spot, if you like, but she never dreamt of handling revolvers. No, and my cousin drew up her long neck and gave a little toss of her head, "no, she would have thought it beneath her dignity to come to blows with a burglar!"

"Oh! I suppose so," said I; "she would have fainted away (no, 'swooned' was the right idiom, wasn't it?) at the bare sight of a housebreaker, and would have needed burnt feathers and hartshorn to bring her round, whilst the burglar and all her valuables would have disappeared together. Well, the idea of a revolver may be a very shocking one to you, Cousin Hephzibah, but I'm glad I didn't live in those days when women were content to spend all their lives over wool work and painting on chicken's skins, and writing stilted epistles after the style of 'The Model Letter-writer'."

"H'm; so that's your notion of all that women could do in the last century," said Cousin Hephzibah grimly. "Well, wait a bit, and I will tell you a story of my Aunt Penelope's courage, a story which you would find it hard to cap in these days."

"It happened towards the end of the last century. In those days people didn't put things into print, and get accounts of themselves and their doings sold for the price of a penny through the length and breadth of the land. And I suspect I am the only person living now who ever heard the story from the lips of an eye-witness, for my Aunt seldom spoke of it, and Nannie, her faithful maid, from whom I heard it in my early childhood, has long since been gathered to her rest."

"Aunt Penelope Decies never married, and at the time of which I speak she lived by herself in a pretty but extremely lonely cottage off from the high road between London and Hastings. Her household consisted of Nannie, her confidential waiting woman, who, like her mistress, was now upwards of sixty; David, her reliable factotum, growing gray-headed also, but some dozen years younger than his fellow-servant; and Jim, the odd boy, who divided his time between the garden and the stable, where he helped David to groom Aunt Penelope's beloved Snowflake, a splendid white horse upon which she rode forth on Sundays and state occasions, pillion fashion, with the trusty David in front."

A high oak paling ran round the whole of my aunt's modest estate, which, with its garden and small paddock and a bit of orchard ground, covered something over three acres, and it was David's business to lock up the garden gate and take a good look round all the outside premises the last thing every night, before withdrawing to his own sleeping apartment, which was over the stable. Aunt Penelope and Nannie took care to see that the inside of the house was duly secured, visiting each lock and bolt carefully, and adjusting inside bells on all the window shutters. Once and again they had been alarmed—chiefly in the hopping season—by the sound of stealthy footsteps on the gravel path, and twice the orchard had been robbed, and once a couple of fattening fowls had been stolen, but no one had ever attempted to break into the house actually, though why they did not (considering, as Aunt Penelope admitted herself, that they might all have been murdered in their beds, and no one would have been a bit the wiser) was a fertile source of wonder to many. Ivy Cottage, as it was called, was absolutely lonely and remote from all other habitations—why, the nearest village was five miles off, so that the pilgrimage to church was indeed a Sabbath day's journey, and one not to be lightly taken in hand if the weather was threatening or the roads likely to be flooded."

"But if any one suggested to Aunt Penelope the advisability of a change to a more frequented locality, seeing that, with the exception of Jim (who was as deaf as a post, by the way), they were all getting on in years, the old lady became so indignant that the same person never made the same suggestion twice. 'Lonely, indeed! and in want of protection, forsooth! What better protection could she have than her devoted Nannie and her good faithful David, and Jock, the house dog, who barked so furiously at the slightest sound that David declared he was better far than the alarm-bell, which was suspended outside the house and furnished with two pulls, one of which hung immediately over my aunt's bed, and the other over Nannie's.'"

"One night, in the late autumn, the little household had withdrawn to bed as usual. It was wild, blustering weather, the wind rising and falling in loud sobbing fits, driving heavy scuds of rain before it and rattling windows mercilessly. 'It was indeed a blessed thing to have a roof over one's head,' Aunt Penelope had said to herself, as she lay down in her heavily curtained four-post bed, and with this very suitable reflection her eyes closed and she wandered into dreamland. She must have been asleep for two hours, when she was suddenly startled by an unusual sound outside her door, as though some one were moving about in the passage. 'Could it be Nannie? She sat up in bed and listened. No; those footsteps—if footsteps they were—were certainly not Nannie's, for in the

stillness of the night she could hear that worthy old serving-maid snoring loudly in the room adjoining her own."

"It must have been fancy," she said at length; "if any stranger were about Jock would certainly have deafened them with his barking." Therewith she laid down again. A minute later, however, there came a low grating sound as if of some one trying to force back the lock of the door, and Aunt Penelope sat upright again. There was no mistake about it this time, something was moving and at work somewhere. Yet still slow to take alarm, she was persuading herself that it was probably a mouse in the wainscot, when the door opened very gradually, admitting first a slender thread of light as from some carefully-shaded lantern, and then a tall, dark figure, treading warily in stocking feet. In a moment the old lady's hand was on the alarm-bell rope, but at the first touch it fell from the wall on to the bed beside her. The cord had evidently been cut through."

"Who are you, and what do you want?" Aunt Penelope then asked, in a firm, loud voice. As she told Nannie later, she was so indignant at any man daring to enter her bedroom that her wrath at the intrusion quite swallowed up her fears as to its consequences. Very slowly the figure turned round, and then a stouter heart than Aunt Penelope's might have quailed at the sight of the crape-covered face which met her view, and which proved that that nightly visitant was on evil deeds intent. I have often thought since what a thrilling picture might be made of the little old lady sitting bolt upright in that ancient four-post bed in her frilled nightcap and nightdress, summoning the closely masked housebreaker to give an account of himself."

"Who are you?" she asked again, "and what have you come for?"

"Your keys," said a low voice. At the sound of it Aunt Penelope's heart stood still. "Give up your keys quietly or it will be the worse for you."

"For a moment the old lady hesitated; finally, however, she drew the keys from under her pillow and handed them silently to this mysterious person."

"Then, as rigid and motionless as though she had been modelled in marble, Aunt Penelope still sat upright, watching how her jewel-case was opened and emptied, how her private drawers were turned over and ransacked, and lastly how her cash was seized upon. That was probably the last act of this unpleasant drama, thought Aunt Penelope, for now surely the thief must know that he had cleared that room at any rate of all he could lay his hands on."

"And so he had, but before leaving he deposited his lantern and stolen goods, and coming up to the bed, caught Aunt Penelope by the wrists, holding them tightly, as if they were in a vise."

"Swear," he said, "swear that you have never seen me before to your knowledge."

"I swear that I have never known you till to-night," my aunt answered promptly, and as promptly her hands were released, and the deeply-veiled figure, picking up his lantern and booty, vanished from the room."

"In the morning, when Nannie went to call her mistress, she would never have guessed from her calm, collected manner that anything unusual had occurred in the night. Everything was in its proper place; the drawers were all locked up again; there was nothing disarranged in the room. Punctually at eight o'clock Aunt Penelope went downstairs as usual, and read prayers to her small household. It was only afterwards that Nannie remembered how her voice quivered a little when she gave thanks for having been safely brought through the perils of the night."

"But when prayers were over and all had risen from their knees, Aunt Penelope detained her servants for a minute."

"Was anyone disturbed last night by any unusual sound?" she asked.

"No, madam, I heard nothing," Nannie hastened to answer. David, wholly intent upon rubbing some blemish from the silver buttons on his sleeve, looked down and muttered something quite unintelligible."

"Did you, David?" asked my aunt, bending her eyes steadily on him.

"Yes, madam; no—no, madam," he answered; "that is, I did fancy I heard a strange sort of sound some time in the night, but nothing worth mentioning."

"Good," said Aunt Penelope. "Though no one else seems to have been disturbed, I was, and that in a way which I consider 'worth mentioning,' and mentioning to Justice Baldwin, too [he was the nearest magistrate], so you may put the pillion saddle upon Snowflake at once, David, and as soon as I have partaken of my breakfast we will start forth."

"As you please, madam," said David, leaving the room to obey orders, whilst my aunt proceeded to eat her breakfast as usual, giving various directions to Nannie about the day's arrangements with the utmost composure of voice and manner. Precisely at nine o'clock David brought the horse to the door, where my aunt stood ready to start on her seventeen miles' ride, for Justice Baldwin lived at that distance off."

"The weather is fearful threatening, madam," said faithfully Nannie; "and be sure, David, if the rain comes on, to remember that the mistress' overcloak is folded up in yonder strap."

"But David mounted to his place in front of my aunt and said never a word."

"Ah!" broke off Cousin Hephzibah, "talk of lonely roads nowadays. You should have seen the seventeen miles that Aunt Penelope rode that morning, through long, winding lanes, so narrow and cramped at certain spots that wayfarers were bound to blow a horn to give notice of their approach, because in some places it was quite impossible for two vehicles to pass each other—not that there was often any necessity for doing so. Folks frequently rode and walked for miles in that country without meeting a soul, and this was the case with Aunt Penelope on that cloudy November day of which I tell you. Save for one itinerant lawler with a basket of crockery on his head, and a handful of children rifling the hedges for belated blackberries, not a living creature crossed her path from the time she left her own house till the moment she drew up at Justice Baldwin's door."

"The sight of Snowflake and his mistress always commanded immediate attention in the neighborhood, and in a minute the gray-headed butler hastened out to learn Miss Decies' business."

"Be good enough to ask your master to step here," said Aunt Penelope, still seated on her pillion, whilst David, having dismounted, stood at the horse's head. "Mr. Justice Baldwin," she continued, as that gentleman appeared in the doorway, bowing low, "I have come to acquaint you, as magistrate of the law, that last night my house was broken into, my sleeping room forcibly entered, and my cash box with other valuables carried off."

"Indeed, indeed, my dear madam," cried Mr. Baldwin, much perturbed. "Were the offenders suffered to escape unchecked, or have you obtained some clue to them? Could you say with certainty how many there were?"

"There was but one," said my aunt, speaking very firmly and distinctly, "and that one," she continued, with outstretched hand, "stands there." David stepped in here and now discharge you from my service, and—"

"I arrest you in the name of the law," said Justice Baldwin, stepping forward. "John and Nicholas," he added, turning to two of his men, "lead this fellow off to the justice-room, and let Adam keep a strict eye on him."

"Then, whilst the unhappy David was led away, Mr. Baldwin turned to my aunt. "My dear madam," he said, "is it conceivable that you could have ridden all those lonely miles in sole company with that villain?"

"Some one had to bring him within reach of the arm of the law, sir," she answered, "and for that purpose I judged myself the fittest person. Having accomplished my task, I will now, with your leave, bid you good-morning, and already she had turned her horse's head homewards."

"But, good heavens, my dear lady, you don't propose to travel back alone!" said Mr. Baldwin.

"But my aunt laughed a little scornful laugh. "Pray, sir," she said, "do you imagine that the Providence who brought me

here in safety in company with you poor villain will take less care of me now I am rid of him! I throw not."

"Therewith she rode slowly homewards, heavy at heart, no doubt, and pondering sadly on the possible solution of David's detection."

"Why ever he should have been tempted to do it," old Nannie would often say, "I've never been able to guess from that day to this; neither, as far as I know, has my mistress; though after that November morning she never spoke of David again, 'twas as if she couldn't bring his name over her lips for any sake."

"But from that day forward Aunt Penelope never rode out on Snowflake again, her riding-pelisse hung unworn on her wardrobe peg, and the moths made sad havoc of her pillion saddle."

"And what became of David?" asked I.

"Died in prison, as far as I know, for in those days women did not take the law into their own hands, either to blow out burglars' brains or to molest the administrators of justice with importunities to remit justly-earned sentences. When it was once suggested to Aunt Penelope that she should intercede for David's release, her answer was brief and characteristic. 'No, having escaped with my own life from his clutches, I see no reason for affording him the opportunity for endangering somebody else.'"

"Well, certainly, she was a strong-minded woman," I said.

"She was a woman of character, my dear," said Cousin Hephzibah, "of that character which shows itself to be free and above circumstances. Without for one moment overstepping the bounds of what was womanly, she was a heroine out and out. Pray, how many women of to-day, with their noisy clamor for their rights and revolvers and what not, would have had the solid courage to act as she did; first of all in the moment of actual danger, and then, after such a night, to rise up calmly, go through the regular routine of prayers and breakfast, knowing what was before her, and then, during a lonely ride of seventeen miles, deliberately place herself at the mercy of the man who, but a few hours before, had been ready to take her life if he deemed it needful to his purpose? Only conceive, too, how perfectly mistress of herself she must have been to have aroused no suspicion in the man as to the real object of her expedition. Aye, soot as you will at the women of the last century, here at any rate was one who could put many a man to shame with her cool courage and unaffected heroism, and yet remain withal 'a very woman.'"

Farmer Bradley's Thanksgiving.

The harvest was over, the crops were all in, The barn overflowing, the crib, and the bin; The house had been painted and made spic and span From cellar to garret; and never a man Felt deeper contentment or broader good will Than the hard-working farmer on Bennington Hill; So the finest fat turkey a good wife could raise Was brought to his table the great day of days.

"Now, then," said the farmer, with carver in hand, "Before we begin let us all understand What Thanksgiving means; that each one should tell What most he gives thanks for, suits my notion well. For myself, I am thankful the country is safe In spite of political nonsense and chafe."

He whirled the big carver with patriot zeal, And as it revolved, a bright circle of steel, Would have made an oration, right then and there, But the eyes of his children implored him to spare.

"Now, mother," he said; and mamma blushed and smiled, And paused, just a moment, to look on each child: "I am thankful, my dear, the most for my home Where no want or sorrow ever has come; For the great love that, crowning my unworthy life, Of me makes the happiest mother and wife. A tear, that was scarcely a tear, wet her cheek, And the farmer coughed huskily ere he could speak.

"Well, George," said the lad, he with keen, flashing eyes, Who weighed well his words and gave sober replies, "I'm glad that I live in a land of free thought, Where men stand for conscience and will not be bought; Where a mere farmer boy, if he have pluck and brains, Can climb to the coach top and handle the reins. I'm going to climb! and some day, if I thrive, 'The grand coach of state George Bradley will drive!'"

"Hurrah for our George!" cried the farmer in glee, "When he drives the big coach, there may I be to see! And now, Jack, you rogue, are you thankful, and why?" "Just as thankful as George is, I guess, sir, am I, Though I don't put on airs, and don't care a mite To drive bigger cattle than Brindle and Bright. I'm glad that the Pilgrims—or Puritans—which I really don't know, felt so good and so rich They made a Thanksgiving of everything nice;— Don't talk any more, just give us a slice."

But Elsie, sole daughter and sweet blue-eyed pet, Held up a small hand with "Oh, no, Jack, not yet. For I have a pile of big thankfuls so high It reaches from here way, way up to the sky, And makes me so happy—Jack, don't laugh at this—I wish some dear angel I might hug and kiss!" "Kiss me, then," said Jack, bending low his brown head, And I think the dear Lord had sent Jack in his stead.

Then next came the baby, a small man of five, A happy-go-lucky, the merriest alive, Who bowed his short curls, with eyes laughing and coy, "I'm glad I got borned 'stead of some udder boy!"

"Well done!" cried the farmer, "you've beat all the rest!" While mamma caught the darling close, close to her breast. Then the keen carver cut slice after slice And the fine turkey vanished almost in a thrice.

THE CHILDREN'S CORNER.

The Reason.

Grandma Guff said a curious thing: "Boys may whistle, but girls must sing; That's the very thing I heard her say To Kate, no longer than yesterday."

"Boys may whistle." Of course they may, If they pucker their lips the proper way; But for the life of me I can't see Why Kate can't whistle as well as me.

"Boys may whistle, but girls must sing;" Now, I call that a curious thing. If the boys can whistle, why can't girls, too? It's the easiest thing in the world to do.

So if the boys can whistle and do it well, Why can't girls—will somebody tell? Why can't they do what a boy can do? That is the thing I should like to know.

I went to father and asked him why Girls couldn't whistle as well as I. And he said: "The reason that girls must sing Is because a girl's a sing-ular thing."

And grandma laughed till I knew she'd ache When I said I thought it all a mistake. "Never mind, little man," I heard her say, "They'll make you whistle enough some day."

How Sampo Saw the Mountain King.

(Continued from page 411.)

Sampo began to think that he had better jump off the wolf's back at once, but it was too late. They had now arrived at the top of Kastekais. There sat the terrible Mountain King on his throne of cloudy rocks, gazing out over the snow fields. He wore on his head a cap of white snow clouds; his eyes were like a full moon; his nose resembled a mountain ridge; his beard was like a tuft of immense icicles. All around the King stood millions of goblins, trolls, and brownies. Farther off stood all the animals of Lapland—thousands and thousands of them, of all sizes, from the bear and the wolf to the little mountain rat and the brisk, tiny reindeer flea. No gnats appeared, however—they had all been frozen. Sampo slipped, unobserved, from the wolf's back and hid behind a big stone to watch the proceedings.

The Northern Lights shone round the head of the Mountain King. They whizzed and sparkled, expanded and drew together, then darted out again in long red streamers. The King was delighted, and clapped his icy hands as he shouted: "This is to my mind! Eternal darkness! Eternal night! May they never end!"

"May they never end!" repeated all the trolls at the top of their voices. Then arose a dispute among the animals. All the beasts of prey agreed with the trolls, but the reindeer and other gentle creatures felt that they should like to have summer back again, although they disliked the gnats that would certainly return with it. One creature alone was ready to welcome summer unreservedly. This was the reindeer flea. She piped out, as loudly as she could: "If you please, Your Majesty, have we not come here to worship the sun and to watch for his coming?"

"Nonsense!" growled a polar bear, "our meeting here springs from a stupid old custom. The sooner it ends the better. In my opinion the sun has set forever—he is dead!"

At these words the animals shuddered; but the trolls and goblins were much pleased with them, and shook with laughter to such an extent that their tiny caps fell off their heads. Then the King roared, in a voice of thunder:

"Yea, dead is the sun! Now must the whole world worship me, the King of Eternal Night and Eternal Winter!"

Sampo, sitting behind the stone, was so enraged by this speech that he came forth, exclaiming: "That, O King, is a lie as big as yourself! The sun is not dead. He will be here soon to thaw the icicles in your funny frozen beard!"

The King, forgetful of the law, lifted his tremendous arm, as thick as a fir tree, to strike Sampo; but at that moment the Northern Light faded. A red streak shot suddenly across the sky, blinding the King with its radiance. Then the golden sun rose in slow stateliness, and that flood of glorious light caused even those who had rejoiced in his supposed death to welcome his reappearance.

But the goblins were considerably astonished. From under their red caps they stared at the sun with their little gray eyes, and grew so excited that they stood on their heads in the snow. The beard of the Mountain King began to melt and drip until it was flowing down his jacket like a running stream. By and by Sampo heard a reindeer say to her little one: "Come, my child, or we shall be eaten by the wolves." "So will I," thought Sampo. So he sprang upon the back of a beautiful reindeer with golden antlers, which started off with him at once, darting down the rocks with lightning speed. "What is that rustling sound behind us?" asked the boy. "It is made by the thousand bears—they are pursuing us in order to eat us up," replied the reindeer, "but I am the King's own enchanted reindeer, and no bear has ever been able as yet to nibble at my heels."

"What, then," said Sampo, "is that strange panting I hear behind us?"

"That," returned the reindeer, "is made by the hundred thousand wolves; they are at full gallop, and wish to tear us to pieces. But fear nothing from them! No wolf has ever beaten me in a race yet!"

Again Sampo spoke: "Is it not thundering over there?"

"No," answered the now trembling reindeer; "that noise is made by the King, who is chasing us. Now, indeed, all hope has fled, for no one can escape him!"

(TO BE CONTINUED.)

THE QUIET HOUR.

One Little Word.

One little word may pierce the heart
With sorrow keener than a knife,
And best of friends may quickly part
With feelings of such bitter strife.

One little word may kindness show
When all the world seems dark and drear,
And tears of deepest anguish flow,
One little word may often cheer.

One little word may help so much
The weary with a heavy load;
A pleasant smile, a gentle touch,
Smooth places in the roughest road.

One little word may tempests calm
When raging fierce within the breast,
A kindly word may fall like balm
And angry feelings soothe to rest.

One little word may be too late
Before fond hopes are buried low,
And often it may seal the fate
Of many lives for weal or woe.

—Alice Dale Abell.

prone to forget and disregard than our influence upon others, yet there is nothing we should more dread. There is nothing for which we must hereafter give a more solemn account.

Influence.

She dropped a pebble in the lake,
While resting on her oar,
And watched the widening circles break
Upon the nearer shore.

"What act of mine," she softly said,
"Has virtue that survives
In kindly impulses that spread
And touch far-distant lives?"

She did not know the gracious word
She gave a little child
That morn, a sorrowing stranger heard,
Who straight took heart and smiled.

Sowing and Reaping.

Many a man put in the seed who never saw the harvest, just as many another brought home ripe sheaves on which he bestowed no labor save that of the sickle. The worker for Christ, therefore, is to work in faith, expecting the divine hand to secure the result. He has abundant reason to believe that good is done of which he has no knowledge, and will have none until the great day. It may be necessary for his own spiritual welfare that he should be kept in this ignorance; and certainly he renders no small honor to the Master when he perseveres in the face of all discouragement.

One Day at a Time.

BY MRS. I. M. SMILLIE.

"As thy day so shall thy strength be,"
Measure full and running o'er;
Should to-morrow smile upon us,
Heaven will give full measure more.

For to-morrow's cares and burdens
Our weak shoulders could not bear;
Faith must surely break her cable
When we try the two to share.

God has lovingly provided
That to-morrow is not ours;
That its duties weigh not on us
Till we see its shine or showers.

As the new to-days come to us,
Sorrow-laden, fraught with care,
Oft the strength seems all too scanty,
And our trouble hard to bear.

But how prone we are to worry,
Bearing burdens all alone,
When One waits to bear them
Wholly—
Him whose life paid for our own.

If, instead, with happy faces
Shining with His image fair,
We should seek to grow more like
Him,
How 'twould help to lighten care!

If with heavenly love for others
Willing service we should spend,
Every day would seem most happy
When night brought it to its end.

"As thy day so shall thy strength be,"
Though the heart may heavy grow;
As our love so shall our joy be,
Only measure we can know.

Start Well.

Much depends upon a cheerful start for the day. The one who leaves his home with a scowl upon his brow, and a tart speech, is not likely to be pleasant company for anybody during the day. He will probably come home with the temper of a porcupine.

Wise plans should be laid for every day, so that it be not an idle saunter or an aimless bustling to and fro. Yet, to make good speed on the right track,

we must not start overloaded; not too many things to be undertaken, lest they prove hasty botch work. The journey is not made in a cushioned car, but on foot, and the most galling load is vexatious and worrying care. One step at a time is all that the most busy Christian can take, and steady walking ought not to tire any healthy body or soul. It is the overstrained rush, whether in business or study, that breaks people down; especially the insane greed for wealth, or the mad ambition goading brains and nerves to a fury.

A good rule is to take short views. Sufficient to the day is the toil thereof; no man is strong enough to bear to-day's load with the morrow's piled on the top of it. The only long look far ahead that you and I should take should be the look toward the judgment seat, and the offered crown at the end of the race. That is the way to get a taste of heaven in advance.

Recipe for Canary Pudding.

Take three eggs, and the weight of two in flour, sugar and butter; melt the butter and mix the sugar with it, then add the flour, then the eggs, well beaten. Flavor well with strips of candied lemon, boil for two hours, and serve with sweet sauce.



IN AMBUSH—AUTUMN SCENE BY A CANADIAN LAKE.

Abiding Influence.

It was a striking remark of a dying man, whose life had been, alas! but poorly spent, "O that my influence could be gathered up and buried with me!" It could not be. That man's influence survives him—it still lives, is still working on, and will live and work for centuries to come. He could not, when he came to die and perceived how sad and deleterious his influence had been, put forth his dying hand and arrest that influence. It was too late—he had put in motion an agency which he was altogether powerless to arrest. His body could be shrouded and coffined and buried out of sight, but not his influence. For that, alas! corrupt and deadly as it is, there is no shroud, no burial. It walks the earth like a pestilence, like the angel of death, and will walk till the hand of God arrests and chains it.

Let us be careful what influence we leave behind us. For good or evil, we shall and must live and act on the earth after our bodies have returned to dust. The grave, even so far as this world is concerned, is not the end of us. In the nature of things it cannot be. We are, every one of us, doing that, every day, every hour, which will survive us and which will affect, for good or evil, those who come after us. There is nothing we are more

Puzzles.

All matter for this department should be addressed to Ada Armand, Pakenham, Ont.

1.—SQUARE WORD.

My first's a footing, firm and sure;
My second, Jacob's uncle;
My third is set aloft to lure
Us from our fixed peduncle;
My fourth pertaineth to the sea;
My last rings in eternity.

CHARLIE S. EDWARDS.

2.—NUMERICAL ENIGMA.

8456 and 8432
For 567 wait not;
And my total, that floats down the running stream,
Is carried without a thought;
Then 126 that your task is done,
Lest you toil alone when the light is gone.

CHARLIE S. EDWARDS.

3.—CHARADE.

Jimmie and Johnnie on the stealing were bent,
Of apples; so into the orchard they went.
Jim climbed the tree and gave it a shake;
But hearing the rattle, the farmer did wake,
And forth with that gent came out with his gun,
But knew not to what part of the orchard to run,
For Jim SECONDS so still and John THIRDS so quiet
That the farmer FIRST TOTALS to stop short the riot.
However, the owner went in for a light,
And Jimmie and Johnnie soon got out of sight.

WM. S. BANKS.

4.—CONUNDRUM.

My FIRST is a circle, my SECOND a cross,
If you meet with my WHOLE look out for a toss.

COUSIN J. S. C.

5.—SQUARE WORD.

The FIRST is a bone of contention
To those whom the SECOND divides;
For in that lovely land of the sun
They THIRD the people of what they've won;
So, if the FOURTH it has o'er its head,
And only FIFTH for its airy bed,
A swallow may far happier be
Than any man of that country.

C. ROBINSON.

6.—ANAGRAM.

A "lot of grain can" seldom fail
To make the farmer happy;
And if the prices high do sail,
You'll never see him snappy.

For all his wealth lies in his health,
His cattle and his crop;
And oft when hopes run high, by stealth
A TOTAL will them stop.

Yet on a farm he'd rather stay,
Though rise he must at break of day,
Than leave for the city, whose smoke and din
Would not make up for the wealth he might win.

CLARA ROBINSON.

Answers to Sept. 15th Puzzles.

| | | |
|----|---------------|-------------|
| 1— | H A N A P | 5—T R A M P |
| | A P A R E J O | R E G A L |
| | M A N T R A S | A G I L E |
| | A N T L E R S | M A L T A |
| | L E S Y | P L E A D |

2—Import-ant. 3—Mane, mean, name, amen. 4—Loyalist.
The winners of prizes for solutions to puzzles for July, August and September are:—1st, Clara Robinson, Markham, Ont.; 2nd, Charlie S. Edwards, Vankleek Hill, Ont.; 3rd, John S. Orerar, Brussels, Ont. UNCLE TOM.

British Nobility.

The question as to English titles coming up in our home circle, an investigation was at once encouraged, and after an hour's research the English titles in their order, as found in that most excellent work, the Standard Dictionary of the English Language, was settled. As some of our readers may be glad of information on this subject, we give them below:—

1. Prince Royal.—In England, one holding a rank superior to a duke; male heir apparent to the throne.

2. Princes of the Blood Royal.—Younger sons and daughters of the sovereign, not in immediate line of succession.

3. Duke.—An English temporal peer of the highest rank, yielding precedence to a prince of the blood or an archbishop. A duke of England, Ireland or Scotland is referred to as "most noble" and styled "your grace" in formal address. The title was first conferred in England in 1337 on Prince Edward (known as the Black Prince), and is now bestowed on royal princes as a qualification for sitting in the House of Lords.

4. Marquis.—A title of rank or honor applied to a nobleman next in rank below a duke. Wife of a marquis is a marchioness.

5. Earl.—A member of British nobility next below a marquis. Earl is the equivalent of the Norman count, which title superseded it in England as long as Norman French was spoken, and is still retained in its feminine form, countess.

6. Viscount.—In England, a title of nobility, ranking fourth in the order of the British peerage intervening between earl and baron; also a peer of this rank.

7. Baron.—A member of the lowest grade or order in the peerage, or the title he bears. A baron has a seat and vote in the House of Lords. He has the title of "Right Honorable," and his children have that of "Honorable."

"Barons by prescription" are those whose ancestors have sat in the Upper House from time immemorial.

8. Baronet.—An inheritable English title, created by letters patent, and usually descendable to the male issue; also the bearer of the title. Baronets are commoners, and rank next after the younger sons of barons; they prefix Sir to their full names, and add the abbreviated title, as Sir John Smith, Bart.—*The Household.*

"Canada's Glory."

Our New Premium Engraving receives an enthusiastic reception—Commendations from all parts of the world, by leading Educationists, Agriculturists, Railway Men, Breeders, Experimenters, Citizens, and the Press.

From Sir William Van Horne, President C. P. R.

My Dear Sirs,—I am greatly obliged to you for sending me a copy of your most attractive engraving, "Canada's Glory," which shall be duly honored with a frame, for it deserves to be well preserved.

Yours truly, W. C. VAN HORNE, Montreal.
The Canadian Pacific Railway Co.

"Will Educate to a Higher Ideal."

Gentlemen,—Allow me to thank you most heartily for the beautiful engraving which has come to hand in good order. Such works of art will do much to educate the farmers to a higher ideal, while at the same time increasing their love for fine art pictures. Your donation will be framed and hung in a conspicuous place.

Very sincerely yours,
I. P. ROBERTS, Ithaca, N. Y.,
Director Cornell University, College of Agriculture.

"Admired by All Horse Lovers."

Dear Sirs,—I am duly in receipt of "Canada's Glory," which you were so good as to send me. I think the picture is a good one, and will be much admired by all horse lovers, and especially our own breeders. Thanking you for your kindness,
Yours very truly, ROBT. DAVIES, Toronto.
Thorncroft Stock Farm.

"An Incentive to Good Horse Breeding."

Gentlemen,—I take pleasure in acknowledging receipt of a copy of your premium light horse engraving, "Canada's Glory." I do not hesitate to say that the illustration is artistic in workmanship, and that its distribution will undoubtedly create an incentive to good horse breeding.

GEO. WM. HILL, Washington, D. C.,
Chief Div. of Publications, U. S. Department of Agriculture.

Delighted with "Canada's Glory."

Dear Sirs,—Your excellent light horse engraving came to this office during my absence. I now hasten to thank you, and to say that I am truly delighted with "Canada's Glory," and will not fail to have such a work of art framed to adorn this office.
Yours truly, B. W. CHIPMAN,
Secretary for Agriculture, Nova Scotia.

The Portraits "Good and True."

Dear Sirs,—I have received the engraving of light horses entitled "Canada's Glory." It is a fine picture in its workmanship and grouping, the latter most difficult, but which your artist has successfully accomplished. Several of the subjects I well know, and I must say the likenesses of those are good and true.
RICHARD GIBSON, Delaware, Ont.
Belvoir Stock Farm.

"Will be Framed."

Please accept my thanks for the "Portrait of Celebrated Light Horses" which has just reached me. It will be framed and hung with the other picture received from you some time since.

H. H. GOODELL, Amherst, Mass.,
Hatch Experiment Station of the Massachusetts Agricultural College.

AN OBJECT LESSON IN BREEDING.

A very decided service has been rendered the horse breeding interests of the Dominion by the "Farmer's Advocate," of London, Ont., and Winnipeg, Man., in issuing a magnificent new premium engraving, a copy of which we have received from the publishers, the Wm. Weld Co. It is fittingly styled "Canada's Glory," and includes eleven of the finest light horses on the Continent. The four great breeds—Thoroughbred, Hackney, Standard-bred, and Coach—are all represented; the individuals depicted being from Nova Scotia, in the East, to the far Northwest. It should be even a more popular picture with the masses than its old companion piece, "Canada's Pride," which the "Advocate" issued a few years ago. It should be in the home of every lover of a good horse in both country and town, because wherever it goes it will not only be an ornament, but a real educator of the popular taste in that direction, and in these days farmers and others cannot devote too much attention to high ideals in breeding stock of any kind.—*The Globe, Toronto, Ont.*

Price, 50c. each. Any subscriber sending us the name of a new subscriber to the FARMER'S ADVOCATE, accompanied by \$1.00, will receive a copy free.

"A Service to the Country."

Gentlemen,—New premium light horse engraving, "Canada's Glory," a companion piece to the popular draft horse picture, "Canada's Pride," is received. I am sure you are doing a service to the country in bringing so prominently under the notice of farmers everywhere these choice examples of horses doing service throughout the Dominion.
Yours very truly, WM. SAUNDERS, Ottawa,
Director Central Experimental Farm.

"Splendid Engraving, Aptly Named."

Dear Sirs,—Please accept our sincere thanks for the splendid engraving so aptly named "Canada's Glory," for it contains the chief glory of Canada, so far as the portraits of her greatest light horses go. We know most of the horses represented, and we consider the portraits true to life, the engraving excellent, and the arranging of the group most artistically done. It is truly a splendid premium, and worthy a good place amongst the art collections of every lover of the horse.
JOHN MILLER & SONS, Brougham.

"Instruction in Animal Industry."

Gentlemen,—Please accept my thanks for the very admirable engraving, entitled "Canada's Glory," just received. It will be of value to us in connection with our instruction in animal industry.
H. P. ARMSBY, Centre Co., Pa.,
Director Pennsylvania State College, Agricultural Experiment Station.

The "Farmer's Advocate" a Leader.

Dear Sirs,—I take great pleasure in acknowledging receipt of the picture "Canada's Glory." This excellent engraving of horses is evidence of the ADVOCATE'S standing as a leader in the live stock interests, for, though in it the horses only are represented, your readers are well aware that the sheep and other live stock industries receive their full share of attention in your columns. Thanking you for the engraving, and wishing you continued success,
JOHN G. SPRINGER, Springfield, Ill.,
Sec. American Southdown Breeders' Association.

From the President of the O. A. C.

Gentlemen,—I have pleasure in acknowledging the receipt of a copy of the light horse picture, "Canada's Glory." I think your picture will be very much appreciated by all who are interested in improving our horses or are anxious to raise such animals as can be sold to advantage in either the home or the foreign market. I must compliment you on the general style of the picture and the information which it contains. Very truly yours,
JAS. MILLS, Guelph, Ont.,
President Agricultural College.

"Magnificent Production."

Dear Sirs,—Very many thanks for sending me a copy of "Canada's Glory." I consider it a magnificent production, and heartily congratulate you upon its success.
Yours faithfully,
JAMES MACDONALD, F.R.S.E.,
Sec. Highland and Agr'l Society of Scotland, Edinburgh, Scotland.

A VALUABLE PICTURE.

With the general introduction of electricity for street car propulsion; the use of bicycles on a prodigious scale, by every sort of people, and the invention of horseless carriages, fears had arisen that the usefulness of the horse had waned, and the business of producing these animals would cease to be profitable. No such result has happened; first-class horses of nearly every breed are found to be in as much demand as ever, at high prices. In fact the market for light horses fit for saddle and harness is as good now as it ever was. That the horse is still "Canada's glory" is suggested by a valuable lithographic picture just issued by the "Farmer's Advocate," giving portraits of no less than eleven of the finest light horses on the Continent. It is a companion picture to the one issued by the William Weld Company several years ago, and is 36 x 24 inches in size.—*London (Ont.) Free Press.*

BEAUTIFULLY EXECUTED.

There has been issued from the office of the "Farmer's Advocate" a finely engraved pictorial representation of celebrated light Canadian horses. It is entitled "Canada's Glory," and contains eleven beautifully executed portraits, with accompanying pedigrees and show records of the animals.—*Farming World, Edinburgh, Scotland.*

A Good Suggestion.

A correspondent to the ADVOCATE writes:—"By the ordinarily practiced method of pail-feeding calves the big ones get more and the small ones less than their due, which cannot but do harm to both. Too often the work is entrusted to boys who are satisfied with having done their duty when they see the milk finding its way inside a calf skin of no matter what sort. On many farms it is not uncommon for the women to take charge of this work, and the most common method in vogue to keep two heads out of one pail is by the use of a strap or gad. Now, it obviously appears necessary to provide some apparatus by which the quantity of milk can be conveniently regulated with greater accuracy. Almost every farm has calves to feed, and unless this can be done by the most profitable method, great annual losses will occur. The following arrangement can be used beneficially on every farm. Allow the calves to run together in the pen, yard or field, according to the season, etc. Along one end of the shed, if it be a shed, erect a row of stanchions, through each of which just one calf can insert its head at a time. In mangers, before the stanchions, basins or pails may be set, into which each calf's allowance may be placed. When they are drinking close up the stanchions by means of a wire loop thrown over the top, or a pin inserted through a bored hole. When the milk is drunk, each calf may receive a small quantity of chop, which they will enjoy and receive much benefit from. They should be left to stand thus for twenty minutes and then released. The object of this delay is to prevent them sucking each other, as calves are almost certain to do after having drunk milk. The advantages claimed for such a system are: First, great saving in time and labor of feeding; second, complete control of the feeding ration; third, prohibition of calf-sucking; and fourth, cheapness of structure."

GOSSIP.

Mr. W. G. Pettit's (Freeman, Ont.) new form of advertisement should be looked up in this issue. It speaks of Shorthorns, Shropshires, and Berkshires of good quality.

In writing us to change their advertisement, Messrs. Thos. Allin and Bros., Oshawa, Ont., report six fine Shorthorn calves this autumn, half of each sex. Three of them are sired by the noted Indian Chief, one by Hon. John Dryden's stock bull, and two by Lavender Lad.

Mr. Robert Robertson, of Knowlton, Quebec, writes under date of October 6th:—"I have just returned from St. John, N. B., having won on my Ayrshires fourteen firsts, one second, three third prizes, and two diplomas. This ends a very successful show season, as my winnings are thirty-three firsts, eleven seconds and eleven thirds, besides a number of diplomas."

H. ARKELL'S SALE, OCTOBER 20TH.

Mr. Henry Arkell, Arkell, Ont., writes that the date, October 21st, announced in the ADVOCATE for holding his Oxford Down sheep sale is incorrect. The sale, which is an important one and unreserved, is to be held on the previous day, Tuesday, October 20th, at 2 p. m.

BOOK TABLE.

Flower culture would be far more generally carried on than it is if better understood. Until one has had a deal of experience, there are a great many questions the amateur would like answered. A concise little work along this line, in neat pamphlet form, has been issued by J. W. Darrow, Chatham, N. Y. It contains 500 questions on practical floriculture, answered in satisfactory form, and is divided into nine chapters.

FARMERS OF CANADA!

HARD FACTS FOR HARD TIMES.

We make the largest line of Implements in Canada.

We make Feed Cutters from \$5.00 to \$100.00 each.

We make Root Pulpers from \$10.00 to \$100.00 each.

We make Grain Grinders from \$20.00 to \$60.00 each.

We make Horse Powers, Corn Shellers, Saws.

Our Pneumatic Blower will elevate your cut feed any height without carriers.

We want good, reliable agents in every county. We offer large discounts to introduce our goods. You can save money on every machine you buy. Write for Catalogue and Price List.

JNO. WATSON MFG. CO.

AVR, ONTARIO, CANADA.

IT PAYS TO ADVERTISE

IN THE

FARMER'S ADVOCATE

— AND —

HOME MAGAZINE.

— 0 — 0 — 0 — 0 — 0 —

Leading Agricultural Journal

of the Dominion.

— 0 — 0 — 0 — 0 — 0 —

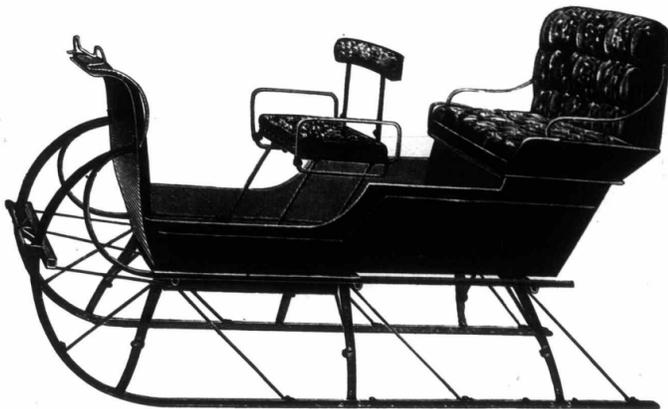
If you have anything to sell, :

SEND AN ADVERTISEMENT TO

The William Weld Company

LONDON, ONTARIO.

Armstrong No. 59 JUMP-SEAT CUTTER.



Adjusts instantly with Front Seat against Dash, easy-back turning; also for Single Seat Cutter. High Back on Seat; High Dash; Box Front in Body, which is thus roomy for four passengers. A perfect combination Sleigh. Price reasonable. For sale by all leading carriage makers and dealers. Catalogue free on application.

J. B. Armstrong Mfg. Co., Ltd., Guelph, Can.

THE FARMERS HAVE SEEN OUR

Ball-bearing

Root Pulper and Slicer

(PATENTED),

Our Patented Crusher,

And the new Cheap Pivoted Land Roller

At the Toronto and London exhibitions, and now they all want them. Agents should study their own and their customers' interests by laying in a supply at once.

Write for information.

THE ESTATE OF T. T. GOLEMAN, SEAFORTH, ONT.

The Razor Steel, Secret Temper, Cross-Cut Saw



WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw to cut fast "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves.

These Saws are elliptic ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good ask your merchant to let you take them both home, and try them and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less, and lose 25 cts. per day in labor. Your saw must hold a keen edge to do a large day's work. Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

MANUFACTURED ONLY BY SHURLY & DIETRICH, GALT, ONTARIO.

CARGILL HERD OF SHORTHORNS.

Six young Bulls, and as many heifers as you want, all bred in the purple. Come and see them or write.

H. CARGILL & SON, Cargill Stn., P. O. Station on the farm. 11-y-om

For Sale—SCOTCH SHORTHORNS of both sexes; also a few BERKSHIRE Sows six months old. Prices right. Correspondence solicited. F. A. GARDNER, Britannia, Ont. 22-2-y-o

THE GRAND VALLEY STOCK FARM

G. & W. GIER, Props., Grand Valley, Ont., Breeders of Shorthorns and Imp. Yorkshires. We offer for sale young bulls, cows and heifers of choice breeding and good quality at very low prices; also choice young Yorkshires of both sex. 13-y-o

F. BONNYCASTLE & SONS,

CAMPBELLFORD, ONT.,

Breeders of Shorthorn, Cattle, Cotswold Sheep; an extra lot of ram lambs, ewe lambs, and breeding ewes, also a very fine shearing ram. Cows, heifers, and heifer calves for sale. 12-2-y-o

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DORSET HORN SHEEP.—Ram, two shears and over—1 Hillhurst Farm, Hillhurst; 2 J. A. McGillivray, Uxbridge. Shearling ram—1 Hillhurst Farm; 2 J. A. McGillivray. Ram lamb—1 and 2 J. A. McGillivray. Two ewes, two shears and over—1 and 2 Hillhurst Farm; 2 J. A. McGillivray. Two shearing ewes—1 Hillhurst Farm; 2 J. A. McGillivray. Two ewe lambs—1 and 2 Hillhurst Farm. Pen of Dorset sheep (one ram, two ewes, and two ewe lambs)—1 Hillhurst Farm; 2 J. A. McGillivray.

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one year and under two—1 J. Featherstone; 2 and 3 J. H. Lloyd. Sow, six months and under two—1 J. Featherstone; 2 and 3 J. H. Lloyd. Sow, under six months—1 J. Featherstone; 2 and 3 J. H. Lloyd. Best improved boar and two sows, any age—1 and 2 J. Featherstone.

DUROC JERSEYS.—Boar, two years and over—1 and 2 W. Butler and Sons, Dereham Centre. Boar, one year and under two—1 and 3 W. Butler and Sons; 2 W. and H. Jones, Mount Elgin. Boar, under twelve months—1 H. George and Sons, Crampton; 2 and 3 W. Butler and Sons. Sow, two years and over—1 and 2 W. and H. Jones; 3 W. Butler and Sons. Sow, one year and under two—1 W. and H. Jones; 2 W. Butler and Sons; 3 H. George and Sons. Sow, under twelve months—1 and 2 W. Butler and Sons; 3 H. George and Sons. Best improved boar and two sows, any age—1 W. and H. Jones; 2 W. Butler and Sons.

IMPROVED YORKSHIRES.—Boar, two years and over—1 and 2 J. Featherstone; 3 J. H. Lloyd, St. Lin. Boar, one year and under two—1 J. Featherstone, Streetsville; 2 Isaleigh Grange Farm, Danville; 3 Frere Augustin College, St. Laurent. Boar, six months and under twelve—1 J. Featherstone; 2 Isaleigh Grange Farm; 3 J. H. Lloyd. Boar, under six months—1 and 2 J. Featherstone; 3 J. Turcot, Sault au Recollet. Sow, two years and over—1 and 3 J. Featherstone; 2 Isaleigh Grange Farm. Sow, one year and under two—1 J. Featherstone. Sow, Isaleigh Grange Farm; 3 J. H. Lloyd. Sow, six months and under twelve—1 and 2 J. Featherstone; 3 Isaleigh Grange Farm. Sow, under six months—1 Isaleigh Grange Farm; 2 and 3 J. Featherstone. Best improved Yorkshire boar and two sows, any age—1 and 2 J. Featherstone. Best sow and 3 of her offspring (bred and owned in Province of Quebec)—1 J. Featherstone; 2 J. H. Lloyd. Special prize (twenty dollars) by the Lang Packing and Commission Co., Montreal—\$20 for the best bunch of hogs of any kind, ten or more in number, suitable for the export bacon trade; weight, 140 lbs. to 190 lbs. live weight; hogs to be in good condition, but not too fat; entrance fee, \$1—1 J. Featherstone.

GOSSIP.

Mr. E. Phelps Ball, Lee Farm, Rock Island, Que., finds that he must reduce his stock of high-class Jerseys before winter quarters are required. Read what his changed advertisement states.

The regular annual meeting of the members of the American Aberdeen-Angus Breeders' Association will be held at the Leland Hotel, Chicago, Ill., on Wednesday, November 11th, 1896, at 7.30 p. m. Thos. McFarlane, Secretary, Harvey, Ill.

Mr. C. M. Simmons, Ivan, Ont. (Simmons and Quirie), writes:—"Having disposed of my two stock bulls, I have secured the imported bull, Blue Ribbon—57955—(63339), by Royal James (5192), dam Roselinty, by Gravesend (4616), to head our Shorthorn herd. Sales: Brampton M went to the herd of James Crerar, of Shakespeare, Ont.; Royal Saxon I sold to Brown and Snell, of Galt. The yearling Strathallan heifer that took first at Toronto, second at Montreal, and first at Ottawa, in 1895, and first at London in 1896, is now the property of Mr. John Braydon, of Milverton. The red Strathallan bull calf left for a new home in Huron Co., near Fordwich, and another roan bull calf goes to McKillop, at Springbank. Mr. Quirie reports sales of Berkshires to Green, Cox, and others, amounting to over \$300. Shorthorns and Berkshires, although prices are low, will, I believe, pay rent of lands better and easier than wheat or oats can possibly do. I have quite a number of bulls and heifers left for the winter trade. The fairs of 1896 are over, and the breeders, amateur and professional, are doubtless now considering the lessons taught. I do not think it would be wise, for amateurs at least, to attempt to follow all the sales given in one year. Apply your own judgment in establishing a type that are profitable in your surroundings. P. S.—My cow, Mysie 41st, was not shown at Toronto, as your report of the Western Fair states, neither is she inferior to any one that showed against her at London—I mean as a true type of a Shorthorn cow."

NOTICES.

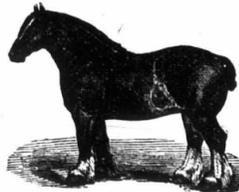
The season will soon be at hand when young men and others look out for an institution in which to receive a sound business education. The advertisement elsewhere of the Hamilton Business College, established 35 years, and which has over 2,000 graduates, deservedly recalls attention to that admirable institution. Write the principal, Mr. R. E. Gallagher, Hamilton, Ont., for prospectus.

It will soon be the time of the year when people are thinking about saving their season's wood. One of the best ways to saw it is with the Folding Sawing Machine, made by the Folding Sawing Machine Co., Chicago, Ill. One man can operate it and accomplish the work of two. It saws down trees and can be instantly adjusted to five different positions. Investigate its merits before deciding how this winter's wood is to be cut.

The Knitting Machine advertised in our columns, manufactured by the Dundas Knitting Machine Company, is particularly well adapted for family use, and is now so constructed that with ordinary care it will last a lifetime. Of course repairs are bound to be needed in any fast-running machine, and when it is considered that this machine will knit from 8,000 to 10,000 stitches per minute, you must expect some wear. The repairs, however, are very cheap, the parts actually performing the work costing only a few cents each. A machine with riving attachment is also made by this firm.

Mr. Isaac Usher, Thorold, called on a few days ago, after a tour along the Lake Erie shore, where he has been inspecting the new cement-structures, to see that they are fit for occupancy, and reports the season's work generally well done. Mr. Usher is very vigilant in looking after the interests of his patrons. Many of the walls erected this season are the finest he has ever seen, and the silos promise, so far as he has seen, to give the best of satisfaction. He is planning to do a much larger season's business next year than ever before. People are only beginning to realize the utility of cement and to properly understand its use.

THORNCLIFFE STOCK FARM!



Montrose, The Ruler, Carruchan Stamp, Knight Errant and other celebrities.

My stock in the above lines were very successful at all the large shows last year. Call and examine our stock before purchasing elsewhere.

Terms reasonable.

19-1-y-om

ROBERT DAVIES, Proprietor. P. O., Toronto.

J. YUILL & SONS,

MEADOWSIDE FARM, CARLETON PLACE, ONT.

Choice Ayrshires of deepest milking strain. Largest and oldest herd in Canada; headed by Leonard Meadows, winner of 1st prize at Chicago, Ottawa, and Gananoque. Fine Shropshire Sheep, and a choice lot of young Berkshire Pigs for sale. Visitors met at Queen's Hotel, Carleton Place. Give us a call before buying elsewhere.



GLENGARY STOCK FARM.

My herd comprises the best strains procurable. Am now offering young bulls and heifers descended from the importation of the late Thos. Brown. PRICES RIGHT.



JNO. A. McDONALD, JR., Williamstown, Ont. 4-2-y-o

Thos. Drysdale,

Allan's Corners P. O., Quebec. Breeder of high-class Ayrshires, headed by Lord Sterling, winner at Montreal '95. Extra choice young bulls and heifers for sale. Farm 1 1/2 miles from Bryson's St., G. T. R.



AYRSHIRES FOR SALE.

Several good yearling bulls by Earl of Percy and Prince Leopold, also cows and heifers. My spring calves will be by the noted bulls White Prince, Sir Colin, and Earl of Percy. Prices right.



F. W. TAYLOR, Wellman's Corners, Hoard's St. 4-2-y-o

Prize-Winning AYRSHIRES FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.



JAS. McCORMICK & SON, ROCKTON, ONT. 20-2-y-o

James Cottingham,

RIVERSIDE FARM, ORMSTOWN, QUE.

Breeder of Ayrshire cattle. Herds headed by the prize-winning bull, White Prince of St. Anne's—6408—. Choice bred stock for sale at all times, including some very choice young bulls and heifers.



Ayrshires!

PURE-BRED, of different ages, and both sex. No inferior animals. Write for particulars.

A. McCallum & Son, Spruce Hill Dairy Farm, DANVILLE, QUE. 22-y-o

C. & E. WOOD,

Freeman, Ont., Breeders of high-class LEICESTER SHEEP

Choice ewes and rams and ewe lambs for sale at very low prices, considering quality. Write us for prices and particulars.



18-y-o

ADVERTISE IN ADVOCATE

SHROPSHIRE.

Orders can now be booked for Shearing Rams, Ram Lambs and Ewes, sired by the celebrated prize-winning English ram, Bar None. Also Rams and Ewes of this year's importation.



SHORTHORNS!

CHOICE YOUNG HEIFERS and BULLS by the celebrated Cruickshank bulls NORTHERN LIGHT VICE CONSUL



W. C. EDWARDS AND COMPANY, IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q. Pine Grove Stock Farm, ROCKLAND, ONT.

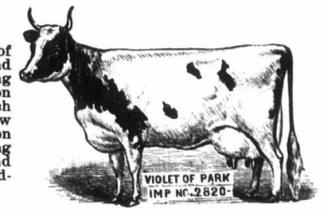
Ayrshires, Jerseys, Shropshires, Berkshires.

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogs of St. Anne's heads the Jerseys. The young stock are all from time-tried dams. ED. McLEAN, Manager.

JOHN H. DOUGLAS, Warkworth, Ontario,

Importer and Breeder of High-Class Ayrshires.

My stock is of the most approved type, and of uniform, fashionable color. Choice imported and home-bred stock of grand individuality, including Violet of Park (imp.)—2820—, Alice of Hutton (imp.), Queen May—2009—, Fairy Queen, Peach Blossom—2816—, and Isabel—2817—; also a few choice calves, and our grand stock bull, Dominion Chief—1214—. I also offer a couple of good yearling heifers (of the milking type), Heather Bloom and Snow Flake, Vol. XII. Prices right. Correspondence solicited. ST. NORWOOD, C. P. R. 12-2-1-om CAMPBELLFORD, G. T. R.



ISALEIGH GRANGE STOCK FARM,

DANVILLE, QUEBEC.

A CHOICE assortment of the following pure-bred stock always on hand: Ayrshire and Guernsey Cattle of the choicest breeding and most fashionable type and color. High-class Improved Large Yorkshires of all ages, "Sanders Spencer stock." Shropshires of the finest quality. Our breeding stock has been selected, at great cost, from the choicest herds and flocks of both England and Canada, and have been very successful winners in all leading show rings. Young stock supplied, either individually or in car lots, at the lowest prices. Prompt attention given to all correspondence.

J. N. GREENSHIELDS, Proprietor. 8-y-om

T. D. McCALLUM, Manager, Danville, Que.

Mount Vernon Dairy Stock Farm.

FOR SALE:—A fine four-year-old Holstein Bull, Artis Aaggie Prince, No. 47, C.H.F.H.B. the sire of many prize-winners at Toronto, Montreal, Ottawa, and Gananoque, in 1895. Sire, Prairie Aaggie Prince, one of the best bulls ever imported to Canada; \$800.00 was refused for him. Dam, Artis Kattie, gave 49 lbs. 2 ozs. of milk in one day as a two-year-old, and gave over 70 lbs. milk in one day on ordinary feed on the Model Farm, Guelph. Also a lot of fine Tamworth Pigs for sale, ready to breed and of the very best quality. Address—W. C. QUICKFALL, GLENALLAN, ONT. 2-y-o

The Latest Improved Up-to-Date Tread Powers

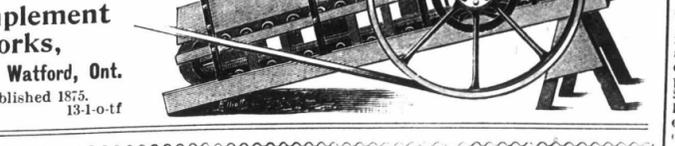
MADE IN CANADA.

Our Governors are perfect speed regulators. Poor Governors are dangerous. Accidents to horses avoided. Safety for unruly horses.

THE tread is the ideal farm power. Coming to the front, and we aim to lead. Also the Ripper Feed and Ensilage Cutter, Canada's Best, or Concave and Convex Knife Machines, etc.

Thom's Implement Works,

Watford, Ont. Established 1875. 13-1-o-tf



There Is No Doubt About the MERIT of DEHORNING

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.

GOSSIP.

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

The importation of all live stock from Africa to Australia is to be prohibited by Order-in-Council owing to the rinderpest plague in the former.

At Portland, Me., John R. Gentry reduced the world's pacing record to 2,003, and Mr. Hanemeyer's double team, Henrietta and Miss Lida, trotted a mile together at Comac, Long Island, in 2.13.

Foxes are doing a deal of mischief among the lambing flocks of the south-east district of South Australia. The foxes eat out the tongues of the lambs. They kill and leave the rest of the carcass to rot.

The prize list of the National Horse Show of America, to be held at the Madison Square Garden, N.Y., on Nov. 9th to 14th, inclusive, is at hand. The premiums offered amount to \$33,000, being some \$3,000 over the sum offered last year. Entries close October 17th.

Mr. H. N. Crossley, Sandy Bay Farm, Rosseau, Ont., recently sold, to go to the U. S., his two-year-old Hackney stallion, Rosseau Fireball, by Fireworks, and out of Lady Cooking. This is a well-known colt, having had a very successful showing career, which need not be wondered at, having such noted ancestors. His winnings, always in strong competition, have been as follows: In 1885, 2nd at the Toronto Industrial, 1st at Montreal and Ottawa, and 4th at Philadelphia; in 1896 he won 3rd at the Canadian Spring Horse Show and 1st at the Toronto Industrial.

H. E. Williams, Knowlton, Que.:—"Enclosed please find check for last year, also new advertisement, which please insert. I have been so busy I have omitted until now to write and tell you that I was very successful at our Fair, having taken first prize on Baron Hugo, my pure Victor Hugo bull, whose weight is now about 1,800 pounds and is one of the finest Jersey bulls in this Province. I also took several first and a few second prizes on others of my pure St. Lambert Jerseys. I am just sending a beautiful heifer calf to P. E. Island to-day, for a gentleman who appreciates a fine Jersey. She was first prize winner at Bromo County Fair."

Mr. Peter Crawford, Dargavel, Dumfries, has sold a very well-bred and good Clydesdale colt to Messrs. Innes & Horton, Clinton, Ont. He is named Goldfinder II., and was bred by Mr. Wm. Kerr, Houdston, Girvan, his sire being the celebrated breeding horse, Goldfinder, and his dam the typical Clydesdale mare, Stylish Lady, which has bred some very good animals for Mr. Kerr, including the very good daughter of Lord Ailes which we saw winning at Girvan as a two-year-old a few years ago. Her sire was Eastfield Style, and her dam a daughter of the Top Gallant horse, Skelmorlie. This is like a colt which will be of some service in any country, and we trust he may reach his destination in safety."

Hon. John Dryden, "Maple Shade" Farm, Brooklin, Ont., writes:—"I have sold to Mr. Nicholas Awrey, ex-M. P. P., for his farm, 12 miles east of the city of Hamilton, five beautiful Shorthorns. The purchase includes the six-year-old cow, Darling; dam, the imported Scotch-bred cow, Daisy, bred by E. Cruickshank, and sired by Prince Rufus—5798—. Also the three-year-old cow, Butterine, by Conqueror, a bull formerly owned by Mr. Smith, of Maple Lodge; dam, Northern Beauty, by Sussex, out of Imported Northern Belle, by Baron Haverling—34043—. Mr. Awrey also purchased a two-year-old heifer in calf, a yearling and heifer calf. All these animals are pure, and we can easily repeat the order if any of your readers desire it."

The late Thomas Pugh, of Pennabank Farm, Whitevale, Ontario, was born in the parish of Llanbadarnfynydd, Radnorshire, Wales, in the year 1824, and came to Canada with his parents when he was seventeen years of age, the family settling in the Township of Pickering, Ontario County, upon the Pennabank farm, where deceased continued to reside until his death. At that time the country was but partially cleared, and Mr. Pugh could tell some very interesting and amusing stories respecting the logging bees and other pioneer experiences. Mr. Pugh early discerned the advantage of improving the native farm stock, and by the continuous use of thoroughbred males soon had a fine herd of Shorthorns, grade cattle, and improved sheep and swine of different breeds. On his grade animals he frequently took prizes, many being first awards, at the local and other fairs. About fifteen years since he commenced to breed thoroughbred stock, principally Shorthorn cattle and Shropshire sheep, generally having a herd of about thirty, and a flock numbering over two hundred, which were his special pride, and he spared no pains in improving them by culling, judicious purchases and importations, so that his stock got soon to be known and appreciated, and the firm of Thomas Pugh & Sons is now widely and favorably known. Mr. Pugh farmed on an extensive scale, and by his untiring industry, careful habits, business tact, and early foresight in improving his live stock, accumulated considerable wealth, being owner at the time of his decease of several good farms and other property, including his herds and flocks of Shorthorn cattle and Shropshire sheep, which latter will shortly be offered for sale by the executors of his estate. Deceased was at an early age married to Miss Anne Evans, who, with six sons and three daughters, survive him. From early manhood a prominent member of the Baptist Church, Mr. Pugh's time, talent and purse were ever available for his support and in furthering and aiding its missions and institutions. (Contributed.)

Canada Central (Ottawa) Exhibition Prize List.

HORSES.

THOROUGHBREDS.—Stallion, four years old and upwards—Jas P Dawes, Lachine; 2 W C Edwards, Rockland; 3 Graham Bros, Claremont. Stallion, two years old—1 Manitoba Stables, Carberry. Stallion, yearling—1 H Alexander, Ottawa. Stallion, any age—1 W C Edwards, Lachine. Gelding or Filly, three years old—1 T C Bate, Ottawa. Gelding or Filly, two years old—1 2nd and 3rd Manitoba Stables, Lachine. Stallion, with three of his get, any age or sex (special)—1 C Moore, Ottawa. Stallion, two years old and over—1 Jas P Dawes, Lachine.

CARRIAGE HORSES.—Stallion, four years old and upwards, not under 16 hands—1 J J Anderson, Dominionville; 2 J McCandlish, Ottawa; 3 Alex McGarry, Galbraith, St. John's, three years old—1 Dent Dalton, Delhi. Stallion, two years old—1 C Dow, Kinmore. Stallion, any age (special)—1 S P Thompson, Woodstock. Brood Mare, with foal by side—1 R M Wilson, Delhi; 2 Dent Dalton; 3 T Fairburn, Billings' Bridge; 4 R M Wilson; 2 T Fairburn; 3 Alex Kennedy, Ottawa; 2 R M Wilson; 3 J & J McMillin, Cummings' Bridge. Gelding or Filly, two years old—1 Dent Dalton; 2 John Kennedy, Billings' Bridge. Gelding or Filly, yearling—1 J McEwen, Gloucester; 2 T White, City View P.O. Pair Matched Horses (geldings or mares), in harness, 15 1/2 hands and over—1 E S Skead, Ottawa; 2 W C Edwards, Rockland; 3 M Beauvais, Ottawa. Single horse (gelding or mare), in harness, 15 1/2 hands or over—1 E S Skead; 2 J S Cochrane, Hillhurst; 3 C W Bangs, Ottawa. Mare, any age (special)—1 R M Wilson. Stallion, with three of his get, any age or sex—1 J McCandlish. Pair of Matched Horses (geldings or mares), in harness, 15 1/2 hands and over—1 E S Skead.

COACH.—Stallion, three years old and upwards—1 S P Thompson, Woodstock; 2 T H Armstrong, Kinburn; 3 and 4 R Ness, Howick.

STANDARD-BRED.—Stallion, four years old and upwards—1 J M Morgan, Ottawa; 2 J Shearer, Woodstock; 3 W L Jackson, Buckingham; 4 A Clark, Brinston's Corners; 5 Graham Bros, Claremont. Stallion, two years old—1 S R Rudd, Sipprior; 2 H S Conroy, Shawville. Stallion, yearling—1 S S Mackey, Shawville. Stallion, any age—1 J M Morgan. Filly, three years old—1 S P Thompson, Woodstock; 2 Jas Doyle, Ottawa. Filly, two years old—1 Alex MacLaren; 2 Rev McDonald, Kempville. Brood Mare, with foal by her side—1 J M Morgan; 2 S J Teskey, Ottawa. Foal—1 J M Morgan; 2 S J Teskey. Mare, any age—1 S P Thompson, Woodstock. Stallion, with three of his get, any age or sex—1 J M Morgan.

ROADSTERS.—Stallion, 4 years old and upwards, not less than 15 1/2 hands; to be driven in harness—1 H Allan, Ottawa; 2 J J Anderson, Dominionville. Stallion, 3 years old, not less than 15 1/2 hands; to be driven in harness—1 J A McGregor, Brinston's Corners. Stallion, 2 years old—1 Geo Faulkner, Ottawa East; 2 Nelson Edey, Aylmer, Que. Stallion, any age—1 H Allan, Filly, 3 years old—1 J Darragh, Ottawa; 2 Jno Kennedy, Billings' Bridge; 3 H Reilly, Richmond. Filly, 2 years old—1 A & J Armstrong, Aylmer; 2 W T McCulloch, City View; 3 H Reilly, Richmond. Filly, 1 year old—1 Graham Bros, Claremont; 2 Geo Stetman, Skead's Mills; 3 Mrs M Faulkner, Ottawa East. Brood mare, not less than 15 1/2 hands high, with foal of the same breed by her side—1 Mrs M Faulkner; 2 H Reilly. Foal—1 H Reilly; 2 Mrs M Faulkner. Mare, any age—1 Graham Bros. Roadsters, pair mares or geldings, 3 years or over, 15 hands and upwards—1 Klock Bros, Klock's Mills; 2 Dent Dalton, Delhi; 3 Rev McDonald, Kempville. Roadster, mare or gelding—1 M Beauvais, Ottawa; 2 J A McGuire, Shawville; 3 T White, City View. For the best pair roadsters (mares or geldings), 15 hands and upwards—1 Klock Bros.

HACKNEYS.—Stallion, 4 years old and upwards—1 Graham Bros, Claremont. Stallion, 3 years old—1 M H Cochrane, Hillhurst. Stallion, 2 years old—1 M H Cochrane. Yearling stallion—1 M H Cochrane. Filly, 3 years old—1 M H Cochrane. Filly, 2 years old—1 Graham Bros. Yearling filly—1 M H Cochrane. Brood mare, with foal by her side—1 M H Cochrane. Mare, any age—1 M H Cochrane. For the best Hackney stallion, any age—1 Graham Bros.

SADDLE HORSES AND HUNTERS.—Saddle horse gelding or mare—1 E S Skead, Ottawa; 2 M H Cochrane, Hillhurst; 3 W J Craig, Ottawa. Hunter (heavy-weight), up to 210 lbs—1 T C Bate, Ottawa; 2 Geo S Johnston, Ottawa; 3 T E Argue, Carp. Three-year-old gelding or filly, not thoroughbred, but sired by a thoroughbred horse, likely to make a good hunter or saddle horse—1 P Thompson, Cummings' Bridge; 2 D White, Ottawa; 3 Geo Rainboth, Aylmer. Two-year-old gelding or filly, not thoroughbred, but sired by a thoroughbred horse, likely to make a good hunter or saddle horse—1 E B Eddy, Hull; 2 Alex Kennedy, Ottawa. Yearling gelding or filly, not thoroughbred, but sired by a thoroughbred horse, likely to make a good hunter or saddle horse—1 Geo Rainboth. Special prize by Jas A Leslie, Esq, jeweler, Ottawa, for the best heavy-weight hunter—1 T C Bate.

PONIES.—Pair ponies in harness, from 12 to 14 hands—1 Maximus Vet Med Co, Smith's Falls. Single pony in harness, from 12 to 14 hands—1 Wm Arnold, Ottawa; 2 W P Hurdman, Hurdman's Bridge. Single pony in harness, under 12 hands—1 Mrs E C Bessey, Hull; 2 K McDonald, Ottawa.

GENERAL PURPOSE.—Stallion, three years old and upwards—1 Geo Sparks, Vars. Brood Mare, with foal by her side—1 P Richardson, Gloucester; 2 C W Barber, Gatineau Pt; 3 P Readmore, Ottawa. Gelding or Filly, three years old—1 Lyman Kellogg, Gatineau Pt; 2 Jas Callender, North Gower; 3 W Allan, Hull. Gelding or Filly, two years old—1 S Stewart, Aylmer; 2 F Richardson; 3 C W Barber. Gelding or Filly, yearling—1 S Stewart; 2 P Readmore; 3 R Spratt, Johnston's Corners. Foal—1 P Richardson. Team (geldings or mares), in harness—1 W Allan; 2 A McLaren, Buckingham; 3 A Davidson, Gloucester. Mare, any age—1 Lyman Kellogg.

HEAVY DRAFTS.—Stallion, four years old and upwards—1 Graham Bros, Claremont; 2 R Ness, Howick; 3 W Allan, Hull; 4 E B Eddy, Hull. Stallion, two years old—1 Graham Bros; 2 J G Clarke, Ottawa. Stallion, yearling—1 J J Davidson, Balsam. Pure-bred Stallion, two years old and over (special)—1 Graham Bros. Brood Mare, with foal by her side—1 J I Davidson; 2 R Ness. Filly, three years old—1 and 2 D & O Sorby, Guelph. Filly, two years old—1 J I Davidson; 2 Graham Bros; 3 R Ness. Filly, yearling—1 and 3 D & O Sorby; 2 R Ness. Foal—1 J I Davidson; 2 R Ness. Team (geldings or mares)—1 Graham Bros; 2 R Ness. Mare, any age (special)—1 J I Davidson. Stallion, with three of his get, any age or sex (special)—1 D & O Sorby.

ENGLISH SHIRES.—No entries. HEAVY DRAFTS (CANADIAN-BRED).—Stallion, four years old and upwards—1 P Harold, V S Davistock; 2 McNaughton, Balderson; 3 W Owens, Montebello. Stallion, three years old—1 A Spratt, Johnston's Corners. Stallion, two years old—1 R Ness, Howick; 2 Thos Miller, Nepean. Stallion, yearling—1 D & O Sorby, Guelph; 2 S Stewart, Aylmer. Brood Mare, with foal by her side—1 T H Armstrong, Kinburn. Filly or Gelding, three years old—1 Graham Bros, Claremont; 2 D & O Sorby; 3 John Fitzsimmons, Bowesville; 4 J & T Keenan, Merivale. Filly or Gelding, two years old—1 J I Davidson, Balsam; 2 R Ness; 3 A Spratt. Gelding or Filly, yearling—1 D & O Sorby; 2 J I Davidson. Foal—1 T H Armstrong. Team (mares or geldings)—1 and 2 McKay Milling Co, Ottawa; 3 J I Davidson; 4 A Davidson, Gloucester. Mare, any age (special)—1 Graham Bros. Stallion, any age (Dominion-bred)—1 P Harold.

PERCHERONS.—Mare, any age—1 W G Burton, Ottawa.

CATTLE.

DURHAM.—Bull, 3 years old and upwards—1 J & W Russell, Richcraft; 2 Jas Crerar, Shakespeare. Bull, 2 years old—1 Jas Crerar, Greenbank; 2 R & S Nicholson, Sylvan; 3 A J Armstrong, Aylmer. Bull, 1 year old—1 Jas Yule, Elder's Mills; 2 and 3 R & S Nicholson. Bull calf, under 1 year (age taken into consideration in judging)—1 W C Edwards, Rockland; 2 J I Davidson, Balsam; 3 J & W Russell. Bull, of any age—1 Jas Leask, Cow; 2 McKay Milling Co, Ottawa; 3 J I Davidson; 4 Jas Crerar; 5 J & W Russell. Heifer, 1 year old—1 and 2 J & W Russell; 3 R & S Nicholson. Heifer calf, under 1 year (age taken into consideration in judging)—1 J & W Russell; 2 R & S Nicholson; 3 W C Edwards. Best female, any age—1 J & W Russell. Herd, consisting of one bull and four females over 1 year old—1 J & W Russell; 2 R & S Nicholson; 3 Jas Crerar.

GALLOWAYS.—Bull, 3 years old and upwards—1 and 2 D McCrae, Guelph; 3 Jno Sibbald, Annan. Bull, 2 years old—1 and 2 D McCrae. Bull, any age—1 Jno Sibbald; 2 D McCrae. Bull calf, under one year (age taken into consideration in judging)—1 D McCrae; 2 Jno Sibbald; 3 D McCrae. Bull, of any age—1 D McCrae; 2 Jno Sibbald; 3 D McCrae. Heifer, 2 years old—1 D McCrae; 2 Jno Sibbald; 3 D McCrae. Heifer, 1 year old—1 and 2 D McCrae; 3 Jno Sibbald. Heifer calf, under 1 year (age taken into consideration in judging)—1 D McCrae; 2 Jno Sibbald; 3 D McCrae. Female, any age—1 D McCrae. Herd, consisting of one bull and four females, over 1 year old—1 D McCrae.

HEREFORDS.—Bull, 3 years old and upwards—1 H D Smith, Compton; 2 Fleming & Co, Weston; 3 D M Wilson, Moe's River. Bull, 1 year old—1 H D Smith. Bull calf, under 1 year (age taken into consideration in judging)—1 D M Wilson; 2 and 3 H D Smith. Bull, any age—1 H D Smith. Cow, 3 years old and upwards—1, 2 and 3 H D Smith. Heifer, 2 years old—1 D M Wilson; 2 and 3 H D Smith. Heifer, 1 year old—1 and 2 H D Smith; 3 D M Wilson. Heifer calf, under 1 year (age taken into consideration in judging)—1 D M Wilson; 2 Fleming & Co; 3 H D Smith. Female, any age—1 H D Smith. Best herd, consisting of a bull and four females, over 1 year—1 and 2 H D Smith; 3 D M Wilson.

POLLED ANGUS.—Bull, 3 years old and upwards—1 Jas Bowman, Guelph. Bull, 2 years old—1 D M Wilson, Moe's River; 2 Jas Bowman. Bull calf, under 1 year (age taken into consideration in judging)—1 Jas Bowman; 2 D M Wilson. Bull, any age—1 Jas Bowman; 2 D M Wilson. Cow, 3 years old and upwards—1 and 2 Jas Bowman; 3 D M Wilson. Heifer, 2 years old—1 Jas Bowman; 2 D M Wilson. Heifer, 1 year old—1 Jas Bowman; 2 D M Wilson. Heifer calf, under 1 year (age taken into consideration in judging)—1 D M Wilson; 2 Jas Bowman. Female, any age—1 Jas Bowman. Best herd, consisting of a bull and four females, over 1 year—1 Jas Bowman.

DEVONS.—W J Itudd, Eden Mills, won all the prizes taken, viz., 10 firsts and 3 seconds.

HOLSTEINS.—Bull, 3 years old and upwards—1 Gilroy & Son, Glen Buell; 2 G W Clemons, St. George. Bull, 2 years old—1 A Hoover, jr, Emery. Bull, 1 year old—1 G W Clemons; 2 Jos Fletcher, Oxford Mills. Bull calf, over 6 months and under 1 year (age taken into consideration in judging)—1 G Dowler, Billings' Bridge; 2 Hoover, jr, Emery; 3 Jos Fletcher. Bull calf, under 6 months—1 and 2 Jos Fletcher; 3 Gilroy & Son; 4 J L McCrae, Brookville. Bull, of any age—1 Gilroy & Son. Cow, 4 years old and upwards—1 Gilroy & Son; 2 A Hoover, jr; 3 and 4 G W Clemons; 5 A Hoover, jr. Heifer, 2 years old—1 G W Clemons; 2 and 3 Gilroy & Son. Heifer, 1 year old—1 and 2 Gilroy & Son; 3 G W Clemons. Heifer calf, over 6 months and under 1 year (age taken into consideration in judging)—1 G W Clemons; 2 Jos Fletcher; 3 A Hoover, jr; 4 G W Clemons. Heifer calf, under 6 months—1 G W Clemons; 2 and 3 Gilroy & Son; 4 A Hoover. Female, any age—1 Gilroy & Son. Herd, one bull and four females, over 1 year—1 Gilroy & Son; 2 G W Clemons.

JERSEYS.—Bull, 3 years old and upwards—1 J H Smith & Son, Highfield; 2 W Rolph, Markham; 3 W A Reburn & Co, Ste Anne de Bellevue. Bull, 2 years old—1 W A Reburn & Co; 2 W Rolph; 3 J Tweedie, Papineauville. Bull, 1 year old—1 S Wicks, New Toronto; 2 W Rolph; 3 W A Reburn & Co. Bull calf, over 6 months—1 J H Smith & Son; 2 W Rolph.

(Continued on page 443.)

Your Chance

NOW! NOW!! NOW!!! To choose a Yearling Shropshire Ram ... 6 Beauties, averaging 280 pounds each.

Ready for immediate shipment. Also ram and ewe lambs. Enquiries promptly answered.

Address: JOHN DRYDEN, BROOKLIN, ONT.

HILL HOME SHROPSHIRE

We have for sale shearing rams of exceptional merit; ram and ewe lambs of choicest quality and covering, sired by Tinker, a winner at New York and London and now heading our exhibition flock of '96, and an imp. Parker ram. Can also furnish grand show pens, right. Lambs from this flock won all specials offered at Toronto, London, New York, Guelph, and ten county fairs in 1895. Parties wishing stock of extra quality should visit this flock before purchasing elsewhere.

14-L-o D. C. Hanmer & Sons, Mt. Vernon, Ont.

ONLY A FEW SHROPS

RAM and SHEARLING FOR SALE RAMS. A Shetland Pony, Four years old. Collie Pups—Handsome sables.

RICHARD GIBSON, DELAWARE, ONT.

SMITH EVANS, Gourock, Ont.

Breeder and importer 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

OXFORD DOWN SHEEP.

A FINE LOT OF YOUNG STOCK FOR FALL TRADE. A FEW NICE YEARLING RAMS AND EWES. PRICES REASONABLE. INSPECTION INVITED. 6-2-y-o

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QUEINSEYS.-Bull, 3 years and upwards-1 W H & C H McNish, Lyn; 2 Wm Butler & Son, Dereham Centre. Bull, 2 years old-1 Wm Butler & Son. Bull, 1 year old-1 and 2 W H & C H McNish. Bull calf, under 1 year (age taken into consideration in judging)-1 and 2 William Butler & Son; 3 W H & C H McNish. Bull, any age-1 W H & C H McNish. Cow, 4 years and upwards-1 Wm Butler & Son; 2 and 3 W H & C H McNish. Cow, 3 years old-1 and 2 Wm Butler & Son. Heifer, 2 years old-1 Wm Butler & Son. Heifer, 1 year old-1 and 2 Wm Butler & Son; 3 W H & C H McNish. Heifer calf, under one year (age taken into consideration in judging)-1, 2 and 3 W H & C H McNish. Female, any age-1 Wm Butler & Son. Best herd, consisting of one bull and four females, over 1 year old-1 Wm Butler & Son.

AYRSHIRES.-Bull, three years old and upwards-1 Jos Yuill & Son, Carleton Place; 2 R G Steacy, Lyn; 3 D Drummond, Petite Cote; 4 R Reid & Co, Hintonburg. Bull, two years old-1 W Stewart & Son, Menie; 2 R G Steacy; 3 J G Clarke, Ottawa; 4 D Drummond. Bull, one year old-1 R Reid & Co; 2 and 3 J Yuill & Son; 4 W Stewart & Son. Bull calf, over six months and under one year-1 and 2 J G Clarke; 3 D Drummond; 4 R G Steacy. Bull calf, under six months-1 W Stewart & Son; 2 Jos Yuill & Son; 3 R Reid & Co; 4 R G Steacy. Bull, any age-1 J Yuill & Son. Cow, four years old and upwards-1 R Reid & Co; 2 D Drummond; 3 and 4 R G Steacy; 2 W Stewart & Son. Heifer, two years old-1 D Drummond; 2 W Stewart & Son; 3 Jos Yuill & Son; 4 R G Steacy. Heifer, one year old-1 and 2 D Drummond; 3 J Yuill & Son; 4 W Stewart & Son. Heifer calf, over six months and under one year-1 and 3 Jos Yuill & Son. Heifer calf, under six months-1 and 2 W Stewart & Son; 3 Jos Yuill & Son; 4 R Reid & Co. Herd, consisting of a bull and four females over one year-1 R G Steacy; 2 W Stewart & Son. Herd, consisting of one bull and four females, under two years old, bred and owned by exhibitor-1 W Stewart & Son.

GRADE CATTLE FOR DAIRY PURPOSES.-Cow, four years old and upwards-1 and 2 J G Clarke, Ottawa; 3 R Reid & Co, Hintonburg. Cow, three years old-1 and 3 R Reid & Co; 2 J G Clarke. Heifer, two years old-1 J G Clarke; 2 G Dowler, Billings' Bridge; 3 R Reid & Co. Heifer, one year old-1 J G Clarke; 2 D M Wilson, Moe's River; 3 A & J Armstrong, Aylmer. Heifer calf, under one year-1 J G Clarke; 2 A & J Armstrong; 3 E B Eddy. Female, any age-1 J G Clarke. Herd of Dairy Cattle, consisting of five females over one year-1 J G Clarke; 2 and 3 R Reid & Co.

GRADE CATTLE FOR BEEF PURPOSES.-Cow, four years old and upwards-1 and 3 Jas Yule, Elder's Mills; 2 Jas Leask, Greenbank. Cow, three years old-1 Jas Leask; 2 and 3 Jas Yule. Heifer, two years old-1 Jas Leask; 2 Jas Yule. Heifer, one year old-1 Jas Leask; 2 Jas Yule; 3 R & S Nicholson, Sydenham. Heifer calf, under one year-1 Jas Leask; 2 and 3 R & S Nicholson. Female, any age-1 Jas Yule. Herd, consisting of five females, over one year-1 Jas Leask; 2 Jas Yule.

FAT CATTLE.-Pair Steers, one year old-1 Jas Leask, Greenbank. Steers, best three for shipping purposes-1 Jas Leask. Cow or heifer, fatted-1 Jas Yule, Elder's Mills; 2 J Bowman, Guelph; 3 Jas Crear, Shakespeare.

QUEBEC JERSEYS.-Bull, two years old and upwards-1 Guy Carr, Compton; 2 Arthur Goff, Leeds. Bull, one year old-1 Guy Carr. Bull calf, under one year-1 Guy Carr. Bull, any age-1 Guy Carr. Cow, three years old and upwards-1 Guy Carr; 2 Arthur Goff. Heifer, two years old-1 and 2 Guy Carr; 3 Arthur Goff. Heifer, one year old-1 Arthur Goff. Heifer calf, under one year-1 and 2 Guy Carr. Herd, consisting of a bull and four females, over one year-1 Guy Carr.

SHEEP.

COTSWOLDS.-C T Garbutt, Claremont, Ont., won all the prizes taken, viz., 7 firsts, 6 seconds, and 4 thirds.

LEICESTERS.-John Kelly, Shakespeare, Ont., won all the prizes taken, viz., 7 firsts, 5 seconds, and 4 thirds.

LINCOLNS.-Gibson & Walker, Denfield, Ont., won all the prizes taken, viz., 7 firsts, 6 seconds, and 3 thirds.

SOUTH-DOWNS.-Ram, two shears and over-1 and 2 John Jackson & Son, Abingdon; 3 R Shaw & Sons, Glanford Station. Shearing ram-1 and 2 John Jackson & Son; 3 R Shaw & Sons. Ram lamb-1 and 3 John Jackson & Son; 2 R Shaw & Sons. One ewe, two shears and over-1 and 3 John Jackson & Son; 2 R Shaw & Sons. One shearing ewe-1 and 3 John Jackson & Son; 2 R Shaw & Sons. One ewe lamb-1 and 2 John Jackson & Son; 3 R Shaw & Sons. One ram, two aged ewes, two shearing ewes and two ewe lambs-1 John Jackson & Son.

SHROPSHIRE.-John Campbell, Woodville, Ont., won the prizes taken, viz., 7 firsts, 6 seconds, and 5 thirds.

OXFORD, SUFFOLK AND HAMPSHIRE DOWNS.-Ram, two shears and over-1 John Kelly, Shakespeare; 2 and 3 Smith Evans, Gourock. Shearing ram-1 and 2 Smith Evans; 3 John Kelly. Ram lamb-1 and 3 Smith Evans; 2 John Kelly. One ewe, two shears and over-1 and 2 John Kelly. One

shearing ewe-1, 2 and 3 Smith Evans. One ewe lamb-1 and 2 Smith Evans; 3 John Kelly. One ram, two aged ewes, two shearing ewes and two ewe lambs-1 Smith Evans.

DOKSET HORNED.-J A McGillivray, Uxbridge, Ont., won all the prizes taken, viz., 7 firsts, 6 seconds, and 5 thirds.

MERINOS.-Ram, two shears and over-1 J Shaw, North Seneca; 2 D Cummings, Russell; 3 R Shaw & Sons, Glanford Station. Shearing ram-1 and 2 R Shaw & Sons; 3 J Shaw. Ram lamb-1 J Shaw; 2 R Shaw & Sons. One ewe, two shears and over-1 D Cummings; 2 and 3 R Shaw & Sons. One shearing ewe-1 and 2 R Shaw & Sons; 3 J Shaw. One ewe lamb-1 D Cummings; 2 R Shaw & Sons; 3 J Shaw. Pen of Merinos-1 One ram, any age; 2 ewes, two shears and over; two shearing ewes, and two ewe lambs-1 J Shaw.

FAT SHEEP.-One fat wether, two shears and over-1 and 2 John Jackson & Son, Abingdon; 3 J Campbell, Woodville. One fat ewe, two shears and over-1 and 2 J Campbell; 3 Gibson & Walker, Denfield. One fat shearing ewe or wether-(Prizes divided) Gibson & Walker, John Kelly, J Campbell, and J Jackson & Son.

SWINE.

IMPROVED BERKSHIRES.-Geo Green, Fairview, won all the prizes taken, viz., 10 firsts, 7 seconds, and 3 thirds.

IMPROVED YORKSHIRES.-Boar, two years and over-1 and 3 J Featherstone, Streetsville; 2 J A Cochrane, Hillhurst. Boar, one year old and under two-1 Jos Featherstone. Boar, over six months and under one year-1 and 2 Jos Featherstone. Boar, under six months-1 and 2 Jos Featherstone; 2 J A Cochrane. Sow, two years and over-1 and 3 Jos Featherstone; 2 J A Cochrane. Breeding sow, one year and under two-1 and 3 Jos Featherstone. Sow, over six months and under one year-1 and 3 Jos Featherstone. Sow, under six months-1 and 2 Jos Featherstone. Herd-1 Jos Featherstone.

SUFFOLK SMALL BREED.-Boar, one year old and over-1 and 3 Robt Dorsey, Burnhamthorpe; 2 Jos Featherstone, Streetsville. Boar, over six months and under one year-1 and 2 Robt Dorsey. Boar, under six months-1 and 2 Robt Dorsey. Breeding sow, one year and under two-1 Jos Featherstone; 2 and 3 Robt Dorsey. Sow, over six months and under one year-1 Jos Featherstone; 2 and 3 Robt Dorsey. Sow, under six months-1 Robt Dorsey; 2 Jos Featherstone. Herd-1 Robt Dorsey.

CHESTER WHITES.-Boar, two years and over-1 Wm Butler & Son, Dereham Centre; 2 D DeCourcy, Bornholm; 3 George & Sons, Crampton. Boar, one year old and under two-1 Wm Butler; 2 D DeCourcy; 3 George & Sons. Boar, over six months and under one year-1 George & Sons; 2 Wm Butler & Son; 3 D DeCourcy. Boar, under six months-1 D DeCourcy; 2 Wm Butler & Son. Sow, two years and over-1 George & Sons; 2 D DeCourcy; 3 Wm Butler & Son. Breeding sow, one year and under two-1 Wm Butler & Son; 2 George & Sons; 3 D DeCourcy. Sow, over six months and under one year-1 D DeCourcy; 2 George & Sons. Sow, under six months-1 Wm Butler & Son; 2 D DeCourcy. Herd-1 George & Sons.

POLAND-CHINAS.-Boar, two years and over-1 W & H Jones, Mt. Elgin; 2 George & Sons, Crampton. Boar, one year and under two-1 W & H Jones; 2 George & Sons. Boar, over six months and under one year-1 W & H Jones; 2 George & Sons. Boar, under six months-1 W & H Jones; 2 George & Sons. Breeding Sow, two years and over-1 and 3 W & H Jones; 2 George & Sons. Breeding Sow, one year and under two-1 and 3 W & H Jones; 2 George & Sons. Sow, over six months and under one year-1 and 2 W & H Jones. Sow, under six months-1 and 2 W & H Jones. Herd-1 W & H Jones.

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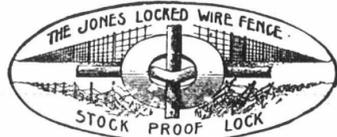
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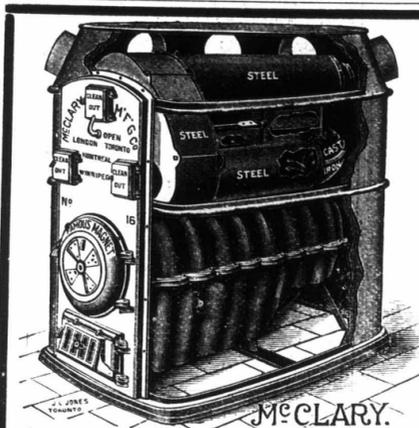
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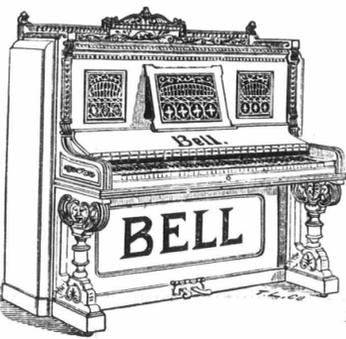
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