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FARMER'S ADVOCATE
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THE FARMER'S ADVOCATE & HOME MAGAZINE

WM. WELD, PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED
IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the first of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

1.—No award will be made unless one essay at least comes up to the standard for publication.

2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.

3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of \$5 will be given for the best essay on *What Shall we Substitute for our Natural Grasses for Hay*. Essay to be in this office not later than the 15th of July.

A prize of \$5 will be given for the best essay on *The Treatment and Care of Manure During the Feeding Season to Render it Available for Use the Coming Spring or Summer*. Essay to be in this office not later than the 15th day of August.

We want industrious, reliable, pushing men in every township in the Dominion, to canvass for us, and introduce our splendid Subscription Picture. Steady employment and good wages given to suitable men. Write for particulars.

Editorial Notes.

The Jersey Bulletin, of recent date, records the results of the tests of two Jersey cows, viz., Peart's Lemon 41646, owned by Louis Starache, Warsaw, Ill., and Thekla of Clever Nook 33445, the property of S. Warren, Spring Hill, Tenn. The former gave, in seven days, 320 lbs. of milk, from which 17 lbs. 5½ oz. of butter, salted 1 oz. to the pound. Her food was 3 lbs. of corn and oats ground together, and 1 lb. of oil cake meal, fed daily; while running on good pasture, a mixture of timothy and clover. The latter mentioned cow gave nearly 192 lbs. of milk in seven days, from which was made 15 lbs. 9 oz. of butter. Her food was grass alone. She is now being fed grain, and will again be tested to see what she will do under more favorable conditions. We would advise Canadian farmers to carefully test their cows from time to time. This is the only means of knowing whether they are kept at a loss or profit. Test them and report your tests to us; we will give them to the public. If you have anything good it will benefit you to let the public know it. If you have cows that are not paying, you should know it and dispose of them at once.

Prof. A. J. Cook's bulletin on insecticides, a portion of which we print in this issue, is a very valuable and practical article. Every one of our readers should carefully read it. The Professor seems to hold a higher opinion of London purple than many other practical men, many preferring Paris green, declaring it to be more reliable. He explains clearly how to make kerosene emulsion and how to best apply it. As well as a protector of plants, it is said to be useful to destroy lice on hogs. He tells how to destroy those wretched cabbage worms by the use of Buhach. Tobacco, he puts to a good use in destroying the striped flea beetle and the cucumber flea beetle, both of which are a great annoyance in our gardens. We would prefer to use almost any of the reliable tick destroyers before tobacco decoction for killing ticks on lambs or lice on cattle. Bisulphide of carbon will doubtless prove of value in destroying gophers. We would advise all our readers to carefully read and reread Prof. Cook's article. He is one of the cleverest and most practical of America's scientific agriculturists. All portions of this article may not be valuable to the farmers in Manitoba and the Territories, but our subscribers in British Columbia will appreciate those parts not valuable in Manitoba. His next article, which will appear in the August number, will be more interesting to the dwellers on the plains, inasmuch as he tells how to destroy gophers, &c., with bisulphide of carbon.

A butter inspector has been appointed by the merchants of Virden, who will grade all butter that is offered for sale, and after this has been done merchants are open to purchase it according to its value.

The Springfield Republican asks whether it is better to devote money to making a road good, or to expend it on perishable horses that require to be fed for use on roads so bad as to neutralize their strength. It is often and truly observed that the best measure of the culture and ability of a people is the condition of their highways—to which may be added their byways.

A few years ago the Jersey cow, Mary Ann of St. Lambert, astonished the dairy world by the phenomenal product of 36 lbs. 12½ oz. of butter in seven days. She was, at that time, in the herd of Vallancey E. Fuller, Hamilton, Ont. At the Kellogg sales, about a year ago, she was bought by Mr. T. A. Havemeyer, of Makwah, New Jersey, for whom she is now, in her old age, doing regular work of 22 lbs. 10½ oz. per week, making a pound of butter from eleven and one-tenth pounds of milk.

The Holstein-Friesian Register is preaching the pure milk of the gospel after the manner in which the ADVOCATE has expounded for some time, when it says:—"The man who can and will run a private dairy properly, can make better butter than a creamery can, because he has control not only of the milk in all its stages, but he has control of the cow and her feed before the milk is drawn, but there are so many men who can't or won't run a private dairy properly that there is plenty of room for the creamery to do its work and be rated among the blessings of this 19th century."

Here is something for us all to consider and profit by. In a recent issue of the Canadian Gazette, published in London, Eng., occurs this paragraph:—"If Canadians desire to know what classes of animals will pay for export purposes, let them study this list of average quotations for the best horses at the Lincoln Fair of late date: Matched pairs of carriage horses, very scarce, from 200 gs. to 300 gs., and in a very few cases up to 400 gs.; high steppers, suitable for broughams, 100 gs. to 150 gs.; carriage horses, with good action, 100 gs. to 150 gs.; high-stepping saddle horses, 90 gs. to 140 gs.; horses suitable for cabs, omnibuses, etc., 15 gs. to 30 gs.; draught horses for town work, £65 to £90; good agricultural horses, £35 to £50 each. It is not necessary for us to make any remarks on this paragraph, as it speaks for itself. If you wish to produce the horses that bring the best prices you must breed from the best horses and breed in line, always with a certain object in view."

Thomas Bobier's Farm, Moosomin, N. W. T.

The accompanying illustration represents the farm of Mr. Thomas Bobier, four miles north of Moosomin Station, in the Northwest Territories, just outside the limits of Manitoba, and is one of the best kept and most profitable farms in the west. The stables in the rear will accommodate fifty head of stock. There are at present on the premises thirty-three head of cattle and sixteen horses. The farm in its entirety contains nine hundred and sixty acres, and is devoted to mixed farming. Mr. Bobier came to this farm eight years ago, and has had two crops frozen. The average yield has been: Wheat, 26; oats, 40, and barley 30 bushels per acre. Potatoes have done well, and abundance of native fruit is grown, such as currants, gooseberries and raspberries. Wild hops are cultivated to a limited extent, and give an abundant

walls are forty-four inches thick, and have defied the frost to penetrate them.

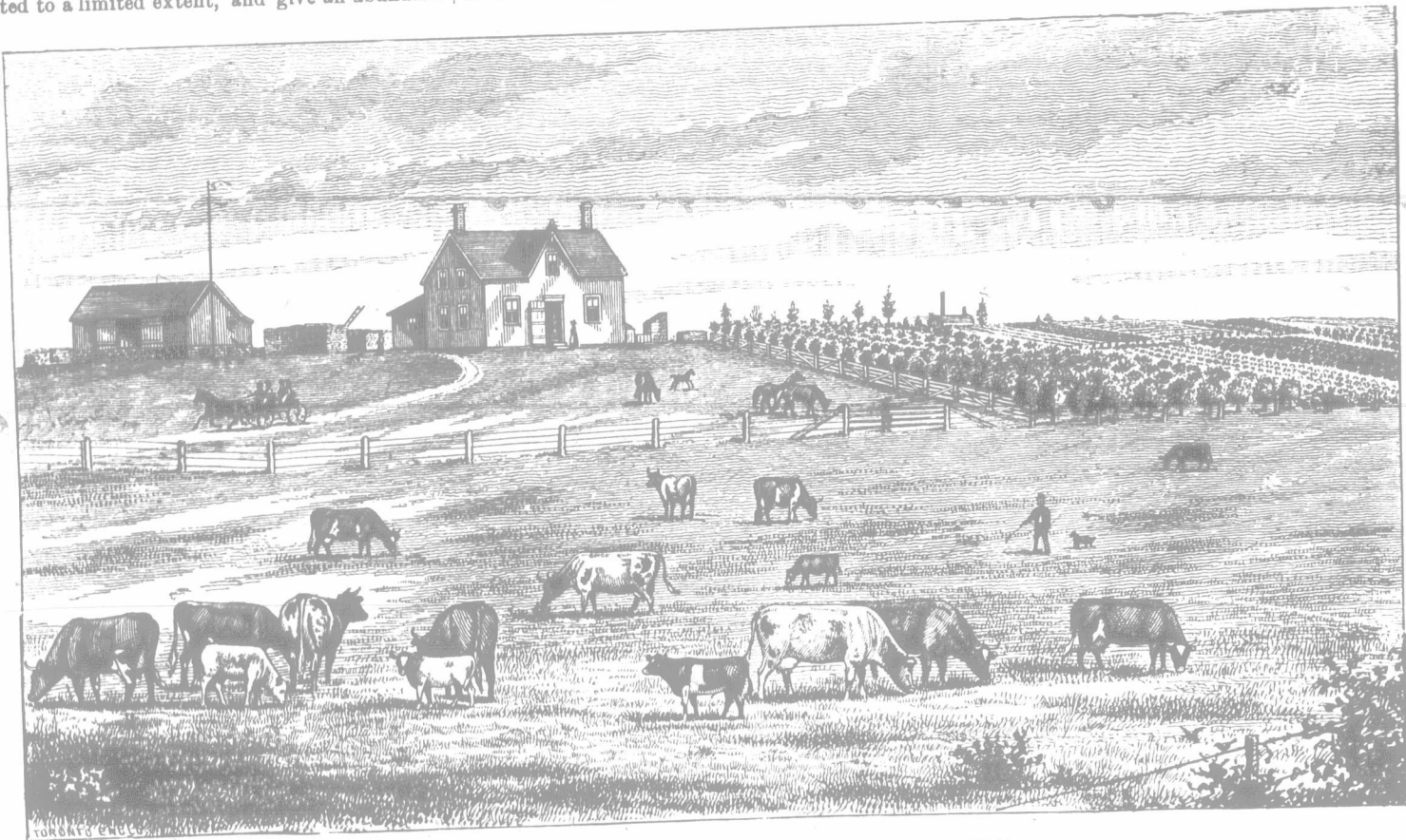
Mr. Bobier some years ago bought a few imported peas, and as they grew, he discovered a single root of wheat among them. When the frost came and destroyed the surrounding crop, this wheat was unharmed, and the product of this single grain was three hundred and thirty-six grains. It has been propagated, and samples have been sent to the Experimental Stations at Brandon and Indian Head. Mr. Bedford, Superintendent of the Brandon Farm, speaks very highly of it, and says it will grade No. 1 hard. The editor and proprietor of this paper, thus refers to his visit to this farm in the fall of 1887:—"On alighting from the train at Moosomin, we accidentally met Mr. Bobier, who invited us to his farm. We accepted the invitation and remained with him over night. In the morning we went over part of the farm,

Eastern men what sort of homes settlers on the Western plains enjoy. The young men of the Eastern Provinces would do far better to settle on our Western plains than to emigrate to the United States. Thousands of the native farmers of Britain could here find comfortable homes and profitable farms, such as they do not know in the Old World.

Vol. XII. of the Clydesdale Stud Book of Great Britain and Ireland.

Through the courtesy of Mr. Arch. McNeilage, the Secretary, we are in receipt of the above copy of the Clydesdale Stud Book. An illustration is given of that grand old sire Prince of Wales (673), the winner in many a hard fought show ring himself, but still better known as one of the great sires of winners, and as each show season comes around a goodly number of which are always found in the front ranks.

A photograph of Prince of Albion (6178),



VIEW OF THOMAS BOBIER'S FARM, MOOSOMIN, N. W. T.

yield. Mrs. Bobier says she never used anything to equal them for culinary purposes. Mr. Bobier thinks there would be "big money" in cultivating them. The garden is large and well kept, and produces cabbages, onions, cauliflowers, carrots, beets, mangels, turnips, squashes, and many other varieties of vegetables in great profusion.

THE HOUSE

is practically frost proof. The sills are eight inches square. A two inch strip is nailed along the bottom, upon which the siding boards stand. Inside the walls are two coatings of brown paper, and outside one coating of tarred paper.—great care being taken to fit it nicely about the rafters, which is the most difficult part from which to exclude the wind. Next the siding boards are put on and the joints broken by substantial battens, and a heavy coating of white lead is applied which effectually closes all minor cracks, such as checks or shakes in the lumber. The cellar is the full size of the house. The

and saw his stock and the different varieties of grain. On this farm some of the cereals that were exhibited in Europe were grown. Mr. Bobier had a very excellent garden for such a new country, the numerous varieties of vegetables, fruits and trees being very interesting. Mr. B. informed us that owing to the hollow walls and double windows water did not freeze in his house. He was formerly a resident of Elgin County, Ontario, but is much pleased with his change. In the morning Professor Saunders, Hon. Mr. Perley, and several of the members of the Press Association, drove over to the farm, and were treated to milk and preserves made from the native fruits. The milk was excellent, and the flavor of the preserves superior to that made from Ontario fruits. The immense quantity of wheat and barley yet to be taken off the ground plainly depicted the almost boundless resources of the soil in this locality." The engraving, which shows the house and grounds, was taken from a photograph, and will show

celebrated as the highest priced Clydesdale stallion, and also famous as champion stallion winner of 1859, does not give the idea of the great horse he is.

A photograph of Christal (5387), first prize brood mare at the Highland A. S. S., Melrose, in 1859, is a much better, and is a beautifully executed picture.

The book contains the pedigrees of 1,332 mares, 1,002 stallions, and 1,394 entries of living foals, the produce of mares formerly entered. There are appendices added containing corrections and changes of ownership, districts in which stallions have travelled, and the names of winners of the Society's premiums and medals in 1889; also obituary and dates of exportation of horses that have travelled at least one season previous to 1st January, 1890. The book is much the largest yet published, and shows a large increase in the number of pedigrees recorded, which is largely due to the attention paid to breeding and the number of sales effected through the increased demand for horses of this breed.

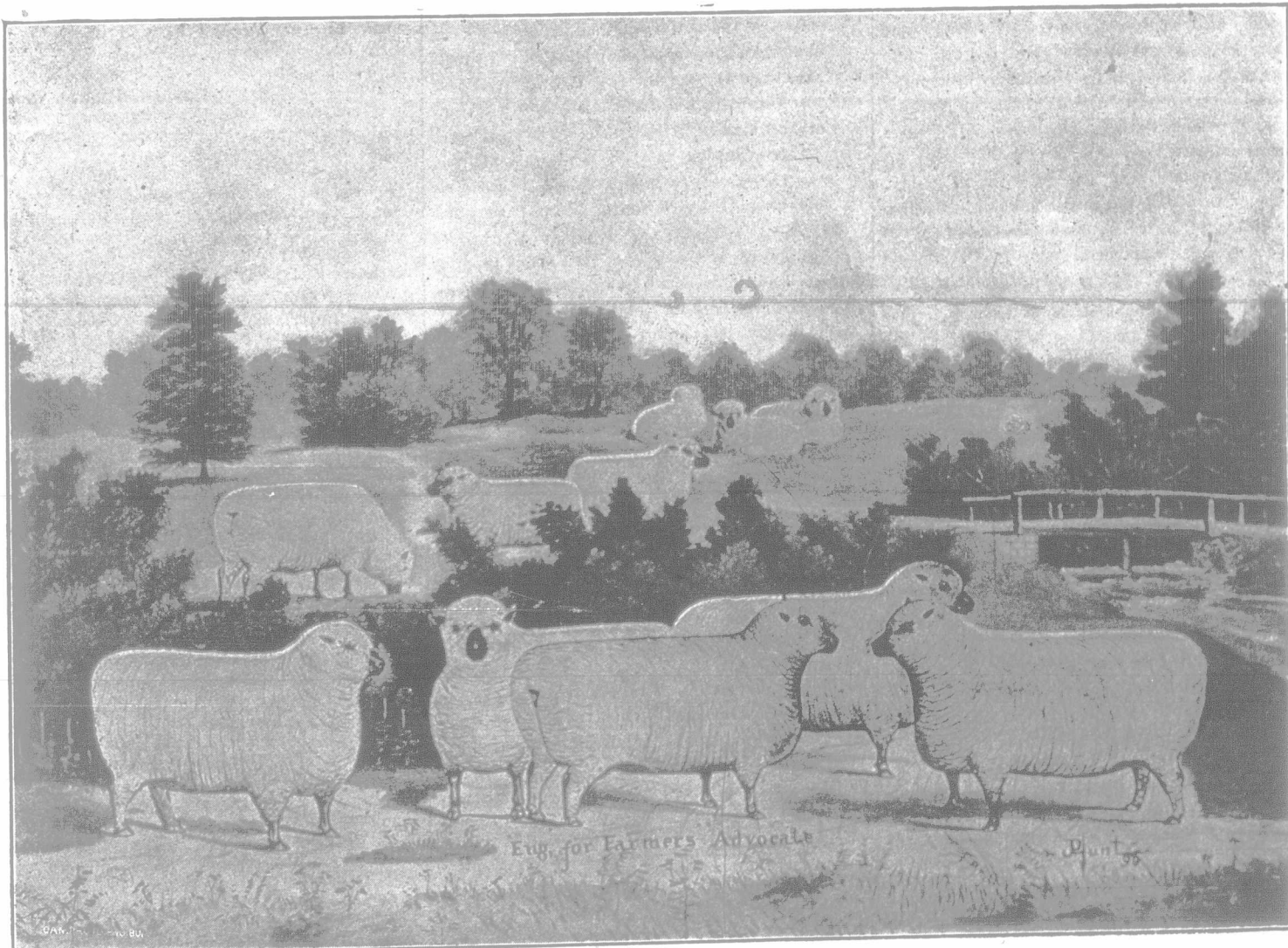
Mr. W. S. Hawkshaw's Recent Importations.

In the illustration for this month there is represented a group of the famous mutton-producing Shropshire Downs, a breed, judging by the increased numbers that are yearly imported, are fast gaining in popularity with the flock masters of this continent, and are spreading into every section where sheep husbandry is followed. The lot here depicted are specimens from the flock of Mr. W. S. Hawkshaw, Glanworth, Ont., a station on the L. & P. S. R. R., seven miles south of London, Ont. The flock was started by purchasing a few imported ewes of Frank R. Shore & Bros., White Oak, in 1882. The last of these were all sold out during 1889, when the present flock

have proved unusually prolific, and the lambs are most promising as might be expected, being the get of such celebrated rams as Windsor King, at the head of the Farmer flock, who was winner at the Royal Show at Windsor, first at the Bath and West of England, first at the Shropshire and West Midland; also Ashby Star, in use by the Messrs. Bach, and first prize at the Shropshire and West Midland Show in 1889. He also owns a pen of ewe lambs that took first at Ludlow Shropshire Show in competition with the first prize pen at the Royal Show at Windsor, with some very choice shearing rams. At the time of this writing we are in receipt of a letter from Mr. Hawkshaw, from Bristol, England, dated June 6th, in which he states he has purchased

Horse Breeding in Canada.

Those of our old time breeders that can remember the French Canadian horse as bred years ago, can look back with pleasure to the wonderful endurance, kindly temper, freedom from disease, universal soundness, and other good qualities embraced in him, which go to make a No. 1 horse. Horses of this breeding are now considered undersized for heavy work, and scarcely attractive enough for the street or park, but among them we can find some of the most perfect specimens of horse flesh that the horse-loving public ever looked upon, seldom standing over 15½, and oftener under 15 hands. He was, and is, the biggest little horse ever put together. His beautiful style of going, his great



A GROUP OF SHROPSHIRE-DOWN SHEEP RECENTLY IMPORTED BY MR. W. S. HAWKSHAW, GLANWORTH, ONT.

were selected by Mr. Hawkshaw last autumn, and landed here in December. From what we have seen of the selections he has made, they are the kind that fanciers of this breed are after. "Quality and Quantity" is his motto. Both of these, with enough character to please the most exacting connoisseur, his sheep have in a marked degree. They are from the celebrated flocks of Mr. J. E. Farmer, Ludlow; Messrs. Francis Bach, Onibury, and Richard Bach, Craven Arms, Shropshire. The ewes, of which Mr. H. procured the choice among these breeding flocks, are sired by such noted rams as Felton Oak (3483), and Prince Perfect (3183), used by Mr. Farmer, and Chief Choice, a winner of first prize at the Shropshire and West Midland Show, at the head of the Bach flock. Since their arrival here they have done well for their owner, and

an equally good lot that he expects to ship at an early date. He is also bringing out a few Dorset Horned sheep, and some Berkshire and Yorkshire pigs, a review of which we will give in our next issue.

Vol. V. American Shropshire Imp. Record.

We have to acknowledge, through the kindness of the Secretary, Mr. Mortimer Levering, the receipt of the above volume, containing Nos. 7,214 to 13,497 inclusive; No. of entries 6,284, nearly as many as the four previous volumes combined, which proves how popular these sheep are becoming, and that breeders have found the necessity of recording their sheep. The book also contains the names of nearly four hundred breeders and importers who are members. The price of this volume is \$2 to non-members.

wear, honest temper, always made him a favorite wherever tried. Undoubtedly, he lays claim to have been one of the first brought over to this country, some writers claiming he came over from France as early as 1660, and was afterwards crossed with the Narraganset pacer, a number of which were brought to Quebec from the New England States some 150 years since. The Narraganset pacer is claimed to be of English origin, but all is obscure as to the original breeding. His speed and endurance, qualities that were inbred in the Canadian pacer, have helped build up the American trotter through the Pilot Jr. cross, Pilot Jr. being sired by Old Pilot himself, a Canadian pacer, this cross giving us the two fastest to date, as Maud S and St. Julien, both of whose dams were sired by Pilot Jr. Old Pilot himself, it is claimed, did show 2.26 under

saddle, and he was very fast, both as a trotter and as a pacer.

Much has been written in controversy about the blood of the Canadian pacer in the trotter, but doubtless this honest, level-headed horse has nicked well with the thoroughbred blood of Messenger, Mambrino, and others that have helped to found many of the trotting lines of breeding. A few friends, and those interested, are now getting together data, and intend, if possible, to establish a record for the French Canadian horse. If more care were practised in their breeding and selection, there is plenty of material to form a distinct sort, and they would furnish us with a hackney or road horse second to none. It is claimed by those who have made a study of these sorts, that the Norman horse is alike the founder of the French Canadian and the more modern French Coacher. Those brought to Quebec at this early date, receiving too often short rations in a vigorous climate, by inbreeding he has been reduced in size, while the Norman horse, of sunny France, with abundant feed, a warmer climate, and careful crossing, has been built up to the beautiful horse he is to-day. However, they both retain the splendid constitution and vigor, as well as the active movements of the old Norman war horse.

It is now many years since France first established her government studs, and through this management the French Coacher of the present has been produced. With the Norman horse for a foundation, and by selecting thoroughbred blood from England, and judicious crossing of these sorts, a horse has been produced that, for coach or carriage purposes, stands among the very first. The French Coacher, like his English cousin, has undergone changes through the lapse of time incident to the requirements of the country. What establishing the faster mail coaches and advent of railways in England, so has peace and war done for this class of horses in France, as he has alike been required for cavalry remounts, and to draw the carriages of the opulent in the cities. For this last purpose the handsomest horses were in great demand, and to the late Emperor belonged horses of the most lofty type and brilliant action that could be obtained, and private individuals vied with one another in obtaining for their stylish turnouts horses of the highest standard that wealth could purchase. The war, for a time, put an end to all this luxury, and a horse for cavalry remounts was in greater demand, and less size and a more activity was the order of the day.

The French Coacher now stands about 16½ to 16½ hands; in color he is brown bay and chestnut. He is a thicker and better muscled horse than his English namesake, and has more attractive action. Quite a number of these horses have been brought into Ontario of late, but we have not yet been able to find how they are crossing with our mares, as the produce is not of sufficient age to judge.

The French system of government inspection has much to recommend it, and doubtless France would be in a different position as regards horse-breeding, if the money thus expended had been withheld.

In Canada, establishing studs through government aid, would interfere with individual enterprise, and never could be made a popular move; but, if a system of inspection and license were adopted, it would have the effect of en-

couraging the bringing in and retaining the best horses, and would serve to check the use of horses without any pretensions to breeding, and which are the greatest detriment to our horse-breeding operations. We have something like 120,000 brood mares in Ontario. If these could be raised up to \$150 per head this would be \$12,000,000 of wealth alone, and this only represents one-quarter the number of horses. By raising the standard of excellence in our mares, and importing and retaining only the best stallions, how quickly we would double our wealth; there would at once be a direct demand for more than we could produce; we would also have horses fitted to do the work required of them for the different departments, and the work would be better performed.

Berkshires vs. Yorkshires.

BY N. BENJAMIN, SHAFTESBURY, DORSET, ENG.

I have read the correspondence in your excellent magazine on Yorkshires and Berkshires, &c., and have been surprised at the misrepresentation of Berkshires in the letters of Mr. William Davis, also at his bitterness of style. I had thought it as well though to leave the subject to breeders on your side of the Atlantic until I received your April number and found Mr. Sanders Spence had at last sent you one of his productions. I am not writing to find fault with white pigs, because large and middle whites are very useful breeds, but they require a healthy district and plenty of straw for bedding, whereas, Berkshires will get their own living and thrive on cold clay soils, and on farms where there is very little or no bedding, and where white pigs would almost starve. I wish flatly to contradict the statements of your various correspondents that Berkshires are short in the back, too fat, too coarse in the shoulders, too light in the hams, over done with offal, merely fit to raise stock suitable for mess pork whose destination is the pine woods, where lumbermen can eat blubber, that the best bacon curers have quite thrust them aside as totally unfit for the bacon trade, &c. Now such vile assertions as these are libels of persons who do not know what Berkshires are, or are the wild, unscrupulous and vindictive outbursts of prejudice. Berkshires are long, are not coarse in the shoulders, have excellent hams, less offal than any other breed, and cannot be excelled for quality and texture of meat. The best curers in this country do not object to them, Messrs. Oake, Woods & Co., of Gillingham, who stand quite at the top as curers and who have on several occasions won medals for bacon at the London Dairy Show, and who are purveyors to H. R. H. the Prince of Wales (by appointment), kill a great number of Berkshires, and one of the firm (the chief partner) recently told me that he was quite convinced there was no better breed than properly fed Berkshires to meet the requirements of the trade. Messrs. C. & E. Sanders, of Mere, Wiltshire (also winners of a Dairy Show medal for bacon), say Berkshires are by far the best pigs they ever kill because they cut considerably more lean than any other breed. Mr. Henry S. Rickley, of Corebridge-on-Tyne, used to kill all whites, but sometime since he tried Berkshires and was so pleased with the result that he has for some years kept a pedigree herd of them and has advocated their spread in his district. He tells me his customers are so pleased with the quality of the meat, that he finds it difficult to sell bacon from any other sort. A nobleman in the north of England, who has an annual sale of

Christmas fat cattle, sheep and pigs, has gone in for pure Berkshires, and his agent tells me they are so much sought after at the sale, on account of superior quality, that they fetch such fancy prices (they weigh from 300 lbs. to 450 lbs. each, at the sale). London salesmen also say the longest, leanest and best quality pork they get sent them is invariably Berkshires. Ask Mr. I. Juggins, 15 Central Meat Market, London; Messrs. Barker & Co., or almost any of the others who sell large quantities of pork. Messrs. Harris & Co., of Calne (the largest curers in this country), recently issued a circular to their customers describing the kind of pig they required. They said their best bacon came from the counties of Hampshire and Wiltshire, and the worst from Dorset and Somerset. Quite 75 per cent. of the pigs in all four counties are Berkshires. Why then is the bacon not so good in the two latter? Because in Wiltshire and Hampshire, the farms are large corn farms where pigs run in straw yards and fields until they are large stores, worth from 30c. to 50c. each, eating roots and unground grain, they are then put up to fatten for five or six weeks and come out good long lean meat; whereas in Dorset and Somerset the case is entirely different, the farms are mostly dairy farms, and the pigs are fed on trough food consisting of whey or skim milk with meal right from the birth, as a result when killed they cut more fat and consequently are less suitable for the requirements of the bacon trade than their more properly fed Hampshire and Wiltshire brethren, this in my opinion proves that feeding has a very great deal to do (irrespective of breed) with the satisfactory production of bacon. Most curers in this country give a bonus of 2s. 6d. per pig on all that cut the required thickness of bacon down to back, and sometime since five pigs from the same sow as one of my best known show sows went for slaughter three of them got the bonus. At the last show held at Gillingham, Dorset, the bacon curers of the district offered prizes for pens of pigs suitable for the trade, and Messrs. Harris' representative was the judge. In the class for pen of ten pigs the first prize was won by Berkshires and white cross, and the first prize for pens of five by Berkshires. There were pure large whites in both classes, and in both they were unnoticed. Only last week at the Somerset Agricultural Society's Show, held at Wellington, prizes were offered "for pen of pigs most suitable for bacon factory purposes, such pigs to be well haired and not over-fattened, over seven months and not exceeding nine months old, to measure not less than fifty inches from point of snout to root of tail, and to be between seven and nine scores in weight." There were seven entries in this class, and the first prize of £10 was awarded (by four judges) to the only pen of Berkshires in the class (they were pedigree animals exhibited by Mr. Fricker, a well known breeder and exhibitor). The second prize of £5 went to a cross bred pen (Berkshire and black), reserve number to a cross between Berkshire and Tamworth, the other four pens were of the large white breed and all were highly commended. Berkshires are very long if worthy the name, and cannot be excelled if properly bred, but they as well as other breeds require careful selection to keep the correct style, and type, and uniformity of character. No body would expect to find an animal fed up to winning form at a show of importance a suitable pig for the bacon trade. Let its breed be Berkshire, Tamworth, White or any other breed, neither would a Devon, Shorthorn, Hereford or Scotch ox, or a Southdown, Shropshire or Hampshire down sheep, good enough to exhibit successfully at Smithfield, be considered the desideratum of beef or mutton by practical butchers. All such animals are too fat for general use, and are simply fed to show what specimens of the various species and breeds can be brought to, at the same time no sensible person would condemn the standard breeds of cattle and sheep because the winning specimens at the shows were too fat for the meat trade. The same common sense way of looking at the show pigs should certainly obtain. I am sorry to have troubled you with so long a letter, but I really think it about time somebody should contradict the libels on so good a breed as the old Berkshires, which is my excuse.

The Tamworth Pig,

BY G. ALLENDER, ENGLAND.

When I first exhibited Tamworths at the York "Royal" many people took them for a new breed, wild from some jungle; and they did look a little that way, I must confess. On turning, however, to the early meetings of the Royal Agricultural Society of England we find that not only were Tamworths shown, but that they held their own and won in good company. At Northampton, in 1847, Mr. Moses Cartwright, of Stanton Hill, Burton-on-Trent, took first prize, £10, for a Tamworth sow, in an open class of twenty entries, such well-known names as Earl Spencer, Fisher Hobbs, and Philip Pussey (the latter showing Berkshires) being exhibitors. In those days pigs had only two classes—"large" and "small"; nearly every county had its pig, the colors being white, black, red, and blue spotted. As time went on the breeders of the modern Berkshires, the small blacks (Fisher Hobbs's), and the whites—large and small—obtained classes under these names, and the "blue-spotted" pig of Cheshire, the "plum pudding" pig of Oxfordshire, and the Red Tamworth disappeared from the catalogues, and became, so far as the general public was concerned, extinct and unknown breeds, continuing to exist only in their own immediate districts, uncared for, and unfortunately, I think, unimproved. The Birmingham Christmas Show was the first, I believe, to again recognize the Tamworths, they being as it were, "Natives."

Culley, on "Live Stock," 1794, wrote: "The most numerous breed of pigs in this island is that generally known by the name of the 'Berkshire pig' now spread through almost every part of England and some places in Scotland. They are in general of a reddish color, with black spots upon them and large ears hanging over their eyes." This is a funny picture of our friend the "Berkshire." If an animal thus described by Mr. Culley were now to wander into the yards of any of our Berkshire breeders, I fear he would not be recognized as a "pig and a brother" by the present occupants.

I find the following in The Complete Grazier: "Sir William Curtis, exhibited at Lord Somerville's Cattle Show in 1807, some pigs which attracted universal admiration. They were of the Berkshire breed, the specific character of which is a sandy or white color, some of them are entirely sandy color, some with brown or black spots and the sides very broad. Although generally termed the Berkshire breed, having probably been originally reared in that county, yet they are now dispersed over the whole kingdom. Some of the best are bred in the neighborhood of Tamworth, in Staffordshire. The Yorkshires are similar in color to the Berkshires, but with longer ears and coarser hair. They have long legs, flat sides, and are coarse in the bone."

Such were our pigs in the early part of the century. All seem to have been about the same in character—large, coarse animals—but producing excellent bacon, fit to fill the bacon chamber in our old-fashioned chimneys. Locomotion was difficult; great stores of salted or cured meat, beef and pork, had to be prepared for winter use, and the big pigs served the purpose. Fresh pork, in the form of small porkers, was not in much demand, perhaps for want of a supply. Then came the Neapolitan and the Chinese pigs—black and white,

round, plump balls of fat. This must have been some fifty or sixty years ago, for I find a writer about that time saying, "Their flesh is rather too delicate for bacon, it is also deficient in lean meat; most of them have a great aptitude to fatten, and it is on this account that they have spread all over the kingdom. Perhaps this disposition to accumulate fat is, to a certain degree, an objection; they can rarely be used for the purpose of bacon, and they are often too much loaded with fat even for common purposes."

Mr. Parkinson, a most valuable writer on live stock, described a pig of this breed that obtained a prize at a Christmas show as being "a perfect bladder filled with hog's lard." The same writer goes on to say, "A pork butcher described him to be the worst pig he ever saw, and that the judges were deceived in supposing it to have little offal, for it was all offal." I read further that "many of the crosses of these (Chinese) pigs are, however, truly valuable, and there are few of our breeds that are not, to a greater or less degree, indebted to them for compactness of form, &c., &c."

From the foregoing we arrive at the conclusion that our original pig in this country was a strong useful animal, but coarse; his flesh was generally consumed cured or salted. Then "the heathen Chinese" appeared on the scene; his blacks, crossed with the old Sandy (the Tamworth) or spotted pig, made the modern Berkshire, and his whites, used to the old pigs of the whiter or lighter colors, produced our small and large whites.

As time went on, it was easy, in an animal that reproduces itself so rapidly, to encourage the worst element of the Chinese cross, and it is to be feared that other judges, besides those mentioned by the old writer, have for many years mistaken the plump, round, broad-backed, short-flanked animals as having little offal; whereas, as in the old days, they have been deceived; the offal, in the shape of useless grease was ever becoming greater; for what is offal but that part of an animal that is not food? and an excess of grease is quite as much offal as an excess of bone. This tendency in breeding, or rather, to put the saddle on the right horse, in judging, came to a climax about ten years ago. Twenty years back the showyard pig was a real good bacon hog. But year by year he got broader and broader in the back, thicker and thicker in the neck, and shorter in the head; nearer and nearer to his Chinese grandfather, and further away from the old English bacon pig. In 1878 Messrs. Harris, the great bacon-curers in Wiltshire, began to take a serious view of the increasing difficulties in obtaining a class of animal suited to their business and to the requirements of the public; although as far back as 1871, they had already issued circulars drawing "the attention of farmers and others to the public aversion to fat, and heavy (thick) bacon." they wrote:—

"We have found increasing difficulty year by year with fat bacon. The public are getting more and more averse to it, and feeders have been buying pigs more highly bred, and, as a consequence, they have been developing a larger quantity of fat and less lean. We think it an important point to bring out, that judges in awarding prizes, should be guided by the weight of flesh carried on the most valuable parts, and

in so doing to show that while a good broad back is a desirable point in cattle and sheep, it is by no means so in a pig, as the streaky or belly part of this animal is the most valuable, and consequently it should have broad deep sides. Thick big shoulders and neck are made great points of by judges; yet these parts of a pig are the least valuable, and do not command so high a price as sides and belly."

[TO BE CONTINUED.]

Devon Cattle vs. Scotch Shorthorns.

BY THOMAS CHICK, STRATTON, DORCHESTER, DORSET, ENGLAND.

I noticed Mr. Nicholson's paper in the April issue of the FARMER'S ADVOCATE, and am waiting for the May issue for the conclusion of his paper. Mr. Nicholson evidently is deeply interested in some way in "Scotch" Shorthorns. He certainly knows very little, if anything, about "Devons."

The following, from the Live Stock Journal of May 2nd, 1890, proves his assertion as to "Devons" to be not founded on facts:—

"The calving season in the herd of dairy Devons belonging to Mr. Thos. Chick is now virtually over, there being one cow only to calve. Forty-one registered cows and heifers produced forty-two calves, two of which were born dead. Three favorite cows did not breed. They are, however, such excellent milkers that they are still in profit, and will continue to help to fill the pail until likely to produce a calf again. There has been a demand for well-bred Devon calves as steers, consequently all the bull-calves have been sold for this purpose, instead of keeping them longer. Of the heifer calves eighteen are being reared by hand on skim milk. Eight of these are sired by Unionist 2,167, seven by Lord Dorchester 2,435, and three by Alder 2,189. As the owner lets his herd of forty-two cows to a dairyman at a fixed rent every year (the rent this year is £12 per cow), it is imperative that every cow shall be up to a fair standard as a butter-producer. That the Stratton herd is good in this point is evident, the rent paid being as high as for any Shorthorns or Crossbreds in the neighborhood. It is also a proof that Devons can be bred good for dairy purposes and flesh at the same time. The sires now in service are Lord Dorchester 2,435, bred by his owner from his old Pink tribe, a most valuable milking strain; Alder 2,189, of Mr. Wm. Perry's breeding; and a young bull Sir George, bred by Mr. John Risdon. The sire of this young animal is Whitehall 2,175, a pure Flitton blood, and his dam is Dolly's Darling 8,783, a full sister to the well-known bull Draughtsman 1,711. Amongst the recent sales have been the bull Unionist 2,167 and six young bulls; these have gone into West Dorset and East Somerset for service in dairy herds."

In my humble opinion one ounce of fact is worth more than an unlimited quantity of bare statements, unsupported by evidence of any kind. As the owner of the Devon herd mentioned in the enclosed cutting is a tenant farmer, deriving his living from his farm, and does not keep "Devons" for a fancy, but as the best cattle to make the rent of the farm, this is proof that in this part of the world, at any rate, Devons excel Scotch Shorthorns and all other breeds as the general purpose cow. If time permits after your May issue reaches me, I will try and send you a short article on Devon cattle. Canadians who visit England are invited to come and see my stock, viz., Dorset horn sheep and Devon cattle. My experience as a breeder reaches back to the year 1852, now 38 years ago.

Summer Feed.

EXTRACT FROM A PAPER READ BY THE REV.
MR. ANDREWS BEFORE THE VIRDEN
FARMERS MEETING.

There remains still a most important question, Can anything be done to secure pasture better than the natural prairie grass as it now is? My answer is that I do honestly believe that much can be done in that way. The first thing is to absolutely prevent prairie fires at any cost. These fires destroy all the seed from the ripened heads of grass, and only the varieties that spring from the root can come again, and these being so bared by the old grass being burned off do not grow as they would do, at least on the upland. I have noticed around cities in the Western States that where the grass has been fed off for years, and no fires passed over the ground, the grass has lost all its former appearance, being, instead of coarse and thin, more like the English lawns, thick, short and velvety. The same state of things is beginning to appear around the city of Winnipeg, and I am satisfied would ultimately prevail here if we could keep the dead grass from being burned off, and even our dry prairie pasturage would be improved.

GRASS SEED.

Some have contended that timothy and other grass seeds, if sown very early in spring on the open prairie, when the grass is thin, would take root and do well. I cannot offer an opinion on that. It might be worth the trial on a small scale. If so it would be well to run the disc harrow over the land to give the young plants a footing. I have no doubt that the little June or Spear grass we used to have in Ontario would do well in that way. Also a few seeds of white clover might answer a good purpose. As to artificial pasturage there is a great difference of opinion among farmers. No doubt it is very desirable to have a good pasture field on every man's farm, and I cannot see why there should not be. The first requisite is to have the prairie sod rotted and out of the way. Then in sowing the grass seed, instead of doing as most men do, sow a heavy seeding of grain for a crop, I should not sow over two or three pecks per acre, or better still, sow the grass seed alone. Now, as to what seed to sow for pasturage in this country? That is a difficult question to answer. No man has had a sufficiently long experience to warrant a general answer to this question, as applicable to all soils and localities. Red clover has been tried and found wanting. It grows well and will even give a good fair crop the first year if sown very early and without any other crop. I believe it might even stand for seed the first season, but it rarely, if ever, shows itself alive after the first winter.

TIMOTHY.

This standby for solid hay in the east has a better record. Nine years ago I saw in the month of June as fine a stack of timothy hay as I ever saw in Ontario, a short distance out of Portage la Prairie. I saw a large field of timothy in the Qu'Apelle district from which the farmer had cut a capital crop. The next year it gave half a ton per acre. He plowed it up the following spring, not because it had died by any means, for the plants were all fresh and the cattle seemed crazy to get on to it in April, but because he had lots of wild hay nearby and he thought the land would pay him better in grain, and he got a fine crop of wheat off that land. Last year I saw several large crops of timothy

hay about twenty-two miles southeast of Brandon, and was told that while the first summer the cut of hay was about one and a-half tons per acre, on that which had stood two seasons it was less than half that. Everywhere that I made enquiry I found that cattle did well on timothy pasture. Mr. Thomas Tapp, a little north of this town (Viriden), has a field of about ten acres which last summer fed four cows and several calves, and although it seemed short—and no wonder in view of the drouth—the cattle all did well on it. My conclusion is that timothy, if properly grown, is deserving of attention in most places in this Province as a pasture grass, one acre of it being better than ten of upland prairie.

[We have it on good authority that timothy will yield heavily the second and third years if thoroughly harrowed in the spring. It is evident to anyone who has noticed it that it grows up very thick after the first year, too thick to yield well, and becomes sod bound. This is remedied by harrowing thoroughly.—ED.]

The London Dairy Test.

Sir,—Regarding the London milk test, would 176 lbs. Jersey milk make more cheese, and cheese of better quality, than the 245 lbs. Ayrshire milk? Was Mr. Macdonald right in saying that the per cent. of fat and the per cent. of solids would rise and fall with one another? If so, how did the Ayrshire milk show nearly as large a per cent. of solids, although a long way lower in fat? How did Prof. Robertson arrive at the conclusions he did? I have had college graduates to figure it by his own rules and not one agrees with him in the result.

GEORGE STEEL, Glenboro, Man.

This letter, also a previous one from the writer, reached our office and was referred to Prof. Robertson, as he had full control of the dairy test. We simply gave the prize but had nothing to do with awarding the prize. The above letter would have been answered sooner but for Mr. Robertson's absence from the Central Experiment Farm at Ottawa. The following is the Professor's answer:—

1. 176 lbs. of milk from Jersey cows would not make as much cheese as 245 lbs. of milk from Ayrshire cows. As a rule, it does not pay to make cheese from milk containing more than four per cent. of fat. Such milk is worth more for butter-making when a fair market demand for it exists.

2. The per cent. of fat and the per cent. of total solids in milk do not necessarily rise and fall together. They do not bear any constant or uniform proportion to each other.

3. I arrived at the conclusion set forth in my report by accurate calculation, according to the rules that were published as those that should govern the test. The analyses of the milk were made by Mr. Thomas Macfarlane, Chief Analyst of the Dominion. His report was the sole basis from which I calculated the quality of the milk.

I think the regulations under which the tests were conducted can be slightly modified with advantage; but the main basis of the valuation of milk according to its real commercial value for butter-making, cheese-making, or table use, was practically sound and correct in my judgment.

J. W. ROBERTSON.

Prof. Robertson met delegates from the various breeders' associations in Toronto on June 6th. The rules which were used last year were revised, and will be published in full in our August issue.

Manitoba Poultry Association.

In response to a circular from the Manager of this paper, addressed to the leading poultry men of Winnipeg, a meeting was held in this office on Wednesday evening, June 2nd, for the purpose of forming a Poultry Association. Among those present were Mr. Waugh, of the Northwest Farmer, Mr. Scarth, M. P., Messrs. Cuddy, Weld, Reid, Maugh, Ling, Lemon, Dayton, Cawston, Hickson, Short, Hollings, Moffat, and several others. After some discussion as to organization, J. W. Bartlett was elected Secretary-Treasurer, but it was thought advisable to postpone the election of President and Directors to a future meeting. A second meeting was held in the same place on Tuesday evening, June 17th, when Mr. Jno. Cuddy was elected President, J. McLeod Holiday, Vice-President, and Messrs. Dayton, Ling, Maugh, Weld, Hickson, and Lemon, Directors. The Directors were instructed to prepare a code of by-laws to be submitted at as early a date as possible. The membership fee was placed at one dollar.

Breeders Meeting.

About the twentieth of May, circulars were sent from this office suggesting a meeting of the Shorthorn breeders of Manitoba for the formation of a Shorthorn Breeders' Association, purely and simply for the advancement of the interests of this breed of cattle, and not with any idea of interfering or tampering with herd book matters. In response to this, replies have been received from many of the breeders to the effect that such an association was highly desirable, and, with one exception, expressing a willingness to aid in its formation. Suggestions were asked for as to the most advisable time and place of meeting. A great majority were in favor of meeting sometime during the fair at Brandon, which will be held on the 23rd and 24th of July. Arrangements have therefore been made for a meeting to be held at the Langham hotel, Brandon, on Wednesday evening, July 23rd, at eight o'clock, for the purpose of forming a Shorthorn Breeders' Association. All interested in this breed of cattle are especially requested to attend and lend their assistance in this matter. Owners of other breeds of cattle are cordially invited.

Breeze Lawn Herd of Shorthorns.

Lovers of fine stock will see by our advertising columns that the Breeze Lawn herd of Shorthorns will be dispersed by auction at the Brandon exhibition grounds on the last day of the fair, July 24th. This will afford the breeders and farmers of Manitoba and the territories an opportunity of purchasing some good animals. Among the animals offered will be the first prize cow, second prize three-year-old heifer, first prize two-year-old heifer, first prize heifer calf, at the last Manitoba Provincial Exhibition, also first prize-takers at Brandon in 1887, since which time the stock have only been kept in good breeding condition, but are just as fit to take first places now as when shown, if put in show form. The Messrs. Sharman have never had to carry over any stock that were offered for sale, and are now selling owing to the retirement of W. E. Sharman. Every animal offered is guaranteed a regular and reliable breeder, and each of the animals of breeding age will either be in calf to Buchan Laird = 4347 = or have a calf at foot. To our subscribers we would say, it may be a long time before they may see the dispersion of a herd with anything like the show ring record the Breeze Lawn herd have.

The Highway Bull.

If there is a man in existence to whom the law should be applied with its utmost rigor, it is the man who keeps a bull and allows him to roam the highways of the country. Within half a day's drive of Winnipeg may on almost any day be found half a dozen of these animals. It is a serious matter for a man to invest from a hundred and fifty to four and even five hundred dollars in a female, and then lose their services through this everpresent excrescence on the stock community. In countries where fences are more easily obtained, the breeder of pure-bred stock can keep his animals out of the reach of them, but in Manitoba, where most of the cows are herded, they are an abomination. Such animals are liable to be impounded, and while most people dislike to make use of such a measure of relief, it should in self defence be borne in mind that the man who has the shamelessness to turn his bull loose on the highway deserves no thought of commiseration.

Following are the restrictions placed on entire animals:—Stallions of one year old and upwards are not allowed to run at large at any time of the year. Rams are prohibited between the first of August and the first of November. Bulls over nine months old, from the first day of March to the first day of December.

Penketh Stock Farm.

"Here you are; an' it's yer ain sel same as ever." Such were the words of greeting with which Mr. Leslie Smith, Manager of the Penketh Stock Farm, met an ADVOCATE representative who had just stepped off the train at Wawanessa Station about midnight, with a dim foreboding of a night's rest on the floor of the only hotel this thriving ten months old town affords. A short ride to Penketh and a comfortable bed was a much brighter picture, and was appreciated accordingly. At Penketh is the largest herd of pure-bred Shorthorns in Manitoba, with the single exception of the Binscarth Farm. Sixty head of these animals at present grace Penketh Farm, many of which are of especial merit. Red Baroness, by Baron Barington, Maid of Hillhurst, Lady Aberdeen, and many others might be mentioned as possessing great individual merit. A very nice young bull Duke of Penketh, by Heir Apparent and out of Maid of Promise, a fine cow imported from the herd of Sylvester Campbell, Kinellar. The time and space required to enumerate the various individuals and their special points of merit or demerit is not at the present time available. This entire herd will be sold without reserve on the day following the Brandon Show, July 24th and 25th. This is not by any means a draft sale, as the present Manager, Mr. Smith, has leased the farm for a term of years, and the stock must be got rid of. There is no doubt that the Shorthorns are an excellent breed of cattle for Manitoba and the Territories, and as this is much the largest lot that has ever been offered by auction in this country, there is every reason to expect good animals can be had at reasonable rates, and as the terms are easy, it is to be hoped that a goodly number of farmers will avail themselves of the opportunity to lay the foundation of a useful and profitable herd.

Hard times will cause the most stupid to become intelligent enough to try and find out what the matter is.

Shorthorns and Holsteins.

The controversy on this subject, which has been carried on in the columns of the ADVOCATE, has doubtless been read with much interest by its readers. Much information has been adduced that is true, and some that is new; but unfortunately that which is true is not new, while that portion which is new is not true. In the latter category may be placed the item from the report on farm and dairy cattle, given by Messrs. Smith Bros., in which the statement is made that Holsteins were imported to England, and that the admixture of these, with the cattle of the country, soon asserted their superiority over all other races, and ends up with "such was the origin of the Shorthorn." In the same category may also be included the statement of Mr. Bollert, when he remarks that the English butcher had at the best only about three months time to form an opinion on the milking qualities of the Holsteins, as the English ports had been closed against them for nearly twenty years, and at the same time reflecting on his standing as a butcher, without any sure grounds. Let us refer back, and ascertain, if possible the true facts of the case. It is probably true enough that importation of Holsteins were made to England, and also that some experiments were made in crossing them with some of the cattle indigenous to the country, but there is not a particle of evidence that the result of these crosses were the origin of the present Shorthorn, and still less that the use of the Holsteins effected any improvement, on the contrary, the evidence is strongly against both these statements. It is an undisputed fact that a superior race of cattle had, from time immemorial existed in Holderness, in Yorkshire, and in the adjoining County of Durham, and a striking corroboration of this is afforded by a sculpture of a cow, which is almost a facsimile of a Shorthorn of the present day, on Durham Cathedral, which was built in the year 1093. As to the statement that the Holstein is the originator of the Shorthorn, it might, with equal force and truth, be maintained that the Shorthorn is the originator of the Holstein, for importations of Shorthorns were likewise made into Holland. Let us now take up Mr. Bollert's statement, that owing to the closure of the English ports, the butcher would only at best have had three months experience as to their milking qualities. Does Mr. B. not know that there are, and have been, Holsteins kept and bred in England for years, and that at almost every dairy show at the Agricultural Hall, Islington, there has been representatives of this breed competing, none of whom, by the way, have been able to wrest the palm from the Shorthorn. Among these may be mentioned Messrs. Rumbal & Sons, in Essex, who have for over twenty years bred Holsteins, many of their animals being from the choicest tribes in Holland, and some being purchased in 1880 from the exhibit tent by the Netherlands Government, to the Islington Dairy Show. Does this look as if the ports had been absolutely closed for twenty years? Let us now refer to the alleged improvement effected by the Holstein on the Shorthorn. Cully, one of the oldest writers on live stock, who is regarded as being a tolerably reliable authority, mentions that some of the Shorthorns in the early part of the last century were "lyery," as the Teeswater breeders termed black fleshed cattle. The beef was all lean, as black as horse flesh, often grown

to great weight, but without a pound of fat inside or out, however long fed. Cully's opinion was that while in some instances the result of the cross was advantageous, yet the lyery or black-fleshed cattle were the offspring of bad crosses introduced from Holland. Coming to a later period, the following extract from an article in one of the leading English stock papers, gives additional weight to the statement as regards the color of the beef, made by the English butcher:—"In 1844 to 1850 we saw a good deal of Holsteins in a district previously occupied by Polled Suffolks, and were bound to say that in no one instance, either as a farmer's or cottager's cow, did we know them long to hold their ground, their milk though plentiful was poor in cream, and the laborers who used to purchase skim milk at a ruling rate of 2d. per gallon objected to the Holstein milk at this price. Anyhow the popular verdict went out against Holsteins, and they became unsaleable, except at greatly reduced prices, to those of home-bred stock. The heifer calves sired by Shorthorn bulls from Holstein cows grew up to enjoy a better reputation, but it was very rare to find in the second generation, an animal bred from an imported Holstein, that was black and white. The bull calves were even less popular, and it used to be said that the veal was not white, and that it had a poor taste." As far as the ordinary farmer is concerned, very little importance can be attached to tests. When one considers that while there are good and bad of all breeds, only the very best are naturally entered for competition, and none of these can be bought at a price that will pay the farmer who does not make a business of breeding pure-bred stock for sale. A test, were it possible, of the rank and file, would have a much stronger bearing on the point, while the experience of farmers who are not interested in pushing the breed, as well as butchers, shippers, &c., who have handled Holsteins, would have far greater weight than the statements of breeders who have naturally a partiality to their favorite breed. Holstein breeders should remember that the public have had no opportunity of judging the merits of even the best Holsteins in Canada. In the milking contests, the Holstein was conspicuous by her absence, while at fat stock shows the stalls of the Holsteins are also vacant, and they should also remember that to make good their claims as a general purpose cow, it is not sufficient for an animal to excel in milk alone, but it must also be possessed of good, quick fattening properties. As Prof. Robertson, in an interesting speech, remarked, "The cow that was most profitable to a farmer, was an animal that most successfully produced, 1st, calves; 2nd, milk, and 3rd, beef. Experience has proven that as to the first and third items, the Shorthorn and its grades are eminently adapted, while their milking qualities are up to if not above the average, not only in England but in other countries, for example, in France the Shorthorn is fast displacing the native breed, notwithstanding the fact that Holland is adjacent, and one of the native French breeds partakes of much of the characters of the Holsteins. In conclusion, were tests in another country any criterion, it would be easy to quote cases where Shorthorns were considerably above Holsteins in milking points. For instance, the 1889 dairy show, where the prize Shorthorn scored 110.3 points, while the Holstein only scored 72, but as I said before, what profits it the ordinary farmer that the choicest cows score high, if, perchance, the rank and file are below the average."

OSERVEE.

Southdown Sheep—The Sheep that Produces the Best Quality in Paying Quantities.

BY MR. JOHN JACKSON.

(Continued from June issue.)

What others say of the Southdowns:— We quote from the Field of July 6th, 1889, p. 22, a paper looked upon as high authority on all such matters. In commenting on the show of sheep at the Royal Show at Windsor, it says:—"Down breeds—Southdown—of these it may be said that if they be not entitled to precedence among the breeds called Downs, it would be difficult to say what gives a right to priority of place. Southdown or Sussex is one of the oldest British types, certainly the best of all the Down types. They are also in more repute than any for the excellence of their mutton; and it is shrewdly suspected that every other breed which claims the name of Down at all, owes its claim to a bygone alliance with the flocks of Sussex."

In a recent report of the Dominion Government agent at Liverpool, Mr. J. Dyke, he says: "The price of sheep has been fully maintained, and the primest Down sheep readily realized 20c. per lb.; and that with care and attention and the introduction of Down sheep into the Dominion, breeders will find a profitable market for all the sheep that can be exported to Great Britain, despite the increase in the frozen mutton trade." This is from one unbiased toward any particular breed.

Ald. Frankland, of Toronto (and we have no better authority in Canada, with his large experience both in the home and foreign trade), stated very emphatically before the Sheep Breeders' Association in Toronto a few weeks ago, "that mutton to command the top price, either for the home or foreign trade, should weigh about 65 lbs. to the carcass, and must not exceed 80 lbs." There is no sheep can fill this bill better than a Southdown. The secret of success is in producing just what is wanted.

In one account given in the London Live Stock Journal of the market value of mutton, it says: "Southdown mutton sold for 6s. 6d. per stone (8 lbs.), other sheep making but 4s. 6d." Now, this great difference in price may have induced unprincipled dealers to palm off legs of Cotswold mutton (with the shanks colored) on unsuspecting customers; but that they "smacked their lips and praised its quality" is a mere freak of imagination.

The question is often asked, why the breeders of Southdown sheep in England keep so much larger flocks than those of other breeds? The reason is, simply because they can keep that many more on the same quantity of land. Again, it is asked, do they sell for as high prices per head as other breeds in England? They do, and higher; only last summer, at a public sale, from one flock twenty-three rams, from two to six years old, made the very high average of £41 (nearly \$200) per head; can anything nearly as good be said of any other breed, and at the same sale nearly \$1,100 was paid for a single sheep, and nearly \$1,000 for another; twelve rams averaged 100 guineas each.

Now, if smaller sheep will bring as much per head as larger ones, it certainly pays better to raise them: it's turning the feed into more money is where the quality counts. It has been proven by actual tests in England that three Southdowns

can be kept on the same amount of food required by two of the larger sheep, and some tests have shown that two to one can be kept and do just as well. Our markets in everything we export are largely controlled by the English demand. Our butchers and dealers will and do pay more for prime quality, all that may be said to the contrary notwithstanding.

The aspect of the sheep business has changed very much since about twenty years ago. I sold coarse wool in 1872 for 59c. per lb.; wool then was an object. It paid to keep sheep that would clip a heavy fleece, while mutton then was much lower than now, and little or no attention paid to its quality; but now wool don't bring half that price. Although Down wool will bring considerable more than coarse wool, and never having "a third off" for cotted or matted fleeces, so common with coarse wool, mutton now sells much higher than it did twenty years ago, and quality is considered; hence, mutton is the primary object in a sheep to-day, and should be well considered in establishing a flock.

Champion prizes—What the Southdowns have done in the show rings against all comers.—I believe I am correct in saying that, at the "Smithfield, the greatest fat stock show in England," out of the last nine years the Southdowns have carried off the champion prize six times for the best pen of sheep any age or breed in the show—once with a pen of lambs, whose average weight was 187 lbs., and a pen of shearlings that won averaged 251 lbs.; the other breeds that won during the same period were: Hampshires once, Oxfords once, and Shropshires once. What stronger evidence could be asked for to put beyond a doubt the superiority of the Southdowns?

Only a few of the summer shows in England offer a champion prize. At the Royal Counties Show (one of the largest shows in England, barring the Royal), when I was there in 1883, held that year at Winchester, the champion prize for best ram any breed was won by a Southdown. Again, when I was over in 1888, this show was held at Bournemouth, and the champion prize for best ram any breed was again carried off by a Southdown.

Last year at the World's Fair in Paris, the grand prize of honor for best flock of any breed was awarded to Southdowns. At the Smithfield Show in 1884, the comparative average weights of lambs for three of the leading breeds were as follows, viz.: Leicesters, 129 lbs; Shropshires, 153 lbs., and for the (little) Southdowns, 161 lbs.

At the Fat Stock Show in Chicago (the Smithfield of America) in 1884, the prize for best carcass wether under a year, was won by a Southdown, and at the same show the champion prize for wether any age or breed, showing the greatest gain per day from birth, was won by a Southdown; also at the same show in 1885, the sweepstake prize for best pen any age or breed was carried off by Southdowns.

Only three years ago the special prize offered at London, Canada, for best flock of any breed was won by Southdowns. At the Industrial Fair, Toronto, in 1883, there was a special prize given for best pen any breed, and was won by Southdowns. At the Provincial Show, same year, at Guelph, the special prize for best pen of middle wools was won by Southdowns.

During the last ten years, I have shown my Southdowns a great many times for flock prizes,

either open to all breeds, or all middle wool breeds, including the largest shows in America, viz., Toronto Industrial, Buffalo International, Provincial, Hamilton, Collingwood, etc., and with one exception never had another breed placed before them. Who has done better? Can as much be said of any other breed? This evidence of the superiority of the Southdown sheep is not the whims of a few individuals, but they are the stubborn facts as shown by the awards of the judges of the great shows of England, France, the United States and Canada, "the greatest shows on earth."

Hear what an unbiased witness says of the Southdowns. Mr. Thos. Chick, of Dorset, England, in his letter to the ADVOCATE on "Dorset Horn Sheep," where, in a very able and reasonable way, he presents the claims of this breed of sheep to public favor, he says:—"The mutton of Dorset Horns is not excelled by any breed of sheep except the Southdown, to which all other breeds must give place for quality of mutton." This is from one well qualified to judge of the English breeds of sheep.

Messrs. Smith's Reply to Stockman.

You will please allow us a little space in your paper to answer Stockman's queries. From the way the questions are asked, it will be necessary for us to give our own experience. Stockman says: "Tell us how much your milk costs you." We will tell Mr. S. with pleasure: Our whole herd averaged 3,378 lbs. of milk from January 1st to April 1st—ninety days—which brought us in cash a little over \$42, and we fed them on an average \$18 worth of feed, thus leaving a balance to each cow of \$24; in other words \$42 worth of milk cost \$18. We have not taken into consideration the man's hire, or the value of the manure. No. 2—"How many spoiled bags there are."—We have never lost a bag or a teat, and anyone who has doubt can come and examine all our stock and see. No. 3—"How much milk fever you have."—We have never had any milk fever or parturient apoplexy since the death of the grade Shorthorn we spoke of in a previous letter, which was more than two and a-half years ago, and neither our herdsman nor ourselves have ever remained up a single night for a sick animal. No. 4—"What per cent. of water does their milk contain?"—We have tested only five of our cows, and will give the result of the test and Stockman can then judge how much water is in the milk:—

Name of Cow.	Milk Yield in a Week.	Butter Yield in a Week.	Pounds of Milk required to make a pound of butter.
	Lbs.	Lbs.	
Cornelia Tensen	480	19	25.26
Hijke 2nd	424	18	23.55
Onetta	289	14½	20.28
Marion	382	19	20.10
Siepkje 4th	250½	13¼	18.90
Average	1825½	83½	108.09
	365	16 7-10	21.61 4-5

Mr. Stockman refers to Holsteins as being "uncontrollable." We have never had either cows or bulls that were "uncontrollable" in any sense of the word. What we have said of our own herd we believe will apply equally well to most of the herds in Canada, as these qualities apply not only to individual herds but more especially to the breed in general.

Chatty Letter from the States.

[From our Chicago Correspondent.]

The heavy overmarketing of American cattle in Great Britain resulted in a reaction greater than ever before experienced. Best States steers sold down from 13½@14c. to 9@9½c. per pound dressed weight in less than a month. Values are recovering some of the loss under a smaller volume of exports. The exporters were so greedy in engaging all of the vessel room, however, that they will not give the market much chance to improve.

The hog market is very low for this season, being fifty cents per 100 pounds lower than it has been in June for ten years. Receipts of hogs are liberal, and the quality is good. The buyers are banking on heavy receipts for the future, but it is a noticeable fact that young hogs are being marketed as closely as possible, and for some time past they have come to market a month earlier than in ordinary years.

Mr. J. S. Robinson, of Neponsett, Ill., proposes to try the beef cross of Shorthorns and Galloways. Mr. R. was formerly quite a grade bull raiser, but for two years past he has castrated all of his bulls, pure-bred as well as grade. That beef pays better, being sold to British capitalists, is true; but the present management will continue for the period of twenty-five years. There is an improving tone in the market for fine cattle. Western range cattle securities are again in demand, and there is a more active trading in range properties this summer than for several years past. There is a surprising degree of strength in the demand for store sheep or "stockers and feeders." Ordinarily the market at this season would be well supplied with thin range sheep from the Far West, but that source of supply has been cut off by the eagerness of sheep feeders, who went into the Western States and Territories two or three months ago, and contracted for all the available stock. So great has been the demand for feeding sheep lately, that buyers are taking thousands of Texas sheep which three years ago would not have been considered of sufficiently good quality. Texas stock sheep are selling here now at \$3 50 to \$4.85, for poor to fairly good, averaging 65 to 80 lbs. The sheep market is very good. The demand for choice mutton exceeds the supply. Recently a lot of 110 lb. shorn Illinois Shropshires sold at \$5.90, and screening-fed western sheep, averaging 110 to 130 lbs., sold at \$5.25 to \$5.60. Native lambs have sold at \$5.50 to \$7.50 per 100 lbs.

There has not been a spring in years where there was so much life in the Chicago horse market as there has been for a few months past. Prices have ruled much higher than expected, and there has been something of a boom in the trade, whereas dealers generally looked for a dull trade, after the glutted condition of the horse markets everywhere last winter. Prices for horses here are as follows:—

Description	Poor to Fair	Good to Choice
Draught horses.....	\$125 @ 150	\$170 @ 250
Streeters.....	90 @ 110	115 @ 125
Drivers.....	110 @ 130	150 @ 220
General use.....	90 @ 120	140 @ 170
Carriage teams.....	275 @ 375	425 @ 550
Saddlers.....	125 @ 170	190 @ 290
Plugs and rangers.....	25 @ 50	60 @ 75

The Union Stock Yard and Transit Co. is putting up an extensive amphitheatre in Dexter Park for holding auction sales of horses.

The report that the Chicago Union Stock Yards had much interest in being taken in the proposed live stock exhibit at the Columbian Exposition. There may be some difficulty in getting room enough, especially if the grounds are centrally located. One question is, shall

allowance, and cannot disturb another calf by sucking or bunting, and is a great saving in time and feed. The plan is so simple that any person can put up a feeding pen for a lot of calves in a few hours.

Adopt this plan; the ladies will thank you, and the saving of time, milk and thrift of the calves will make this worth many times the price of the ADVOCATE to every one of you. There is no patent on this plan; if there was, perhaps it would be adopted quicker by it costing you something.

American Southdown Breeders' Association.

The Board of Directors reported that in accordance with instructions given by the Association at the meeting held in Chicago, Nov. 15, 1889, arrangements had been made for offering prizes for Southdown sheep in 1890 at the Detroit, Mich., Fair, and at the Illinois State Fair, as follows:—

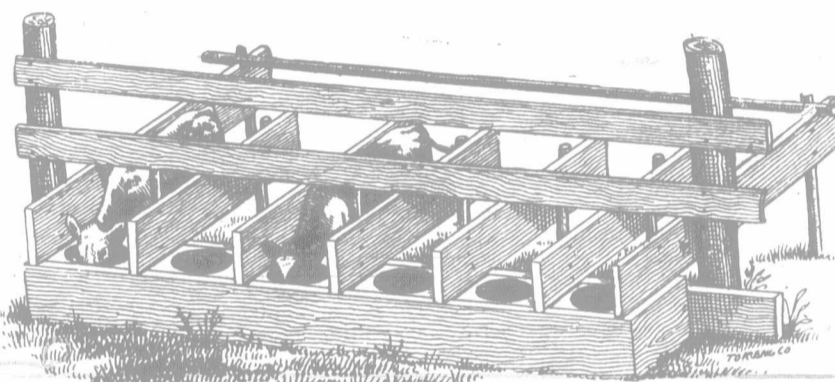
1. A medal of pure coin silver to the owner of the best recorded Southdown ram, and a like medal to the owner of the best recorded Southdown ewe. All competing animals to have been bred by their respective exhibitors and to be recorded in the American Southdown Record.

2. A silver cup valued at \$30.00 for the best pen of recorded Southdown sheep consisting of one ram and two ewes. All competing animals to have been owned by their respective exhibitors not less than thirty days prior to the time of showing, and to be recorded in the American Southdown Record.

Conditions applicable to the above offers:— Each exhibitor shall furnish at the time of entry a written statement, over his own signature, showing the breeder, owner, pedigree, age, weight and other important facts connected with

the animals entered for the foregoing prizes. Competition for the above prizes shall be opened to all who comply with the conditions named, but no award shall be made except where there are two or more competitors for the same prize. The awards must be determined by the authorized committee, judge or judges of the fair, where the animals are shown. The prizes will be paid on the presentation to the American Southdown Association of the certificate of the Secretary of the Fair, giving the names and record numbers of the winning animals accompanied with the written statement filed by the owner at the time of entry, and the names and record numbers of the competing animals.

The following special prize is also offered at the American Fat Stock Show in 1890. A silver cup costing \$50.00 for the best Southdown wether. All competing animals to have been bred by, and at the time of the exhibition to be the property of the exhibitor, to be one and under two years old, their sires and dams to have been recorded in the American Southdown Record. The same conditions to govern as in the other above prizes. The committee appointed in November last to confer with the breeders of Southdown sheep in England regarding the founding in England of a public record of their sheep, reported correspondence had with parties in England, showing a determination among breeders there to begin a public record of their sheep.

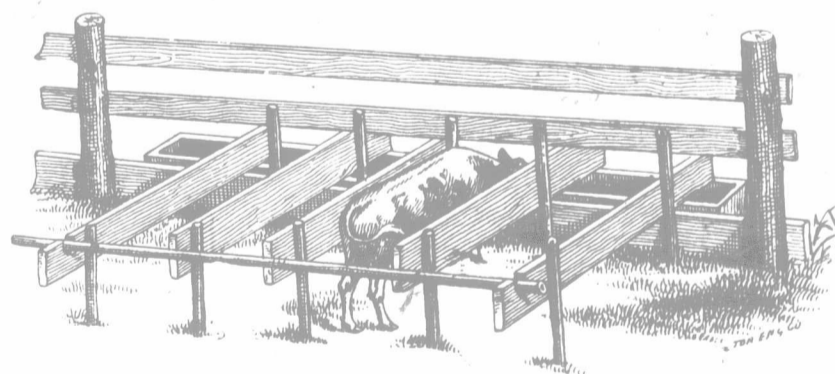


FRONT VIEW OF FEEDING PEN FOR CALVES.

breeders keep their herds on exhibition during the entire six months.

The Best Plan to Feed Calves.

We now give you two illustrations of the best plan we have yet seen for feeding calves; it was devised by a son of the editor and proprietor of the ADVOCATE, who lives on the homestead, Westwell Farm. This device answers its purpose admirably; it consists of an opening being made in a fence sufficiently large to admit of a calf putting its head through; a wooden



REAR VIEW OF FEEDING PEN FOR CALVES.

box is placed in front of the calves, on which small boards having a small part of them cut away are nailed at sufficient distance to admit of the pail being placed in the box or trough. The part cut away from the slats holds the pail in its proper position, preventing the possibility of the calf from pushing it about or tipping it over. Small stakes are driven into the ground in front of the trough, also in the field in which the calves are. To these stakes are nailed narrow boards about twelve inches in width, making stalls of sufficient length and breadth to admit a calf. As soon as the calves are in, a pole is placed at the back of them so that they cannot get out. By this means every calf gets its proper

Butter-Making.

By Jas. W. Robertson, Dairy Commissioner.

FAT GLOBULES IN MILK.

While her milk is being elaborated by a cow, the ends of the cells which line the inside of the milk-ducts and vesicles in her udder seem to enlarge. Each one forms a small globule, and when that is perfected it drops off into the serum of the milk. Each bud or globule, so formed, is a globule of fat; from them is made all the butter from cows' milk. These tiny buds of fat seem to grow on the surface of the cells, partly by the destruction of the cells, and partly by conversion of some of the substance of the blood into fat. They trickle down in and with the milk, and are held in suspension not in solution as are the other solids in it. They mostly come during the latter part of the milking, probably because they do not move so quickly or easily as the liquid part of the milk. The fore-milk is thinner than the strippings, because the globules of fat do not free themselves from the internal linings of the milk ducts so quickly as the liquid of the milk. If one finds, in sending milk to a cheese factory, a man who is so modest and retiring a disposition that he will not keep at home for table use a quantity of the average milk given by the cow, but always and only the last quart, his modesty should not be respected or trusted too far; such modesty may not be found compatible with honesty. The condition of the cow's blood and her nervous system very largely affect the quality of the milk she gives. Bad feeding, foul water or the absence of salt will induce in the cow a condition in which she will not yield good milk; a similar condition, with its consequent effects, may be caused by neglect, exposure, abuse or excitement. A cow has a peculiarly delicate organization, and must be handled with kindness, and any man who abuses a cow beats out the profit, for she will pay him back by giving less milk, and that of a poorer quality. The globules of fat, before mentioned, are so numerous that in a thimbleful of milk there will be found millions of them. It is estimated that there are at least one thousand millions of them in every cubic inch of milk. From these specks of fat the butter is made.

CREAM SEPARATION.

To get them out of the milk is the task of the butter-maker; they are too small to be strained out with the finest sieve; fifteen hundred of the largest of them placed side by side, like a row of marbles, would not measure more than one inch. If milk be left at rest they will rise to the top because they are lighter than the liquid in which they float. The heavier parts of the milk are drawn down by the force of gravitation, and as the serum of the milk, composed of water, caseine, sugar, albumen, etc., moves downward, it displaces the cream globules and forces them towards the top. There are two methods of separating these fat globules from the milk; a natural method and a mechanical method. In the natural method, the power of gravitation is used to pull the heavier portion of the milk down, with the effect that the lighter part, the fat globules, are pushed upward. In the mechanical method, centrifugal force is applied to retain a like result. When a quantity of milk is put into a rapidly revolving vessel or cylinder, the heavier parts will be forced outwards against its resisting side or inner surface with sufficient pressure to push the lighter particles, the globules of fat, towards the centre of revolution. In that way the water, caseine, albumen and the other heavier constituents of milk, find their way to the outside of the quantity being treated in a

revolving cylinder, while the globules of fat are collected in concentric form on the inside surface of the quantity being treated. This is the law, that the cream, mainly composed of fat globules, travels in a direction opposite to that of the force exerted upon the milk, whether the force be centrifugal or centripetal.

EFFECT OF TEMPERATURE.

If ordinary milk in a deep-setting pail be left at a temperature of 60° Fahr., it would take these small specks from three to six days to get to the top at the rate at which they would move. They can be helped to move faster. The milk at a temperature between 90° and 98° is slightly enlarged in bulk, and by putting it into deep-setting pails at a higher temperature (90° to 98°), the advantage of a falling temperature from above 90° to 40° or 45° may be gained. That treatment will expedite and facilitate the upward movement of the globules of fat. The rapid cooling of the milk is also believed to prevent the formation of a delicate mesh of lacto-fibrine in the milk, which would hinder the globules from rising freely.

CREAM.

The cream itself is only the part of the milk into which the globules of fat have been gathered in large numbers. Cream has no regular or constant per cent. of fat; the range is from 8 per cent. to 75 per cent. In one hundred pounds of cream there may be only eight pounds of butter, or there may be seventy-five pounds according to its quality of richness. The globules of fat have no skin or organic coverings distinct in constitution from their own substance. Like drops of quicksilver that have separated from each other, they have no pellicle. But sometimes the serum of the milk becomes so viscous that a quantity of it will adhere to the surface of the globules and like a coating of gum will prevent their movement upwards when the milk is set, or their movement inward when the milk is treated in a centrifugal machine. If a quart of warm water be stirred into every pailful of milk when it reaches the dairy room from the stable, the separation of the cream will be facilitated. The water may be at a temperature anywhere between 150° and 180° Fahr., and should be warm enough to raise the temperature of the milk to above 90°.

CHURNING.

In the winter season especially, difficulty is experienced sometimes in churning the cream. The addition of water at a temperature of 70° to the cream, while it is still sweet, to the extent of 25 per cent. of its bulk, will cause it to yield its butter in less time and more completely. The water should be added before the cream is sour and at least 20 hours before the churning is commenced. The next treatment required is the development of lactic acid. If a quantity of *sweet cream* be churned and an equal quantity of *sour cream* of the same quality as to composition be also churned, there will be obtained on the average from the sweet cream only 77 pounds of butter out of every possible 100 pounds, while there may be obtained from the sour cream 97 pounds of every possible 100 pounds. There are thousands of pounds of butter lost in the Dominion annually from the churning of two qualities of cream in the same churn at one churning. The only safe plan is to have all the cream for each churning thoroughly mixed from twelve to twenty hours before the operation begins. It should be kept at a temperature of from 60° to 70° Fahr., according to the season of the year, to permit it to become sour. The higher temperature is required during the winter season and for cream from centrifugal separators during the summer season also. The churning is performed for the purpose of causing the globules of fat to strike on to each other and by impaction to unite. If two globules strike each other at a suitable temperature they will stick together; when large numbers of them unite in that way, it is said that the butter has "come," and the particles may be washed and removed. All that is required in the churning of cream is that the serum or medium shall be properly treated: (1) by the addition of water if required, as already described, (2) by the development of acid, (3) by the temperature being kept at from 57° to 59° in the summer time or from 62 to 66

in winter. It is imperative that a thermometer should be used to reveal the temperature.

GRANULAR BUTTER.

When butter particles are half as large as clover seed, 10 per cent. of cold water may be added to the contents of the churn. After they are gathered to be half as large as wheat grains, the churning may be stopped. The buttermilk may be removed and replaced by pure water at a temperature of from 50° to 55° Fahr. It may thus be washed in the granular state. When the water runs off free from a milky appearance, the granular butter should be left in the churn for half an hour to drain.

SALTING.

It may then be salted in the churn or removed to the butter worker for that purpose. Pure salt of fine velvety grain only should be used. The rate of salting should be regulated to suit the taste and requirements of the customers. From three-quarters of an ounce to one ounce per pound will be found acceptable to most of those who purchase Canadian butter. The preparation for the market should be made with a view to giving the butter an attractive appearance, whether it be packed in tubs or firkins, or finished in prints or rolls.

PREPARATION OF MILK FOR CREAMERIES.

Thorough airing of the milk for a few minutes by dipping, pouring or stirring will improve the flavor of the butter. When set for the rising of the cream, milk should be at a temperature above 90° Fahr. When deep-setting pails are used, the water in the tank should be kept below or as near 45° Fahr. as possible. The tank should be shaded from the sun. When a flowing spring is not available, the cooling power of the fresh water may be used more economically, if it be carried to the bottom of the tank and the warmed water be caused to run off from the top. If water be scarce, the overflow may be carried into a watering-trough for the stock of the farm.

QUALITIES OF CREAM.

Since managers of creameries have adopted the plan of paying for cream according to its butter-making qualities, some dissatisfaction has been caused among the patrons by the differences which comparisons have made evident. In most cases the trouble arises from an erroneous idea that the richest cream is the best for butter-making and the most profitable to the patron. It is not the patron who supplies the cream which yields the greatest number of ounces of butter per inch, who always obtains the largest returns from the milk which has been set. Milk which has been set in deep pails at a high temperature and has not been cooled below 60° Fahr., will yield a cream very rich in butter-making quality; but there will be a smaller quantity of cream obtained from the milk and a less quantity of butter, than where the milk is cooled as low as 45° Fahr. The longer the time cream stands on milk after practically all of it has come to the top, the less space will it occupy. As it shrinks in bulk it becomes richer per inch, but the total quantity of cream from the milk will not yield any more butter than it would have made before it became compact by long standing. (A creamery inch of cream is equal to 113 cubic inches, or to one inch in depth of a cylindrical vessel 12 inches in diameter.) When the milk is skimmed every 12 hours, the cream will not yield as many ounces of butter per inch as when it has been set for 24 hours or longer, but the extra quantity of cream that may be obtained by 12 hours setting in ice water will permit as much of butter to be made from the milk as by setting it for a longer period.

Skimming should not be delayed longer than 24 hours after the milk is set. Cream should be removed from the milk before it is sour. Its value to a creamery for butter-making depends not alone upon its richness in butter-fat; purity, sweetness and fine flavor are qualities it should possess.

THE OIL-TEST CHURN.

The oil-test churn is used to determine the quantity of churnable fat in each supply of every patron's cream. The requirements for its successful use are:—

(1) Careful sampling of the cream, which

should be poured at least twice from one vessel to another before the sample is taken for the test tube;

(b). Accurate measuring;

(c). Souring of the cream;—(to ensure a uniform degree of acidity in all the samples of cream, they should be warmed to 70° Fahr. and kept at that temperature for 25 hours before they are churned);

(d). Heating of the samples to a temperature of 135° Fahr. after they have been churned;

(e). Subsequent cooling to 65° or 70° Fahr.

(f). Churning, reheating and cooling.

In a case where butter-oil on any sample does not separate to show a clear line of demarcation between itself and the other constituents of the cream, the cooling to 70°, the churning and reheating should be repeated.

BUTTER-MAKING IN DAIRIES AND CREAMERIES.

When shallow open pans are used for setting, the surrounding air should be pure: a damp, musty cellar is no fit place for milk.

The cream for each churning should all be gathered into one vessel and kept cool and sweet. A good practice for fall and winter is to mix 25 per cent. of pure water with the cream before it has become sour. The whole of it should be well stirred every time fresh cream is added and half-a-dozen times a day besides.

Two days before the churning is to be done, about one quart of cream for every four pailfuls to be churned—or a quantity equal to two per cent.—should be set apart and kept as warm as 70° Fahr. One day before the churning, that small quantity of cream, called a fermentation starter, which will then be sour, should be added to the quantity which is intended for churning and be mixed therewith. It should afterwards be kept at a temperature of 60° Fahr. During the summer the best churning temperature is 57° or 58°; during the late fall and winter 62° to 64° are found to be preferable. The agitation of churning should be kept up till the butter comes into particles larger than clover seed. The buttermilk should then be drawn off and pure water at 55° added in its place. By churning this for a minute or two the butter will be washed free from milk while it is still in a granular state. The milky water may then be drawn off and replaced by a weak brine at the same temperature. After a minute's churning, the butter may be left to drain in the churn for half an hour before it is removed to be pressed and salted. Pure salt of medium fineness and with a body velvety to the touch should be used. Three-quarters of an ounce to the pound will be the right quantity for most markets for immediate consumption, and one ounce to the pound for packed butter. The butter should be kept cool during the working and also during the few hours while it may be left for the salt to dissolve. As soon as the salt is dissolved, the butter may be worked the second time to correct any streakiness which the first mixing of salt may have caused. It should then be put up neatly and tastefully with as little crimping and beautifying as feminine fondness for these will permit.

STORE-BUTTER.

Butter is susceptible to odors or flavors in the surrounding air; it should be kept in a place where the air is pure. If it is to be forwarded to the consumers' market in rolls, it should be handled as little as possible; every handling adds "mussiness" to the appearance and consequently depreciates its value. Each roll should be wrapped in a clean butter-cloth, which has been soaked in a strong brine made up from 16 parts of salt and one part each of white sugar, saltpetre and borax, dissolved in water.

PACKING BUTTER IN STORES.

Butter which is being collected for packing may be kept in fair condition in a clean box; a better plan is to have it immersed in pure, strong brine. In assorting it, more regard should be paid to similarity of body and flavor than to likeness in the shade of color. The mixing table, or butter-worker, needs to be kept particularly clean; after it has been thoroughly washed with borax water, it should be scalded and then cooled with cold water. The butter should be worked at a temperature which will prevent it from becoming greasy. The temper-

ature at which it is worked or mixed has more effect on the grain and the body of the butter than the movements to which it is subjected can have. The cool atmosphere of early morning and a supply of cold water in which to float the butter will meet the needs of the case. Only such packages as have a clean, neat appearance should be used. The top of the butter should be covered with a clean butter-cloth, prepared in the same way as that for the wrapping of roll-butter. A covering plaster made of wet salt should be put over the cloth, to a thickness of half an inch or more.

Butter in tubs and kegs should be brined frequently; the salt-covering should not be allowed to become quite dry; a brine similar to that which has been mentioned for use on butter-cloths, may be used freely with good results.

Storekeepers and others may obtain copies of this Bulletin for distribution, by applying to the Dairy Commissioner, Experimental Farm, Ottawa. They will be furnished free in English and French.—[Bulletin No. 3 somewhat abridged.]

Mr. Thos. Guy Replies to Various Correspondents.

(Continued from June issue.)

We are sorry your lady correspondent should take such umbrage at what was said about her Stoke Pogis bull. We meant nothing derogatory to that famous animal, when we simply hinted that it was not pedigree the public in general were after. We wish also to say that in noticing the way the animals were fed during the test, we did not intend to throw any "slur" on this lady's foreman, Mr. Browne, or in the least way hint that he was "dishonest or incompetent." This is an imaginative conclusion drawn by herself, for, according to the rules, every one had a perfect right to feed their animals as they thought proper, without let or hindrance. However, though we meant no discredit to any one, if need be we have plenty of evidence behind to establish what I said in this particular. I myself saw that their mangers were empty a good part of the time, and a number of others noticed this also, and I have been told since that Mr. B. himself said at the time that he was starving his cows. But I never for a moment thought there was anything particularly wrong about it. I only looked upon it as a matter of policy, and, as such, I presume, it may be considered as a pretty well managed affair. We are pleased to have this lady's testimony as to the amount of product these cows are capable of producing, making from each from twelve to twenty pounds per week of hard, sweet, yellow butter, and this, too, without having a mouthful of grain, nothing but grass and bran. No one can fail to see what profitable cows these are. But this, of course, was at Benhulle, and in their own stables. Although we do not wish to dispute the truthfulness of these statements, yet at the same time it seems somewhat strange that whilst each gave such large yields at home, the whole lot combined at London failed to give as much as one at home. Some excuse may be made for this, and supposing it is all correct, it is certainly a great compliment to the Ayrshires when they were brought in contact with those renowned butter-makers. Had their product been valued according to what is generally acknowledged to be a just and equitable standard they would have been the winners.

This lady also says (when speaking of the product of her Jerseys), "it is quite possible Mr. Guy has Ayrshires which can do as well, but I do not know of it." No! we never yet got into this way of booming our cattle, and the Ayrshire men in general seem to be a modest, unassuming lot. They appear to prefer that their animals should sound their own trumpets.

How to Keep Up the Fertility of Our Farms by Breeding Cattle and Sheep, and Feeding for Profit.

(Continued from June issue.)

The method of winter feeding I would recommend is: Steers or heifers should be started on grass, being fed a few ears of corn, or two or three pounds of meal per day; tie them up as soon as the nights are frosty; let them out through the day; be careful do not allow them to be out through the cold fall rains. If possible, get them gaining before you finally tie them in. Then feed first thing in the morning with a ration of a mixture of ground meal and cut feed, say five pounds of meal put on the cut feed dry, or damped a little, and at nine or ten o'clock a ration of 25 lbs. of roots and a handful of hay or oat straw; let them out for exercise and water at noon unless it is stormy; feed at one o'clock cut feed with 2 lbs. of meal; let them rest until three or four o'clock; feed 25 lbs. of roots, then feed for night a ration of cut feed and 3 lbs. of meal. Many advocate the method of feeding three times per day. My experience is that the cattle eat their feed better, and waste less by the above method. The ration, under this system, would be 10 lbs. of a mixture of meal, cut feed, hay straw, or straw and corn-stalks with a handful of hay, and 50 lbs. of roots per day. This can be furnished for 20 cents per day.

I believe the skilled breeders and feeders, who make quality their special study, can show a balance on the right side for each year, or for an average of a number of years, not mentioning that valuable asset, viz., manure.

There is another method of preparing cattle for export which has been very profitable for the grazers, but not for the shippers: Cattle that are fed on the grass for July or August market should be well wintered, and fed 5 or 6 lbs. of meal per day on the grass until they are shipped. Cattle that are grazing for the October market should have sufficient grass, and should average 400 lbs. gain without meal. A grazer can make money if he gets 4½ to 5c. for the July and August cattle, and 4¼ for the October cattle. Bear in mind you must have the cattle finished for the prices mentioned. I stated that the shippers of grass cattle had not, as a general rule, done well. I will try and explain some of the reasons: First, there has been a large number of cattle dealers operating who never have calculated for the business, others who had no judgment and could not learn the business, and we have a class that would like to monopolize the whole trade, space included, by buying up every thing regardless of quality. Grazers and feeders of cattle are too anxious to get rid of their cattle before they are finished, sometimes selling them for future delivery, and forgetting to give their cattle the feed, care and attention they should have. These, I consider, are the causes of very many of the discouraging reports. I also realize the dangerous ground I am standing on in mentioning those reasons. I cannot come to any other conclusion after a number of years experience.

CATTLE IN TRANSIT.

This branch has not improved as the trade deserves, especially at Montreal. In fact, a large number of our cattle get no care from the

men in charge, and often producers shrink the cattle \$1 or \$2 per head driving his cattle eight or ten miles to the place of delivery. Then the dealer will mix up a lot of cattle in a small yard where they cannot get rest, which is most essential after their morning walk. In many cases, they are shrunk \$2 and \$3 per head before they are loaded on the cars, and in this pitiable condition they are sent through to Montreal without feed or water. And this is not the last shrink; they get a reasonable chance in the yards at Montreal, then they are driven to the docks and loaded on the steamships. To speak mildly, their treatment here is simply inhuman in many cases. I feel confident that a great many cattle are reduced in value at least \$4 per head by the time they are tied in their stalls on board ship, and often the shrinkage continues the whole voyage, caused by unskilled caretakers and feeders. For a remedy, we want born cattlemen, and such in charge from the time the cattle leave their homes until they are sold, and, if possible, men that have their own hard earnings invested in the cattle they are in charge of. Men who are doing business simply because they have a bank credit, or because some one employs them, is the great cause of so many failures.

[TO BE CONTINUED.]

Fish Refuse as a Manure.

Sir,—Do you know of an analysis of fish offal? If so, what is its value? I can get a considerable quantity of the offal of codfish for hauling. The only way I have used it, without the loss of much of its fertilizing qualities, is by composting with clay, but this means very much labor, while I have never seen any benefit to the second crop. I would like to know if the offal could be cut with acid, or salted and dried and ground, and then sowed upon the land? If so, could you say what would be sufficient for an acre? Would a covered drain do where water runs across the farm in considerable quantities during the rainy season? Would like to connect laterals to drain low land adjoining.

T. S. ROBERTSON, Red Point, P. E. I.

Answered by Mr. Frank Shutt, chemist, Central Experimental Farm, Ottawa, Ont.

I would refer your correspondent for an analysis of fish refuse, to our last report (1889), a copy of which is sent free on application, in which, on page 51, will be found the results of an analysis of a sample from the canning factories of Ladner's Landing, B. C. Materials of this nature vary very much in their composition, as might naturally be expected, but I think that these figures would not be very far away from the average of those of good samples of fish refuse. The fertilizing constituents of such substances are, more or less, in a soluble condition, and easily available and assimilable by plants, and, therefore, the chief benefit to the crop would be obtained the first year of application. In view of this, I would advise that it be put on the fields in the spring, rather than in the autumn, and should say that as a top dressing, or harrowed in, it would yield the best results, especially if fermentation has been allowed to proceed for any length of time. Treatment with sulphuric acid would certainly make the phosphoric acid more soluble, but I do not think, in ordinary practice, that such a method could be satisfactorily worked, as special appliances and skill are needed. I should say that from one-half ton to one ton, according to nature of soil, etc., would be about the average dressing for an acre. If the volume of water is not too great a covered drain would be found valuable. Tiles six or eight inches in diameter should be used, the latter will be found best.

Veterinary Question.

Sir,—I send you particulars of the death of a calf:—The calf was two months old and fed on sweet milk and unlimited pasture. It was suddenly taken with dizziness which caused it to go around until completely exhausted, then got up and went round and round again, commencing slowly and gradually increasing to a gallop and then fell down and died, half an hour after taken sick. To all appearance it was healthy before. On dissecting the body it was found clear from blood, but the head and brain was full of clotted blood.

W. P. P., Roland, Man.

The disease from which your calf suffered and died was vascular engorgement of the brain, resulting in rupture of one or more of the blood vessels of that organ. The rotatory motion of the animal would indicate that the pressure was chiefly confined to one hemisphere of the brain. The causes of this condition are: A too plethoric state of the system; engorgement of the stomach with food; severe exertion, such as being chased on a hot day; direct injury of the brain, &c. Treatment:—Put the animal in a well shaded and quiet place, where there is plenty of pure air; tie to post or manger, keep as quiet and in as comfortable a position as possible; apply cold water or ice continuously to the occiput and forehead until the symptoms disappear. Admixture to calf two months old:—Sulphate of magnesia, six ounces; nitrate of potash, two drachms; ginger pulv., two drachms; syrup, six ounces; dissolve in one pint of hot water and give at one dose. Give an injection of warm water and raw linseed oil every hour until the bowels respond freely.

The Exhibitions.

The Winnipeg Industrial Exhibition Association are pushing matters along as fast as it is possible to do until the vote is taken on the by-law granting the money for the construction of the buildings. By that time the letters patent will have been issued, and should the by-law carry, as it doubtless will, a permanent organization will be effected at once. This will probably be accomplished by the time this reaches our readers. The business men of Winnipeg have taken hold of the matter in a manner that betokens success, and seem determined to carry it to a successful issue. Considerable difficulty will be experienced in putting up proper buildings in the limited time between the voting on the by-law and the proposed date of the Exhibition. It is pleasing to note the interest manifested in this undertaking by our best farmers and stockmen, and the determination expressed to extend patronage to it.

BRANDON FAIR.

will be held on the 23rd and 24th of July, and will be the first Agricultural Exhibition of the season. The Association has been granted, from surrounding municipalities, as follows:—Cornwallis, \$30; Daly, \$40; Whitehead, \$100; Elton, \$30. Mr. Fisher, Manager of the Western Canada Loan Co., has donated \$25, and a grant of not less than \$250 is expected from the town council of Brandon. The band contest will doubtless prove an interesting feature of the attractions, as will also the lacrosse matches. Mr. Bucke, the Secretary, informs us that the exhibit promises to be much larger this year than ever before. The dispersion sale of two large and excellent herds of pure-bred Shorthorns on the last day of the show and the day following, and the meeting of the Shorthorn breeders of

the Province for organization, will, no doubt, aid in bringing out many farmers and breeders in addition to those directly interested in the exhibition. These sales will afford an excellent opportunity for farmers of moderate means to acquire the nucleus of a useful herd.

REGINA FAIR.

The Regina people anticipate an excellent fair this fall, and, with the number of entries last season, and the much greater promise of crops this season, their expectations should be fully realized. Last year the total membership was one hundred and twenty; total prize winners, one hundred and fifty; total entries, eight hundred and eighty-five; total prizes, including cash specials, \$1,010. The Indians of the various bands made an excellent exhibit of different kinds of grain, bread, butter, dresses, knitted goods, ox collars, &c. &c., amounting to nearly a hundred in all. The Secretary, Mr. Hamilton, thinks the exhibit will be very much in advance of last season.

Aeration of Milk.

The benefits derived from a thorough aeration of milk intended for cheesemaking or for supplying to cities can scarcely be over estimated. An extensive farmer, who keeps from fifteen to twenty cows, had experienced difficulty in keeping the milk from Saturday night until Monday morning for the cheese factory if the weather was moderately warm. He was advised to try aerating by dipping and pouring. After this he had no difficulty in keeping the milk even in the hottest weather. The stirring of the milk while cooling allows the escape of animal odors which, if retained in the milk until cold, would hasten decomposition, of which acidity is the first stage. With the knowledge that milk thoroughly aerated keeps better and makes a better quality of cheese, there is no reason why the practice should not be generally adopted by the patrons of cheese factories. Another reason why milk should be thoroughly aerated when intended for the cheese factory is that the fat will be more readily coagulated with the milk, thereby reducing to a minimum the fat carried off with the whey. Professor J. W. Robertson, the Dominion Dairy Commissioner, who is justly recognized as the best authority on cheesemaking on the American continent, says, "Milk contains germs of fermentation. Some of these we call vibriones. A strange peculiarity of these vibriones is that they become active only in the absence of free oxygen. When warm milk is left undisturbed carbonic gas is generated, and that furnishes the best condition for the commencement of action by these microbes. After they get started they can keep up their decomposing work, even in the presence of oxygen. It is impossible to coagulate such milk so as to yield a fine quality of keeping cheese. Coagulation by rennet can never be perfect unless the milk has been thoroughly aerated immediately after it is drawn from the cow. Neglect of aeration will increase the average number of pounds of milk required for a pound of cheese. Several devices are in use whereby the aeration of milk may be accomplished without any extra labor, simply pouring into the aerator, through which it slowly works its way into the can below, being thoroughly subjected to the influence of the air in its passage. One of the best is Thomson's milk aerator."

This article has been prepared at the suggestion of one of the leading cheesemakers of Manitoba, who experiences the evil results of the neglect of aeration.

Application of Chemistry and Geology to Agriculture.

BY JAMES MILLER.

(Continued from June issue.)

The land is exhausted by frequent cropping. What language more familiar in Canada? What statement more true than this? Yet how few understand what exhaustion implies. How few can explain either how it takes place, by what means it can be remedied, or how, if left to herself, nature at length does apply a remedy? Have your readers any doubt in regard to the prevailing ignorance on this subject? To be satisfied you have only to look with an experienced eye on the agricultural practices of Canada. Are there not thousands of acres in this country which exhibit a degree of unproductiveness not natural to the soil, which have been overcropped, and worn out and impoverished? A soil comparatively fertile by nature has been rendered unproductive by art. That which was naturally good has been rendered as unproductive and unprofitable as that which was naturally bad. Has this state of things arisen from ignorance, from design, or from necessity? By whichever of these it has been immediately caused, it is clear that the requisite degree of knowledge on the part of the owners of the soil would have retarded if not wholly prevented it. The same knowledge will also enable the agriculturist to reclaim these lands again, and, considering that the different changes which the soil undergoes are chemical changes, gradually to restore them to a more fertile condition, either in the relative quantities which its substances contain, or in the state of combination in which they exist.

The art of culture is almost entirely a chemical art, since nearly all its processes are to be explained on chemical principles. If you add any fertilizers to your land you introduce new chemical agents. If you irrigate your meadows you must demand a reason from your chemist for the luxuriant growth of grass which follows. You all know the result upon meadows by a good coating of manure. Does a mixture of animal and vegetable manure prepare the land best for certain kinds of grain? Do you supply salt, or gypsum, or saltpetre, or nitrate of soda with advantage? In all of these chemical changes are noticed. The greatest light has been thrown upon the art of culture by the researches of organic chemistry within the last fifty years; every day is adding to the value and importance of its discoveries. I might also speak of the mechanical operations of ploughing (whether common or subsoil), of fallowing, draining, weeding, and many others, as being only so many methods by which chemical action is induced or facilitated to the growth of plants. I might also show how the feeding of cattle and the raising and management of dairy produce are not beyond the province of chemistry.

But I will not dwell on each of these subjects, as they will all come up in their proper order, and will, I hope, afford me an opportunity of laying before you many important facts as well as practical deductions and observations.

I advance to the special objects of these chapters, and I shall first present you with a rapid outline of the method I intend to follow in a concise and simple form as possible, each step clearing the way for the succeeding one, without any chance of the illustrations being difficult to comprehend. I propose, therefore, to bring before your readers:—

1st.—The different kinds of vegetable substances, with the properties of the elementary and compound bodies which either enter into the

substances of plants or contribute to their growth and nourishment.

2nd.—The general structure and functions of the several parts of plants, their mode of growth and the manner in which plant food is absorbed, changed and converted into parts of their substance.

3rd.—The origin, nature and principal differences of soils, with the circumstances on which their relative fertility depends, or upon which it is modified.

4th.—The nature and differences of manures and their modes of action, whether directly in supplying plant food, or indirectly in hastening and increasing their growth.

5th.—The nature and different kinds of food raised as the result of culture, especially in their powers in supporting animal life. Under this head the feeding of cattle and the variations in the quantity and quality of dairy produce.

These different branches, I believe, comprehend the whole subject of chemical agriculture. In regard to all of them we shall derive, either from chemistry or geology, much important information.

[TO BE CONTINUED.]

Food for Boys.

BY R. GIBSON.

(Continued from June issue.)

It lies within ourselves if we are to be a power in the land. The country is not troubling itself with what is called "equal rights." Our Catholic fellow citizens are supposed to hold the balance of power, and that they are able to get whatever they want; if one party won't give it to them the other will. Now, I say the farmers of this province ought to occupy that position. We hold not the balance of the power, but the power itself. Then, let us prepare ourselves and our sons, having that end in view. Let us study, and think, and work. The long winter evenings that are supposed to be such a drawback are all in our favor, and may be converted into a blessing. Our climate is considered cold and severe—if it is cold, it is bracing, healthy, and invigorating, instead of enervating.

We must ever remember this is the first and foremost agricultural country, and it is upon the coming farmers of Canada that the success or decay, the prosperity or failure, of our country depends, whether we shall rank amongst the great nations of the world, or be merely hangers-on, dependants of some other power.

Our sons and grandsons will be the historians of the future, and how that history will be written depends upon the examples set; upon the daily truths inculcated by parents, guardians and school teachers. Above all things teach them to be truthful, to be self-reliant, to be manly, and to fully realize the great responsibility that rests upon them, and so prepare them for the future, when they will be the law-makers and occupy high offices in the Legislature, in the courts, and in the pulpit, or, as expressed at one of the Institute meetings in Wisconsin last year, So shall we turn again to the country for the statesman, the soldier, the philosopher, even as we did in the early days of the republic before the fields of the east had been worn out by carelessness; before the plantations of the south had been ruined by shiftlessness, and before the magnetic attractions of cities had drawn the best blood of the farms. We shall turn again to the country to find there an educated, conservative, loyal constituency which will be the balance wheel of the country.

To conclude, such confidence have I in the sterling, sound common-sense of our people, such abiding faith in our country and its soil, and its climate, that I foresee a grand future for Canada and its farmers, and I long for the time when the name agriculturist will be synonymous with everything that is bright, and honest, and prosperous.

A Movable Fence.

Mr. E. D. Sabin, Hudson, Mich., sends us the following:—"I saw that a subscriber asked in the May number of the ADVOCATE for description of a movable board fence: enclosed find illustration of panel for fence used here. It is handy for fencing stacks, etc. Take boards 2x4 in. 12 ft. long, put five boards on floor with distance between to suit, then shove top and bottom boards lengthwise six inches, put two standards on each end, with space of two inches between, which will let panels lock together. In putting up, put them at right angles, and then carry end around until locked solid. It is a worm fence, the same as rail, but is far ahead of a straight fence with brackets. Put one or two



A panel of Mr. Sabin's movable fence.

standards in centre of panel. When not in use it can be piled up, and so does not take up much room."

This is a very good movable fence, and where lumber is cheap it is inexpensive. It is liable to be blown over by a heavy wind if not anchored at intervals of say two to four rods according to exposure. This may be done by driving stakes, or by the device shown on page 79 of our March number. A good many farmers are now using two strands of barbed wire, with posts two rods apart, all of which are driven for a movable fence. It seems to answer very well for horses and cattle, but there always is the danger of the animals being injured by running against or through the wire.

Galloway Milk.

A short time ago an article appeared in a local paper, in which a statement was made to the effect that Galloway milk made good cheese but that it was difficult to separate the butter fat from the milk, hence the Galloway was not a good butter cow. With a knowledge of the fact that the Galloways gave rich milk, and also that the fats were more easily separated in rich milk than in milk of an inferior quality, we asked Mr. J. G. Brown, Manager of Hope Farm, St. Jean Baptiste, to set the milk of his pure-bred Galloways separately from that of the grades and report results. We append his report, which is just received. It must not be inferred by any means that the breeders of Galloways claim them to be the *ne plus ultra* of dairy stock, but on the other hand, it is decidedly unfair to allow such misstatements to go unchallenged:—

June 9th, 1890.

FARMER'S ADVOCATE, Winnipeg.

Sir,—In reply to your enquiry as to our experience in making butter from cream taken from Galloway milk, I would say that we do not find any difficulty whatever. After receiving your enquiry, we kept the milk from Galloway cows entirely separate from the milk of the grade cows, and the result was that the butter separated very easily, also giving a larger per cent. of butter to the pound of cream than cream taken from milk of grade cows. The cream was churned at a temperature of 56°, which separated the butter in less than fifteen minutes.

J. G. BROWN,

Hope Farm, St. Jean Baptiste, Man.

A copy of our subscription picture, "CANADA'S PRIDE," has been sent to every person to whom it is due. If any such have not received it, in order to obtain another copy they must notify us at once.

Parasitic Plants—The Farmer's Microscopic Foes.

J. HOYES PANTON, M. A., F. G. S.
(Continued from May issue.)

DOWNY MILDEW—*Peronospora viticola*.

This fungus affects the grape, and is closely allied to that which causes the potato rot. It attacks all green portions—leaves, young shoots and berries. The vegetative part (mycelium) grows like that in the potato, between the cells, and feeds much in the same way by the aid of little suckers (haustoria, see cut 7). But the fruit-bearing part, instead of sending up one stalk through the openings in the leaf, sends up several, about the $\frac{1}{16}$ th of an inch in length (see cut 1).

The disease first shows itself by pale green or yellowish spots upon the upper side of the leaves. Opposite these, on the lower surface, white patches are soon seen; these are the spore-bearing structures. As the disease advances the yellowish spots become brown, and dead tissue results; finally the leaf becomes dried and shrivelled and the vitality of the plant seriously injured. The effect upon the shoots leads also to the destruction of tissue; on the young berries growth is stopped and they seldom get beyond the size of peas usually not wrinkled, but turn brown or grey—the latter when the fungus fruits, and hence the terms "brown rot" or "grey rot" applied.

Reproduction here is much the same as in the potato rot—asexual (see cut 1) and the sexual (see cut 6); the former, ovoid and thin walled, are produced in great numbers on the outside (conidia), the latter inside (oospores). Heat and moisture are required for its development, in fact water requires to be present in drops of rain or dew. A mature conidium falling upon a drop of water soon develops spores (zoospores); even in an hour the change occurs under favorable conditions. Dry air, and especially dry wind, is destructive. As the fungus is in the leaf we try to prevent the germination of the spores.

Remedies—Spray every week or ten days from the time the leaves appear until late in July with the following:—

1. Dissolve six pounds copper sulphate in sixteen gallons of water, in another vessel four pounds fresh lime in six gallons of water; when the latter cools pour slowly into the copper solution and mix thoroughly. Prepare some time before using.

2. Dissolve one pound of copper sulphate in two gallons of water; in another vessel dissolve one pound of sodium carbonate; mix, and as soon as the chemical action ceases add one and a-half pints of ammonia. Dilute this to twenty-two gallons and apply.

ERGOT OF RYE—*Claviceps purpurea*.

We now come to the consideration of a group of fungi that are in many respects widely separated from the preceding. Here we find such forms as the ergot of rye, blackknot of the plum, powdery mildew of the grape, and the common mildew of the gooseberry.

This fungus is not confined to rye, but is sometimes found on other members of the grass family—timothy, blue grass and even wheat. Moisture seems to be favorable for its growth, hence more common in Europe than here. It affects the flower of the plant, and when it reaches maturity shows itself as an unnatural condition of the seed. In the case of

rye you observe a grain about four times the proper size, and of a purplish-black color (see cut A and B). This is the so-called ergot, purple-black on the outside, but the interior white, somewhat purplish, and of a dense uniform structure, composed of roundish cells largely charged with an oily fluid. Ergotted grains, when eaten, have a powerful effect upon the animal economy, especially in causing a muscular contraction of the uterus; it also in some cases produces the disease known as *ergotism*, in which parts of the affected animals rot and drop off. In order to understand the life history of this fungus, let us start by presuming that one of these dark colored grains has fallen to the ground and that

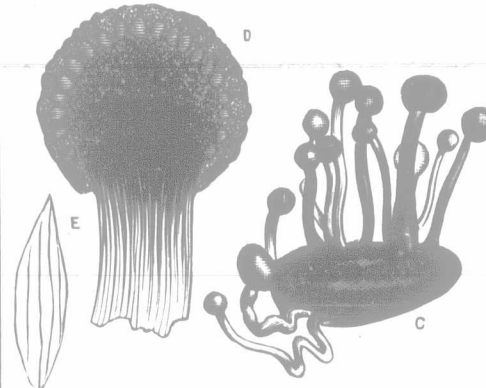


A Rye (*Secale cereale* Linn.), bearing several Ergots.



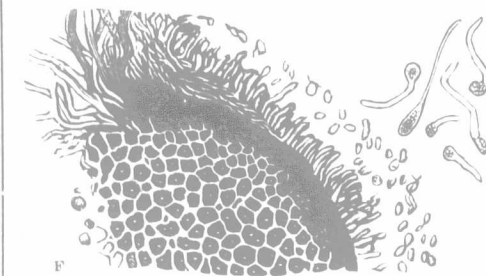
B Timothy Grass (*Phleum pratense*)

favorable conditions are present for its development. This may occur in spring. We soon notice upon it little stalks more or less twisted, with a round body at the top. (See cut C). If



C Ergot germinating. D. One of the heads magnified to show the cavities containing the spores. E. An ascus with spores.

one of these is cut through and examined we will see that it contains a series of cavities (perithecia) around the border. (See cut D). In each of these structures (asci), filled with long



needle-like bodies (ascospores), are seen. (Cut E). This ends one period in the life of the fungus. The needle-like spores (ascospores) are ripe and in the air (for they are exceedingly small about the time rye is in bloom; they gain access to the flower, either by the action of the wind or rain, where they germinate at the base of the pistil; rapid growth follows, and the affected kernel shows increase of size in a few days. The vegetative portion of the fungus

(mycelium) now begins to grow, and rapidly replaces the seed, and even the pistil of which it is a part.

A section of the seed (see cut F) at this time will show threads of the fungus, and upon the ends of them conidia (spores), which are dropping continually off these, reach other rye in flower, and produce the early stages of ergot. Old ergot will not grow. Ergotted seeds, ground with others that may be good, are very dangerous. If such get among flour it is very injurious to human beings, and several instances are on record in which people have died from eating bread made from flour into which ergotted grain had been ground. Great care should be taken to not feed it to animals. Such grain is readily recognized by its size and color.

Remedy—1. Burn any heads of plants with ergotted grain.

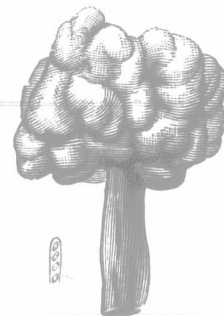
2. Never sow seed containing grains of ergot.

3. Thorough examination of seed will detect this, as well as many other seeds that should not be sown.

Poisoning from Eating Fungi.

BY J. DEARNESS, LONDON.

The report was recently circulated in the newspapers that a case of fatal poisoning had occurred in the Township of Malahide, due to the eating of a species of fungus. The statement, as made in the St. Thomas Journal, was to the effect that Mr. John Bradley gathered some mushrooms, and, with his family, used them on Sunday. In the night he took sick, but did not attribute his illness to the mushrooms. On the



HELVELLA ESCULENTA (Fries).

following Tuesday evening and Wednesday noon, the families of Messrs. Wm. Blake and Lewis Johnson ate the same kind; they were all taken ill, but recovered, except Mrs. Blake, whose death ensued on the following Friday. Mr. Blake has written me a circumstantial account of the case from which the following statement is condensed:—

One rainy day early in May, Mr. Johnson invited him to go with him and gather mushrooms at a place where he knew two other families had been collecting them, saying: "If they won't hurt them they won't hurt us." The fungi were brought home, and at Mr. Blake's house for Tuesday's supper about two quarts (when fresh) of the tops and clean part of the stems were cooked by frying them in butter with pepper and salt and served to a company of five adults. On Wednesday, for dinner, a quart and a-half were cooked and eaten by three persons,—Mr. Blake, his wife and sister. That night between nine and ten they were all seized with violent vomiting, and felt a burning sensation in the stomach, but no other pain. Miss Blake drank cream and new milk, and speedily recovered. The doctors were called to the others, but, so far as Mrs. Blake was concerned, without avail. "My wife," writes Mr. Blake, "slept all day on Friday, and died at 8 p. m. She moaned as if in pain; yet, it seemed impossible for us to

rouse her. I cannot say whether it was the poison of the fungus, or the medicine that made her so sleepy." Mrs. Johnson was also very ill for a day or two.

I have been sent two lots of the fungus, with the assurance that no other kind was eaten or mixed with them. The illustration was drawn from the largest specimen sent. It was six and a half inches tall, including the stem, and four and a-half inches across the head. The stem is of a cream color; the head is light brown, externally, and much convoluted like the surface of a brain. The brown surface—the hymenium—contains, or rather consists of, its millions of microscopic seed or spore-sacs. Each sac contains eight spores, half of a sac with four of its two-nucleate spores much magnified are shown in the illustration. Botanically, the plant is known as *Helvella* (or *Gyromitra*) *esculenta*. The specimens sent me grew on the flats of a creek under pine trees.

What gives the case under notice special interest, is the fact that this very species has a reputation for edibility. Berkeley says in "Cryptogamic Botany," p. 292: "One or two species of *Helvella*, especially *H. esculenta*, are considered excellent food." Gilbert Burnett says none of the *Helvellinae* are noxious, and that the *H. esculenta* is commonly eaten in Sweden and Germany for the true morel. In fact, the *helvellaceae* comprise some of the best of the edible fungi, for it is in this order we find the delicious morels and cyttarias, the latter being a staple article of food in Southern South America.

Julius Palmer, in his "Mushrooms of America," says that mushrooms may be noxious in three ways:—1. They may disagree with the system by reason of their toughness, indigestibility, or state of decomposition. 2. They may be slimy, acrid, or otherwise nauseous. 3. They may contain a subtle poison, but that, "so far as known, there are no cases of death by the use of mushrooms, except from one family—the *Amanita*." The antidote for *amanita* poisoning is found in the skillful use of the alkaloids of the deadly nightshade, especially in the sub-cutaneous injection of atropine. Atropine is a powerful drug (one grain of the pure crystal is enough to make from 50 to 200 doses), and while it would be the right thing to administer in case of poisoning from *agaricus muscarius* for example, it would be the wrong thing in many other cases of inconvenience from eating unwholesome toadstools.

The fact that different fungi have different qualities and differences of toxic principles, makes it important that the physician be shown the toadstool that has caused the poisoning, so that he may select the most suitable remedy. For ordinary derangements caused by eating disagreeable fungi the use of sweet oil and whisky in equal proportions is recommended on good authority.

While the experience of the Malahide people does not prove that *Helvella esculenta*, as growing there, is a fatally poisonous plant, (for Mrs. Blake's death may have been partly due to other complications), yet, it shows that this species is not safe to eat since persons in at least three, if not in four, different families were similarly sickened by its use. The oft-repeated lesson is again taught that fungi should be cooked while fresh. Most kinds, unless when properly dried, are subject to rapid decomposition, and, like putrid meat or vegetables, they become unwholesome after decay commences.

It is to be much regretted that accidents, such as that now related, do occasionally happen, because they prevent people from wishing to learn to distinguish and use the species of fungi that are really wholesome and delicious. Julius Palmer, above quoted, says: "No country is richer in mushroom food than America * * * Were the poorer classes of Russia, Germany, Italy, or France, to see our forests during the autumn rains, they would feast on the rich food there going to waste * * * The economic value of mushroom diet ranks second to meat alone. With bread and mushrooms, properly gathered and prepared, a person might neglect the butcher during the summer months."

Insecticides.

By Prof. A. J. Cook, Michigan Agricultural College.

THE ARSENITES.

As I have treated this subject fully before, I will only state conclusions at this time: As London purple is much cheaper than Paris green, costing only fifteen cents per lb., and is just as effective in practical use, it should always be used when it can be had, unless on very tender foliage, like that of the peach, when only Paris green should be made use of. It is still a question if the arsenites should be used on the peach.

London purple may be used either dry, mixed with land plaster—one lb. of the poison to eighty or one hundred of the plaster—or mixed with water—one lb. to two hundred gallons of water.

It is not the strength of the mixture, but the force and thoroughness with which it is applied, that secures success. The water mixture which will usually be most satisfactory, should be kept well stirred, that the heavy mineral poison may not settle. Should never be applied to fruit trees till the blossoms fall from the trees. Should be applied to apple trees but once, except in case of very heavy rains, when it should be repeated two or three weeks after the first application; should be used two or three times at intervals of ten days or two weeks on the plums, and after every heavy rain; may be used to defend against the potato beetle, and all leaf or bud eating insects that defoliate our fruit trees early in the season, and on our shade trees for such insects at any time. Force pumps are excellent to apply the water mixture to potato vines and to fruit and shade trees. By use of a barrel or tank mounted high on a wagon, we can treat potato vines and low shrubs, etc., by aid of gravity very easily and cheaply. Our experiments last season prove conclusively that if the arsenites are properly applied, there is no danger in pasturing under fruit trees at once. That is if we use one pound of the poison to two hundred gallons of water.

In the apple orchard, the use of London purple is so valuable that no one can afford to neglect its practice. Used just after the blossoms of the latest blooming varieties like the Northern Spy, have fallen, this substance destroys the Codling Moth, Tent Caterpillar, Canker worm, and several minute leaf rollers; all of which are serious pests and often do great damage. Here then is a case where the orchardist can kill several birds with a single stone.

THE BORDEAUX MIXTURE.

This valuable fungicide is prepared as follows: Six pounds of sulphate of copper are dissolved in six gallons of hot water; in another vessel four pounds of fresh lime are slaked in six gallons of cold water. After the latter solution has cooled slowly turn it into the other solution and add ten gallons of water. This when all is thoroughly mixed is ready for use.

Prof. C. M. Weed, of the Ohio Experiment Station, has shown that when this is used to spray plum trees, the plum rot is wholly kept in check. Prof. Weed recommends that in spraying for the curculio, we use this Bordeaux mixture instead of water; that is we add one pound of London purple to two hundred gallons of the Bordeaux mixture. Thus we may not only defend against the curculio but the rot as well. Those

troubled with the plum rot may well act upon this suggestion.

CARBOLIZED PLASTER.

This is simply common land plaster—gypsum mixed with crude carbolic acid. I get the acid of good strength and mix it with plaster—one pint of the liquid to 50 lbs. of the mineral. The lumps should be crushed and all thoroughly mixed, when the plaster will be much as before, except that it will smell very strongly of the acid. It will still be a powder and can be thrown even better than clear plaster as it is a little more damp, and heavier, and so less affected by the wind. Mr. J. N. Stearns, of Kalamazoo, Michigan, has used this very successfully for years in fighting the plum curculio. He replaces the plaster, however, by lime. I like the plaster better as it is not so light, and one can sow it better, especially if there is any wind. I think too that the plaster is more valuable as a fertilizer. I feel quite certain that I have used this with excellent results to ward off the ravages of the plum curculio, and think I have used it with success against the Codling Moth, though this latter needs confirmation. To use this we throw it onto the tree as soon as the blossoms fall, and twice after at intervals of ten to fifteen days. In case of heavy rains it should be thrown on again as soon after, as the rains wash it off. By use of a step-ladder it is easily applied. In case of a few trees, it is easier to do this than to spray, as the material is very inexpensive and there is no apparatus to purchase. If it simply drives the insects off, as some argue, what would occur if all of us used it? If it disguises the tree so that the insects do not find it, then surely it has everything to recommend it, in case it is as effective as experiments so far seem to prove. In seasons of very frequent and severe rains, it would not prove entirely satisfactory.

KEROSENE EMULSION.

Probably next to the arsenites—London purple and Paris green—no single insecticide equals in value the kerosene and soap mixture, called kerosene emulsion. The great value of this substance, rests in the fact that it kills by contact, and thus insects that suck, like lice and true bugs, are killed by its use. In 1880 Dr. C. V. Riley recommended the kerosene and milk emulsion. The way I prepared this kerosene and soap emulsion is as follows: I mix one quart of soft soap, or one fourth lb. of hard soap with one or two quarts of boiling water, as soon as the soap is all dissolved I stir in, while all is yet hot, one pint of kerosene oil. This is now violently stirred till it is permanently mixed—that is till upon standing the oil will not rise to the top but will remain incorporated with the liquid. This stirring is best done by use of a force pump—pumping back into the vessel containing the liquid. When we are ready to use this stir in enough water to make fifteen pints in all—that is one fifteenth of the liquid applied would be kerosene oil.

If used as above suggested, this insecticide will injure no foliage so far as I have tried it, and I have used it very extensively, but will destroy many of the sucking insects like the plant lice, more effectually than anything I have tried. Many have complained of a lack of success in the use of kerosene emulsion. In such cases I presume the explanation lies in the manner of making the application. We must bear in mind that the lice are well concealed and

protected by the thousand leaves, from which they are sucking the life and a livelihood. Often the leaves curl up and thus make the protection more sure. But we must strike every louse or insect with the liquid. We can not then turn or sprinkle on the liquid gently, we must dash it on with force, that every insect may be struck; then there will be no complaint of ill success. Thus the kerosene emulsion should always be applied with a good force pump. It is doubtless better to throw all liquid insecticides with force in spraying for injurious insects; with the kerosene emulsion it is absolutely essential to success. The kerosene emulsion is superior to any other insecticide, so far as I have experimented, in destroying plant lice, scale or bark lice, many of the bugs, and not a few caterpillars, grubs and slugs. Its great value lies in its excellence as a specific against aphides or plant lice. Even the eggs can be killed by its use early in the spring just before they hatch. In such cases as the snowball plant louse, which causes the leaves to curl up around it, it is more important to spray the plants before the eggs hatch, or very soon thereafter. Prof. C. P. Gillette, of the Iowa Experiment Station, reports that by spraying lousy swine, with the kerosene emulsion, throwing it on with a force pump, all the vermin were destroyed. For swine with their coarse sparse hair, I see no objection to this practice, and have no doubt of its success. For lice on other stock I think there is a better plan.

BUHACH OR CALIFORNIA PYRETHRUM.

This much named powder is the home grown and home manufactured "Pyrethrum," "Insect Powder," "Persian Insect Powder," "Dalmatian Insect Powder," etc., etc. Buhach is the trade name of the California or American produced product. If the powder is not reasonably fresh it is likely to be worthless, it is well to encourage our druggists to get the Buhach, and to purchase in rather small quantities so that it shall be used soon after it is produced. If kept, it should be in air tight jars. This insecticide is simply the powdered flowers and stems of certain species of the genus of plants known as Pyrethrum. Like the arsenites, this may be used as a powder, sifting it onto the plants, or mixed with water, a heaping tablespoonful to two gallons of the liquid. I have usually found the liquid more effective than the powder, only I think, as by dashing it onto the plants, it strikes more of the insects. This insecticide also kills by contact and not by being eaten. This powder is to be recommended in that it is entirely non-poisonous to man and the higher animals. It is to be regretted that it is not always fatal to all insects. Thus I have found that many bugs and beetles are entirely uninjured, to all appearances, by its use. I know of nothing better for the cabbage caterpillar—"worm"—the green larva which has become so destructive in our gardens. I have been surprised at our success with this powder in ridding our cabbages of these caterpillars. I have found that I could destroy more of the insects by use of the liquid mixture than by use of the powder. Of course there is no danger in its use. This insecticide is also excellent to kill house flies. We tempt the flies to the kitchen as far as possible, in the late afternoon, close this room as tightly as possible in the evening, and by use of a cheap, small hand bellows throw a little of the dust into the room. Early in the morning the flies now prostrate on the floor should be swept up, and cremated in the kitchen stove, else some of them may come to life again.

This powder will kill the pear and cherry tree slugs, the rose slug, etc. Mr. E. Carman of the Rural New Yorker, says that it will exterminate if used thoroughly and frequently, that most abominable insect pest, the "rose chafer" or "rose bug." Buhach can also be used with success to destroy plant lice, and the parasitic lice that infest poultry and other domestic animals; but for the former the kerosene emulsion is more satisfactory, and for the latter I think there is a better substance as will appear.

[TO BE CONTINUED.]

Poultry Notes.

BY JAMES ANDERSON.

In raising young turkeys be careful that they do not get wet. Give hard-boiled eggs, with a few bread-crumbs soaked in milk for the first ten days, with a little pepper dusted into it after. Chopped corn scalded, with dandelion leaves or onion tops chopped up fine and mixed together, I find good and palatable food for a month or so, then small wheat. See that no lice gets on them or it is certain death; a little sulphur or insect powder dusted over them is good, give the old bird a good dusting also. Be sure they are brought home every night, as I have lost fifteen in one night from neglect to house them. I generally feed them well at night, and in a short time they will come home of their own accord for their evening meal. Turkeys are very fond of milk, and it is very good for them, in fact I feed all my fowls all the milk I can get for them.

Young ducks should not be allowed much water for the first fortnight, just enough for drinking purposes. They enjoy a feed of scalded chopped corn, and are exceedingly fond of earth worms. When I am digging in the garden I have the ducklings running all around me picking the worms up. I often feed several handfuls at a time to young ducks a few days old, and it is amusing to see them. One gets hold of one end and another the other end of the worm, each pulling for all it is worth, until the poor worm gets devoured by the stronger of the two. Ducks are very useful in a garden for picking up grubs, snails, etc., and as a rule do very little harm when young. There is great profit in raising young ducks for the early market, and they are easily fattened.

Young chickens should be kept for the first few days where they are hatched out. The first twenty-four hours they require nothing to eat. I then confine the mother in a coop, where the chicks have free egress and ingress. Give them bread soaked in milk at first, then a little oatmeal and millet, and when a month old they can be fed small wheat. Be sure and give all fowls when in confinement plenty of sand and gravel, as it is indispensable for the healthy digestion of their food. Lice are very apt to be on chickens as well as turkeys. I always dust the hen with sulphur when setting her and before leaving the nest, which generally is successful in keeping the chicks free of vermin.

I see by the last Poultry Review that the experiments made at the Government Experimental Farm, Ottawa, corroborated my views exactly in my essay on "Poultry Culture," that the Plymouth Rock and Light Brahma are the two best fowls for a farmer's use, both as egg producers and as table fowls, "considering the comparative rate of progress per month." The weight of the Plymouth Rock eggs each was 2½ oz.—1 lb. 11 oz. per doz.—the same exactly as the Brahmas. The Black Minorcas were the same, but as I said before the birds "were much more tender," having such a large comb and not such a good table bird. These experiments, conducted, as they seem to be, in a most intelligent way, will do a great deal of good, and will assist the farmer in choosing the kind of fowls to keep for either egg production or table use, and will also help the amateur and professional poultry keeper as well. I hope they will be published regularly in our O. P. Journal, and in fact in all the farmer's papers in the country.

The Bees—The Weather, and the Foul Brood Bill.

BY ALLEN PRINGLE.

So far as I have been able to ascertain, the bees came out of winter quarters this spring in the east in only fair condition. Those wintered outside, properly protected, fared somewhat better. The winter having been exceptionally mild, those wintered in cellars and other frost-proof repositories, were subjected to too high a temperature. Hence, an increased consumption of food, resulting in premature and unusual brood-rearing, followed in confinement by bee-diarrhoea. This affection was very prevalent, but not so bad in its effects as it usually is when due to cold and bad food. The mice also made considerable havoc amongst the bees in cellars the past winter. These nuisances have been greatly increasing in numbers for a year or two in the barns, houses, fields, and other places where they are not wanted.

The spring has been unfavorable so far. The weather has been so cold and wet that but comparatively little pollen has been yet gathered and less honey. The consequence is, that brood-rearing progresses slowly, and I apprehend the clover-flow of honey will find many colonies ill-prepared to take full advantage of it.

THE FOUL BROOD BILL.

It may not be known to the apiarian readers of the ADVOCATE that an "Act for the suppression of Foul Brood-rearing Bees" was passed at the last Session of the Ontario Legislature, and is now in full force in the Province of Ontario. Under this Act an inspector and sub-inspector have been appointed, whose duty it is to go wherever directed by the President of the D. B. K. As., and examine suspected apiaries to ascertain whether foul brood exists in them or not. Whenever he finds it present he must take immediate steps for its suppression, either by cremation where the disease is advanced and malignant, or by treatment where it is of mild type and can be readily cured. To obstruct the inspector in his duty is an offence, under the Act, punishable with fine and imprisonment. To conceal the fact that foul brood is present in one's apiary, or to sell bees or fixtures known to be affected, or to leave affected honey, comb, or other things exposed to robber bees, or to sell bees or fixtures after having been treated for the disease, and before being authorized so to do by the inspector, these all become offences under the Act, punishable as above. It will, therefore, be wise on the part of all Ontario bee-keepers to post themselves in regard both to this Act and the disease which rendered it necessary. A pamphlet will soon be sent to all Ontario bee-keepers whose names and addresses can be obtained, treating of foul brood, its cause and cure, and including a copy of the Act referred to.

A writer in the Canadian Poultry, says:—Leave newly hatched chickens alone with their mothers and do not fuss with them. The first meal to be of coarse oatmeal, with milk to drink. As soon as they can pick give them millet seed; if the weather is cold and bleak, a little bread soaked in oil will keep them from catching cold. Put a few drops of tincture of iron in the water. When I have a hen which is determined to sit, and I do not wish her to do so, I shut her in a coop and feed her plentifully on buckwheat, and give her a dose of five grains of jalap once a day for four or five days; at the expiration of this time I find the sitting desire has entirely left her.

Essex Agricultural Show held at Chelmsford, County of Kent, England, in 1890.

BY MR. HENRY WADE, SECRETARY OF THE AGRICULTURAL AND ARTS ASSOCIATION OF THE PROVINCE OF ONTARIO.

This is a large county show, most of it being open to the United Kingdom. It was fully as good as the Bath and West of England, and on the first day it was opened by the Prince of Wales, who was also quite a large exhibitor. They took in at the gates on the first day £1000, which was certainly very good. The second day it poured with rain; in spite of that it was well attended, and, as at Rochester, there were no amusements inside, only a legitimate agricultural show. Outside, all the way down the town, everything of that sort was going on, from Punch and-Judy shows to merry-go-rounds, seascides and swings, as well as the sale of everything of a curious nature. A penny goes a long way. Inside the grounds they have a ring and a grand stand for which they charge sixpence, and the prize animals are frequently brought out; also a lot of hurdle jumping is done. A dog show and a horticultural show was also going on with an extra sixpence charged. The show of horses here far surpassed the one at Rochester, as Essex is a famous horse breeding county as well as hunting county; as at the Rochester show all the buildings are covered with canvas, and more than that the ground is all fenced in with canvas fastened on to posts in long lengths. I wonder if it would turn the average Canadian boy? There are no expensive buildings, everything is shown in the buildings covered with canvas, and, after the show, are carefully packed away for the next year, and they appear to answer the purpose very well, at a modicum of cost. True, at this time of the year, they do not have any agricultural products to show, only live stock and implements. The show of implements was very large, lots of reapers, self-binding mowers, horse rakes, all built after the American pattern but with somewhat heavier frames. It was very amusing to see hay rakes of one-man power to rake hay in the fields along side of an old revolving wooden rake and a much heavier tree rake than we use. Their wagons also are very large, some with two pairs of shafts along side of each other. The traction engines were very fine, also their threshing machines, driven by steam, were very powerful and quite different from ours, but, perhaps, as good. I was surprised at the number of manufacturers from all parts of England that exhibit. There was also a large show of pottery and of greenhouse and hotbed sashes, which are not shown with us. A great interest is taken in anything pertaining to flowers. The dairy show was good, also the apiary. A professor was lecturing on bees nearly all the time.

As to stock, the horse show was very fine. Commencing with Suffolks there were 31 entries of stallions and 21 of mares. They were a splendid lot of serviceable horses. Of Shires there were 33 males and 69 females, a very extra lot, of fine bone and action. There were six thoroughbred stallions of a very strong kind calculated to breed hunters, as this is a hunting country. There were also 22 working stallions of a serviceable sort. I now come to a novel class to us that always drive the horses, a class for hunters, five years old and upwards, up to not less than 14 stone, and must have been regularly

hunted during the last season in Essex. There were 31 entries of these, and a splendid lot of saddle horses they were. We have nothing like them. Any of them would carry my weight. There was also a class for tenant farmers, up to 13 stone, and 15 entries. There were also 111 more entries of hunters, geldings and brood mares of a lighter weight. I never saw such a show of hunters in my life before, and the stalls were crowded all the time by fine fresh looking Englishmen, who seemed much interested in them, from the county man to the tenant farmers. Prizes were also given for the best appointed turnout, which brought to the front something we never see at home of any account, the four-in-hand drags and tandems of the country gentlemen, and shows the wealth of the gentlemen of England. Prizes were also given for leapers over hurdles, water, etc.

The show of Shorthorn cattle, numbering in all 68, was very fine—a few from a distance, but mostly from the neighborhood. They looked well marching round the ring and were in good order. There were a few red Polled cattle of a good quality. The show of Jerseys and Guernseys was also very large and good, and the cattle showed marks of good breeding.

The show of sheep was also very fair—not near as many though as at Rochester. The Southdowns were the most in number. There was also a fair show of Suffolk sheep.

There was also a good show of pigs of all kinds.

Chelmsford is 30 miles from London and is the county town of Essex. The ride there from London is very interesting, as you pass several fine towns, and as you get into Essex the farms are good. I have not as yet seen any very good yielding fields of hay. The meadows are literally yellow with buttercups, which the cattle do not seem to care for while green. I believe they eat them when cured with the hay.

I also visited the horse show at Islington (where John Gilpin took his famous ride.) I wish we had such a building in Toronto. It is like an immense drill shed, with galleries and a large ring in the centre for riding and driving. The show of horses consisted of hunters, hackneys, ponies and driving horses. The Prince of Wales and his family were there. The show continued over several days and was well attended. One shilling admittance and from five to one shilling extra for seats in the galleries to suit the different classes of people. What strikes you most in this lovely country is the immense age of everything in the shape of churches, buildings and farm houses and their solid appearance.

The Hon. F. P. Root, says:—"If high speed could be reliably bred, and would bear up fancy prices, there would doubtless be largest profit in breeding for speed, but the speedy horse is practically an accident, only one in many bred from the same strain will come up to the standard."

Speaking of shipping cattle, a western dealer of twenty-five years' experience, said:—"Cattle with small, narrow, light-colored or cupping hoofs are liable to become footsore either on the range or in shipping, and whenever an animal suffers from any cause his owner's pocket suffers. Chicago dealers look out for good feet, too, in cattle they are to ship to New York or to Europe. It makes a great difference in the shrinkage. In judging fine cattle at fairs he would give to the foot at least 10 points in a scale of 100. Not that he would consider it so important in the animals themselves, kept for the show-ring, but for their grades who must rustle among the rocks on the open ranges."

Family Circle.

What do You Think?
BY KATHERINE H. TERRY.

Could we straighten each loop, and each tangle,
That time interweaves in Life's skein;
Could we garner each long-vanished moment,
And live our lives over again,—
Would we sail in an ocean unruffled,
And never be stranded or sink,
Or lurched 'gainst the rocks in our blindness?
How would it be? What do you think?

We might pilot ourselves by the ledges
That once almost shattered our boat,
Avoiding the dangerous waters
Where once we were tempted to float;
But taking another direction
And leaving each perilous brink,
Would we pass each breaker in safety?
How would it be? What do you think?

Life's ocean is strewn with the flotsam
Thrown overboard out of her ships,
And never a pilot so skillful
But sometime the figure-head dips
In the spray dashing over the breakers;
And strange if he hears not the clink
Of the prow breaking in on the ledges.
How many escape, do you think?

HER ONE TALENT.

A STORY FOR GIRLS.

BY FAY HUNTINGTON.

Dark days had come to the Chesters; not swiftly, not as the thunder caps roll up suddenly with a bursting, blinding storm and peels that seem to rend the air, but slowly the clouds had gathered, as on a bright summer day a shadow crosses the sunlight, almost unnoticed at first, but growing heavier and darker; the clouds gather on this side and on that until the whole sky is overcast; perhaps the storm does not burst at all, yet the whole after part of the day we walk in the shadows, the sun quite hidden from our view.

And so for months, even for years, the Chesters had been living in the gathering shadows, conscious all the while that their pathway was becoming more and more obscured, until they seemed to have well-nigh lost their way in the darkness of doubt and perplexity.

Mr. Chester had been in earlier days a prosperous man, but an unfortunate speculation had been the starting point of their misfortunes. And as the mercantile world, whether in the physical, the moral or the mercantile world, is easy, matters had been growing worse and worse, until it seemed that the worst could not be far off. They were sometimes forced in secret thought to consider what this would be to them. It would be to give up their home, the home of their ancestors! It would be having to work for their daily bread! Well, this might not be so bad if only they could find work to do, and strength for the task. Mrs. Chester had long been an invalid and now the strong man had bowed beneath the weight of his sorrows, and there was no one to take up the burden of care and responsibility, unless indeed it could be lifted and borne by the daughters.

Mr. Chester had never once in all these years acknowledged that his affairs were desperate; he was ever on the point of some brilliant success; ever entering upon some new speculation by which he was to retrieve his fortunes, and ending by plunging deeper into the wilderness of debt and perplexity.

One morning the girls were in Maud's room. Maud sat at her easel putting finishing touches upon a panel of roses. Louise stood leaning against the dresser, looking in silent wonder at Margaret, the eldest of the trio, who had just burst out with the exclamation—

"It seems as if the Lord has forsaken us utterly!" And then she bowed her beautiful head in a rush of tears. It was not often that Margaret Chester gave way to tears, and it was no wonder that the sisters were amazed. When the violence of her grief had spent itself and she had grown calmer, Louise said: "I cannot think so. I do not believe that, as you say, the Lord has forsaken us! I know the way is dark; it does seem as if we could not go much farther. Turn whichever way we will the path is hedged across. Yet there must be a way out! Margaret, did you ever think that from the depths of the darkest, dankest Indian jungle that ever was, there is a line that reaches straight out into the open day, and that God knows and sees that line? And I believe that out of this wilderness of trouble in which we have lost ourselves, there is a path that leads to more prosperous times; and God knows the way that leads into the sunlight; and more than that, I do not believe that He means to leave us in this narrow, cramped, darksome place!"

Margaret lifted her head and replied hopelessly: "Well, I don't know; we have waited long for help!"

"Perhaps He is waiting for us to take hold and help ourselves!"

"Why, Louise! I am sure we have tried to do that, Maud and I. You know I would be only too glad to teach music if I could get pupils. And Maud fills all the orders for pictures that she can secure."

"I know you and Maud do all you can; but, perhaps, there may be other work for some of us."

There is one single word that has come down to us, which covers a great deal of ground, and I believe it just applies to folks situated as we are. When I was lazy at school Miss Porter used to say, 'Louise, whatsoever thy hand findeth to do, do it with thy might.' I always applied the latter part of the injunction, as she intended I should; but lately I have been thinking that the first word is the one to emphasize; and I am going to look for my 'whatsoever'.

Louise Chester had always been considered as the one member of the family who had no special talent. Margaret was pronounced a very capable girl; she was a fine musician and skillful in needlework, and this she had of late been able to turn to account in the line of the family sewing. Maud was the family artist, and receiving now and then an order she was able to replenish, to a limited extent, their depleted family treasury. But neither of the sisters had thus far been very successful in finding ways to turn their talents into money. Louise was the youngest of the trio and little was expected of her. She made up bouquets, kept the rooms in exquisite order, doing numberless little things about the home which would have been missed if left undone, but which seemed of little account when the question of ways and means came up.

Matters had reached a crisis; their home was left to them; nothing more, and even upon this there rested a mortgage. Louise had announced that the flour barrel was empty, and Margaret handed her a purse, saying, "There are ten dollars, and it is every cent we have in the world. When that is gone we may as well make up our minds to starve!"

"We won't make up our minds to that until it is gone!" said Louise, laughing; then, she added more seriously, "I am going to find a way to earn some money!"

"My dear child, there isn't an earthly thing you can do!" said Margaret. The brave, strong-hearted girl, upon whom they all leaned, seemed that morning to have lost the spring out of her voice and all the courage out of her heart. And no wonder that Louise, scarcely out of her girlhood, felt that she must come to the front.

"I wish I had been born with a talent for something!" she said.

"You have a talent for making sunshine, and that is all we ask of you, darling!" said Maud, consolingly.

"But one cannot eat or wear sunshine! And it is a commodity not much called for in the markets! I would like to be able to make something marketable." And, with this, Louise turned to go out, stopping however to straighten a picture which hung awry upon the wall; then she moved a chair or two pushed back a blue ottoman and brought forward a red one, saying, "I don't understand how your artistic eye submits to that want of harmony!"

Maud laughed and said, "I believe that if Louise were dying she would find out something to put to rights."

"Pity I couldn't turn my propensity for setting things to rights to some account!" Then she went down the hall singing a bit of a song. In her own room she sat down to think matters over. "They all say I am good for nothing," she said to herself.

"But I can make a room look pretty. However, I suppose they would consider it more respectable to all starve together, as Margaret says, than for me to occupy a position in some family where my special gift would be appreciated and paid for. But if that should be the *whatsoever* I will do it with my might! I must watch for the 'leading' as Deacon Fisk says in prayer meeting."

Presently, glancing out, Louise saw Mrs. Harding in her pony phaeton stopping before the house, and went out to meet her. Mrs. Harding was young, beautiful, wealthy, and a favorite in society; she was one of the few school friends of Margaret Chester who, now that the Chesters had fallen out of "society," still kept up the intimacy. That morning Louise was obliged to present Margaret's excuses. Her friend's red and swollen eyes would have been a surprise to Mrs. Harding, who accepted the headache apology quite as a matter of course.

"Then you come with me!" she said. "I am going out on Browning avenue to call at the Hunts. I promised Mrs. Hunt to bring you out sometime. You know she never makes any calls because of her lameness; but she is very fond of young people and I always take some one with me when I go out for a bit of a visit. So put on your wraps and come with me!"

Mrs. Hunt received her guests with sweet cordiality. Evidently Mrs. Harding was much at home in the Hunt mansion. She commented freely upon some changes in the parlors since her last visit, and Mrs. Hunt said she had been trying to find a place for a large picture which had just been sent home. And the ladies entered upon an animated discussion of the picture and the place where it should be hung. At length Mrs. Harding appealed to Louise.

"Miss Lou here is a genius in the line of arranging things in a room; she can tell at a glance where it ought to go."

Louise hesitated about expressing her opinion, but Mrs. Hunt said, "Do tell us where you think it should hang."

"If you will excuse the liberty, I think it should not be in this room at all. The subject is too heavy for a room where you sit much and where you receive your friends. There should be only bright, sunny places, subjects to rest the eye and brain. I would hang it in the back parlor and bring the landscape in here; then the picture over the mantle ought to be farther away; if it were hung at the end of the other room the effect, as you enter from the hall, would be much better."

Here Louise stopped, confused, as she thought

how much she was saying about the parlors of a stranger; but Mrs. Hunt was interested and exclaimed.

"I think you are right! I wish you were my daughter. I would put the matter in your hands and see what you would make of these rooms. I wonder if your mother would lend you to me for a day or two? Do you think she would?"

"Of course she would!" said Mrs. Harding, pleased with the impression which Louise was making upon the somewhat critical old lady, for Mrs. Hunt was a white-haired old woman, in a black satin dress and white neckerchief.

"Well, she may come out and spend the day with me and show me how to make a place fit to live in! I will send a note of invitation to your mother and send the carriage for you. When shall it be?"

Mrs. Hunt was in earnest and the arrangement was completed.

"Mamma!" said Louise upon reaching home. "Mrs. Judge Hunt wants to borrow me! Will you lend me?"

"Wants to borrow you!"

"Yes, she has invited me to spend the day with her next Thursday; she wants to use my taste. And I am just wild to set my hands upon the furnishings of those rooms. I know I can make things look better. You'll let me go, won't you, mamma?"

Thursday morning Mrs. Hunt's carriage came promptly to the door of the Chesters', and with great ceremony the footman called for "Miss Louise," and with as much deference as though she had been the queen, handed her to the carriage.

Louise settled herself among the luxurious cushions and smiled, then pinched herself to make sure that she was awake, or was it a dream that little Lou Chester was going to spend the day with the most aristocratic family in all the city!

Mrs. Hunt welcomed her warmly and said again and again, "How good of you to take pity on a lonely old woman for a whole day. It is so long since I have had the society of a young girl that I fear that I shall not know how to entertain you. Since Dell has been so much away I have had no young people about me."

Perhaps Mrs. Hunt observed an enquiring look upon Louise's face, for she added, "You do not know Dell? That is my sister's only child who has lived with me since her death, seventeen years ago. Now we will have luncheon, and afterwards we will return to the parlors and you shall work your own sweet will there, or rather the servants shall work for you. You will see that I meant just what I said about the parlors. I want you to make your taste tell for my benefit."

After a dainty luncheon, which painfully suggested the almost empty larder at home, Louise found herself making a study of those crowded rooms. Presently she said—

"Mrs. Hunt, please tell me what *must* stay here? I shall want to take out something; there may be articles which you would not like to have moved."

Mrs. Hunt mused a few moments. "Well, there is that large vase which Dell brought from Dresden; and the bust of Shakespeare. Dell is fond of that. My own chair and table must stay here; then Dell would never forgive me if I sent away that old piece of tapestry. Those are all the things I care particularly about."

As Mrs. Hunt watched the young girl going about, changing the position of this article or that, perhaps only moving a chair a trifle, tying a ribbon here, knotting a scarf about an easel, putting a single spray of flowers in place of a solidly massed bouquet, bringing in relief this ornament and pushing back that, putting little touches here and there which seemed trifling but which helped to make up the harmonious whole, she said—

"How do you do it?"

"Do what, Mrs. Hunt?"

"Why, find out where to put things?"

"I don't find out, I know."

"When you came in here the other day with Mrs. Harding, did you notice that things were not in good taste?" asked Mrs. Hunt.

"Why do you try to make me say a rude thing?" asked Louise, her brown eyes laughing. "I will confess that I just longed to get my hands upon these ornaments and pictures!"

At length the young girl stopped and taking a survey of the rooms, said, "I believe that is all I want to do here."

Mrs. Hunt was charmed with the result of the day's experiment.

"Why, child!" she said, "you have made a new world for me! Since the accident which made me a cripple, I very seldom go beyond these rooms on the lower floor, and it is refreshing to have something new to look at!"

"And the things which we have taken away will be new when you wish to make a change," said Louise. "The trouble here was, the rooms were too full; they gave one a sense of suffocation."

"Exactly, Miss Louise, you are a witch! My child, do you know that you are a genius? If ever you need to earn money, you have your fortune in your eyes and finger tips!"

What was it that came to Louise with that remark of her new friend? Was it inspiration? Did the Father, to whom she had prayed, give her this thought in answer to her pleading?

"Dear Mrs. Hunt," she said, her voice quivering with excitement, "do you suppose anybody would pay me for doing such things? Do they ever pay people for doing this kind of work?"

(TO BE CONTINUED.)

We want all of our old subscribers to send in some new subscribers and get some of our premiums.

Minnie May's Dep't.

Reserve.

(From the French.)

Something should remain unseen,
All the will should not appear;
For light thoughts will intervene,
And light words to danger veer.

Sometimes on the verge of speech,
Better not be over-bold,
But little pausing caution teach,
What to say and what withhold.

Idle talk is ever free,
And with riches soon runs o'er;
Reason should the treasurer be,
And still something keep in store.

MY DEAR NIECES:—

Because some old time fanciful writer has said, "Women must weep," it does not follow that we should do it. It is a bad habit to indulge in, and a crying woman is a nuisance. Tears never won a battle yet, and should never be resorted to when intelligent thought and action will carry us through any difficulty. It is well in this high pressure life that none of those specimens of womanhood live, whom "Moore" wrote about, one who would "smile when he praised her," and "weep when he blamed." No, the woman of to-day is a better constituted specimen, and should keep her tears for real heart sorrows, and what poor mortal has not enough of those. A crying habit can be overcome by a persistent effort and watchfulness, even the habit in children should be discouraged, for it has a lowering tone, and induces nervousness, besides being injurious to the eyesight. What is more objectionable than a crying child. In infants it can be tolerated, but after one year old there is no excuse for it, and as it is often pleaded by mothers that it is exercise for the lungs, exercise with the arms can be substituted. When any of my nieces feel inclined for a "good cry," it is a symptom of over fatigue or over wrought nerves. So if you will go into the open air for a few minutes, do not wait to put on a hat or lie down on your back on bed or sofa, and the nervous, strained feeling will soon pass away, and you will feel as relieved as if you had made your eyes red and upset yourself for the rest of the day, for crying does not improve one's physical condition. It should be the study of every woman to keep the emotional part of her nature under control, she will be better able to surmount the small worries as they rise, and can meet the greater ones with steadier nerves. MINNIE MAY.

Discontent is the want of self-reliance: it is infirmity of will.

Men are content to be laughed at for their wit, but not for their folly.

We might take lessons from childhood in that enviable art of being easily made happy.

Perfect valor consists in doing without weaknesses, all we should be capable of doing before the world.

Heliotropes and geraniums are greedy feeders, and will grow and flourish if watered with soap-suds. All the water used for domestic purposes, except salty water, can be used on the flower or vegetable garden, and can be saved in a barrel or tub until sundown, when flowers or vegetables may become the grateful recipients. But never water the leaves with it, as soda or soap are almost always used in it, and would surely injure them. It is much better to utilize the waste water in this way than throw it in one spot, to make a disfiguring spot in the yard, and offend both eyes and nose by the effluvia it emits.

Fashion Notes.

A great number of grey dresses are seen this season, some finished with darker grey, others with check, while many have a panel, vest, cuffs and collar of contrasting material.

Cotton dresses are made up very handsomely with finishings of sateen, or even China silk. They are, in many cases, as rich and dainty in effect, and made up with as much skill, as a summer silk.

In many cases, this season, the shoes exactly match the dress, but this mode is within the reach of only the very wealthy.

Yokes of all kinds are worn on wraps, gowns, and blouses. Some of the pretty cotton dresses

A Summer Scene.

All is quiet save the music of falling water, the singing of the birds and the buzzing bees. But these sounds of nature disturb not, nor is there discord in the melody.

"To him who in the love of Nature holds communion with her visible forms she speaks a various language; for his gayer hours she has a voice of gladness and a smile and eloquence of beauty; and she glides into his darker musings with a mild and gentle sympathy that steals away their sharpness ere he is aware."

The sky is veiled with fleecy clouds, the morning breeze stirs the leaves, the diamond dew sparkles on plant and flower. Man too has been

sweetest in the wide world. And even in after years is not the remembrance of a mother's hand ever the softest, and a mother's love the most unselfish. Happy, happy mother and little ones. Under your eye and care now, little ones to be moulded for Him who said "Suffer the children to come unto me." It is in these early days you do your most important work, which when done aright and carried through, leaves no room for asking "Where is my wandering boy to-night?" in the years to come. KATE ROBERTSON.

Sachet Bag.

Take four pieces of different colored two-inch ribbon, each one-half yard in length. Now sew



SUMMER SCENE.

for hot weather have their yokes in embroidery stuff, or of a pretty contrast to the dress.

There is no fashionable color this season. Any color that suits the wearer should be worn by her.

Little jackets are worn by young girls, made of a bright colored cloth trimmed with lace turned back on the edge. Some have made their appearance constructed of wide lace flouncing, with deep vandyke edges, and they can be fitted to the figure with little trouble. They look well over dark waists.

Flowers still continue to be the favorite trimming for hats and bonnets.

No species of slavery is worse than the "credit system."

here, for his hand has mapped the watercourse. But the water sparkles just as beautiful and runs as free as if coursing down the hillside in its natural beauty.

The scene is changed. A dog—man's faithful friend—comes bounding and barking as it leads the way for others to follow. Another picture is added to the scene. The young mother with her children does not detract from but beautifies and gives life to the whole. The walk has wearied her and she sits down to rest with her baby in her arms. The curly-haired, dimpled three-year-old, with baby features, lisps his thoughts with the innocence and perfect trust only children know. In playful mood his arms are about his mother's neck and he steals a kiss from his mother's cheek—to him the dearest, the

the four strips together, leaving five inches open at each end. You now have a piece of silk or satin, whichever your ribbon may be, in shape like a half-sheet of note paper, with five inches on each end not fastened together. Now fold your silk over so that it forms a three-cornered bag, with eight ends of ribbon loose. Make a row of stitching down the one side just above the ends. Now place a layer of cotton within, and a small packet of sachet powder. Sew up the other side the same as you did the first. Lastly, ravel those eight ends all the way until you come to the stitching. Buy a rod such as is used for banners, and tack the top of the bag to the little rings of the rod. Try it, and you will find it will not give much trouble in making and will be a beautiful ornament.—[Mrs. C. H.

Reformed Dress.

There is a great deal of discussion of the dress question nowadays, and many queries as to where dress reform will be likely to lead,—and what the outcome will be. Will it, is asked, land us just where men are? Shall we finally be restricted to an absolutely useful and uniform dress of the coat and trousers pattern? These queries usually receive an emphatic "No" for reply, and though this doubtless represents the individual opinion of the person addressed, it may also be considered as voicing the feeling of the average woman, who, whatever her troubles and difficulties with her clothes, would rather wear them than rid herself of them.

There are reasons, however, in the nature of things why the woman's dress should always differ, and be more varied, more-sided, than that of the man. The woman herself is more complex, her relations to the social world more exacting, her duties more diversified. These create a nature which demands variety for its expression, and the development of many forms of beauty for its fulfilment.

The skirt, the train, and the shaped bodice, will probably never disappear from the dress of women. On the other hand, it is not likely that the exaggerated hooped skirt will reappear in our day, or the trained dress be allowed to sweep the streets. Sense and fitness have so far prevailed that the question is not now so frequently asked: "What is the fashion?" as "What is best for such or such a purpose?"

Successful new departures are always on the line of the best that has preceded them, and no revolutionary movement, or effort to change the character of the dress of women has ever succeeded. The one garment we owe to the dress reform movement is the combination underwear, which was found on trial simple, healthful and practical. The ingeniously divided skirt which originated with Lady Harberton in England, and has since been propagated in this country by Mrs. Jenness Miller can never be a universal dress. It is, however, well adapted to some purposes, and has undoubtedly found a place which it will retain in the general economy of women's clothing.

The great difficulty in regard to it is the special method and artistic adjustment of its outer covering or drapery. A well-made divided gown cannot be distinguished from a well-shaped princess dress. But if it is badly made, it is very bad indeed.

It has been said that the tailor-made dress was disappearing—that it has been superseded by the Empire style. Nothing could be further from the truth. The tailor-made dress came to stay. Its distinctive features were improved cut, solid material and good workmanship. These characteristics have raised the standard of general dress among women, and established it upon a firm foundation. No wardrobe is now complete without a couple of neat cloth dresses, a tailor-made jacket and useful walking hat, and with the majority of young women this sort of costume has become a uniform for the street. The constantly increasing opportunities for out-door life among women makes a useful out-door dress a necessity.

The growth of these activities among women has been accompanied by a demand for adequate clothing, which, not until recently, was properly supplied. We have now an abundance of cloths suited to such clothing, and in colors that can

be worn upon the streets. We have water-proof chevots, "resisting" serges, rain-proof tweeds, and finished cloths equal to the finest made for men. We have complete underwear and we are growing into a complete outside dress. We have it now, but it is not yet understood or universally accepted.

Recipes.**STEAMED HOMINY.**

One pint of hominy soaked over night in one quart of water; next morning turn into a mould or deep tin dish and steam for two hours. If sweet milk is plentiful it may be used instead of water.

OMELETTE.

Five eggs, whites and yolks beaten separately, and half a cup of milk; a pinch of salt, and one of pepper. Heat a frying-pan; drop in a piece of butter the size of a nut; shake until all the pan is covered with the butter; pour in the yolks, then the whites, and lastly the milk, salt and pepper. Let it cook slowly on the back of the stove. When it looks firm on top turn one half on top of the other; set in the oven for a few minutes, and when ready to serve, slip on a hot dish; send to table with a few sprigs of green parsley or parsnip tops around.

WHEAT FLOUR GEMS.

Two cups flour; one cup milk; one tablespoonful melted butter; two eggs; a saltspoon of salt. Beat the eggs light, stir in the milk, butter and salt; sift in the flour, and stir briskly. Bake in gem pans in a hot oven.

PANCAKES.

One pint sweet milk; flour enough to make a thin batter; half a cup of melted butter, and a teaspoonful of baking powder; bake in a hot pan, after rubbing well with butter or lard. Keep covered close until ready to serve.

RICE PANCAKES.

One teacup of boiled rice mixed with one pint of milk; four eggs, well beaten; a tablespoonful of brown sugar, and flour enough to make a thin batter. Serve with brown sugar and powdered cinnamon.

RHUBARB STEAMED.

Peel and cut in two inch lengths; place in an agate saucepan with enough sugar to sweeten. Put the saucepan in the steamer, cover close, and steam until all the juice is extracted. Lift the rhubarb out with a skimmer; place the syrup over the fire and boil until thick; return the pieces of rhubarb, boil for a minute and set away to cool. This is a more appetizing way of serving it than putting over the fire and stewing until all is reduced to a pulp.

Labor, though it was at first inflicted as a curse, seems to be the gentlest of all punishments, and is fruitful of a thousand blessings.

Time and its measurers, clocks and watches, tick off the seconds, minutes and hours, and the days go by ere we realize it. Can we not make this summer more than a passing memory, by trying to secure to ourselves more leisure, by systemizing our labors so we will not be always at work. We know the food has to be prepared for the family, but our gardens now furnish such an abundant supply of fruits and vegetables, that no extra labor need be expended on baking pies and cakes, and a wholesome dinner can be furnished with little labor, and healthy appetites such as fresh air and exercise produces are to be found to relish it.

Uncle Tom's Department.**MY DEAR NIECES AND NEPHEWS:—**

July is here again with its haying and its ripening harvest, calling to mind that promise made away down the ages, that "while the earth remaineth seedtime and harvest and cold and heat and summer and winter, and day and night shall not cease."

Every boy and girl has an interest in this month, for isn't it ushered in by the "first"—that day in which picnics and fun and general rejoicing hold sway, when flags wave and cannon boom and drums are beaten and bands play? Confederation day! Of all the holidays we as Canadians keep, this one should be indeed *ours*. Was it not on that day in 1867 we became one united Dominion, stretching from ocean to ocean—washed on the one side by the Atlantic and on the other by the far-reaching Pacific? There is, too, the Arctic on the north, holding that "secret of the sea," the North Pole, within its grasp.

One poet has beautifully described a part of our scenery, but only a part, in the following lines:—

"O'er the Western World looks forth
Quebec, gray fortress of the north;
Where old St. Lawrence sings and smiles,
Round blue Ontario's Thousand Isles;
Where the young queen of inland seas,
Toronto, woos the forest breeze;
Where the everlasting spray cloud floats
High o'er Niagara's thunder notes;
Where Erie spreads his water fair,
And white sails gleam on soft St. Clair.
Where the Great Spirit's islands rest
Far off on Huron's sunlit breast
Where tempests wake Superior's sleep" &c.

He might have gone farther, as my nieces and nephews can well understand; their farm homes by mountain, stream and sea have each their share of grace and beauty, scattered as they are over this Dominion. Over the distant Western prairies, which Bryant calls the "gardens of the desert," over the rocky barriers at the West, beside which European scenery grows tame. But a Canadian poetess has almost put the words in our mouth for us, so we shall quote again:—

"We love, we love our Canada
From fair Ontario's vines,
From fogs and mists of Acadie,
Columbia's giant pines.
We love, we love our Canada
From Abrams glorious height,
To far-off Northwest's fertile belt,
What fairer sweeter sight!"

In another letter Uncle Tom may say more on this subject. Canada has carried him away, and his reasons for you all liking July are not yet given. Well, vacation is here, that is one good reason. Tired of a warm school-room, with lessons and examinations all done, school books laid aside and the prospect of a long rest from them in view. Then, is July not called after your hero Julius Cæsar, whom you know so well, and in whom each of you is interested. When you grow older I hope you will each read what Shakespeare has to say regarding him. What does it matter, I hear some of you say, who it was called after? It has hot days and long hours for farmer boys and girls, with only short nights of rest. Yes, short, but they are sweet and very restful, and the harvest time has its pleasures. What can please my nephews better than with a good team, a good mower and a good field of clover, they start out on their day's work, with straw hat, and in their shirt sleeves, singing

blithely as the birds around them for very gladness and innocence. Or my nieces with shining tins and transparent fruit jars and plenty of milk and berries and work, yes, and flowers and music and beauty and pleasant company. O, envy not any one, ye yourselves are happy.

"Enjoy your youth, it will not stay." Improve the passing moments. Find your joy in your work. "Enthusiasm lightens labor," so go to it

"Not like the quarry slave at night scourged to his dungeon,"

but determined to do your part well whatever it may be; face the duties of life boldly. "Be strong and of good courage" and other boys and girls seeing you will themselves go forward to all that is true and manly or womanly, all that is worthy and all that is noble.

Your loving UNCLE TOM.

Puzzles.
1-JULY, 1890.

	1	2	3	4*	5
6	7	8	9	10	11
13	14	15	16	17	18
20	21	22	23	24	25
27	28	29	30	31	

- ACROSS.—1. Affirms with confidence.
2. A company of travelers.
3. Medial.
4. Withdrawn from fellowship.
5. A vestige.
- DOWN.—1. To throw.
2. To assert.
3. A genus of plants.
4. Incinerated sea-weed.
5. To slip away.
6. To storm.
7. To snathe.

FAIR BROTHER.

2-CHARADE.

Bon jour, Sir Fair Brother; I hear
You have at length got home,
And again COMPLETE a farmer's boy—
No more to idly roam.

LAST, LAST, you'll find it useless is,
The longest day you live,
To seek in Uncle Sam's domain
What Canada cannot give.

Yet, to disparage Uncle Sam
Far from me, let it ONE;
I think he is a jolly chap,
And good for lots of fun.

But Canada's my place of birth,
The tie that most endears,
Then let us for our native land
Give three good hearty cheers.

ADA ARMAND.

3-ENIGMA.

In the Salvation army you'll find me,
I'm in business every day;
I love to bask in the sunshine,
In England I carry full sway;
I fight at the head of her navy,
I reign with the Queen on her throne;
I'm at home with all generals and colonels,
Though never with soldiers am known.

I've crossed the wide blue Atlantic,
And lived on Canadian soil;
But, to tell the bare truth sincerely,
From her brother the States I recoil;
Although I honor the President,
And his Cabinet too I may say,
I'd rather be born down at Cape Horn,
Than dwell in his Republic a day.

FAIR BROTHER.

4-CHARADE.

While in a town not long ago (its name begins with A)
Into SECOND FINAL'S office one eve I chanced to stray;
And gazing at the papers (this puzzle's strictly true)
Our worthy friend, the "Advocate," FIRST my astonished view.
"Oh! Maggie, here's the puzzles," unto my friend I said;
Just then into the office Sir FINAL thrust his head.
Said he, "You've got the 'Advocate'," and then, oh! awful caper
"Are you the Armand girl who sends the puzzles to that paper?"
Unto that query, "yes," I said; but then he asked another:
"Where does that Henry Reeve come from, and who is this Fair Brother?"
And then he stood and criticised before my very face

About our styles of metre, and what was out of place.
Now, we are not all TOTALS, and cannot perfect be,
But we'd do without being criticised by learned men like he.
Now, FINALS oft empirics are, (I'll not say that of him)
For he had a kindly manner though he sometimes did look grim.
But, if not well, one murmur do not let him hear you make,
Or he'll give you pills and powders and "nasty stuff" to take.
Next time he wants to talk like that he'd better have a care
To let no puzzlers hear him or they'll lynch him then and there.

ADA ARMAND.

5-ANAGRAM.

There's no mistake about it, for vexed I really am.
Pray do not think all angels are who hail from Pakenham.
I wish 'twere time for snowbirds, or our next parliament.
Did we but on ourselves rely we might be more content.
"An awful tease" again I say, no wonder I would pout,
Now as a last alternative OH! MOSES, QUIT, I shout.

6-CHARADE.

Two little boys on mischief bent
One night ('twas Hallow-ene),
While on a lark the deacon's hens
Their little eyes had seen.
We'll have FIRST fun the eldest said:
"Let's catch the deacon's rooster
And take two hens apiece, and tie
Them in the deacon's pew, sir."

No quicker said than done, alas
And they, the church adorning,
Did tie them where the deacon sat
Upon the Sabbath morning.

I'm told those hens the deacon meant
For a Thanksgiving dinner.
But found on rising in the morn
His hen-roost TOTAL thinner.

To tell you LAST the deacon said
When he found them in his pew,
After they had died for want of breath,
I surely can't tell you.

SNOW BALL.

7-ILLUSTRATED REBUS.



8-ANAGRAM.

To you my cousins, blithe and young,
I'll tell of pleasures gay:
I hope that you'll partake of some,
And spare TIME, PASS in play.

The picnic season's now at hand,
And ice cream has full sway;
The lacrosse and the cricket grounds
Are dressed in neat array.

Upon the lawn we often see
The gents and ladies too,
With croquet ball and bat in hand,
A gay and happy crew.

The foot-ball boys advance, retreat,
Eleven on a side;
See now! one side have made a goal,
Alas? It went outside.

Upon the diamond serene,
In uniforms most bright,
You'll find the sturdy base ball nine
All ready for the fight.

On holidays the boys and girls
Doth on a frolic go,
And ever and anon we see
The swings move to and fro.

And oft upon a moon-light night,
On lakes and rivers too,
You'll see excursion parties
And boating two by two.

FAIR BROTHER.

9-CHARADE TO FAIR BROTHER.

Oh! thou sarcastic punster,
Give us a rest for awhile
From your old chestnut, the learned Reeve,
For it has ceased to raise a smile.
You labor under a grand mistake
When you add the handle to our name.
Please take the nom de plume to thyself,
No other has such a just or mighty claim.

That what Cousin Howkins says is true,
You'll agree with me I'm sure:
That "The FARMER'S ADVOCATE" we'd greatly miss,
Is a statement unadulterated and pure.

Minnie May, as May Queen, fully fills the bill,
And fair Ada could not of chosen better;
And I am sure Miss Snowbird, away out west,
Will enjoy with the rest of her nieces her spicy letters.

For what thou can't do thyself,
Rely not on another;
I advise the men of parliament can take
As easy as the thrifty farmer.

A figure one we class you,
Among our puzzling band,
And prime with pleasure
For some puzzles from your hand.

'Tis true that fame and honor
From no condition rise:
Take excelstor for your TOTAL,
There all the honor lies.

Not a LAST of this is fancy,
And I write not to give you fame;
But, I write this line to fill up with,
And thus inscribe my name.

HENRY REEVE.

Answers to June Puzzles.

- 1-CARACAL 2-Mistake.
ANEMONE 3-For what thou can't do
BONETTA thyself rely not on
LIDLESS another.
EL 4-The "Farmer's Advocate."
5-Snowbird. 7-Minnie May.
6-Parliament. 9-Wag-tail.
8-Fifteen geese.

Names of those who have Sent Correct Answers to June Puzzles.

Lucy Cunningham, Ellnor Moore, Dorothy Fox, Ed. A. Fairbrother, Morley T. Boss, Henry Reeve, A. Howkins, A. B. Boss, Drusilla A. Fairbrother, Mary E. Woodworth, I. Irvine Devitt, Geo. W. Hagle, Clara Rillance, Arthur Woods, H. R. Ferguson, Edith L. Morrison, Gus Graham, A. C. Hill.

Hot Weather Health Hints.

Dangerous colds may be contracted by cooling off suddenly after exertion. Farmers would save much ill-health if they more generally wore flannel shirts, or wash-flannels, which prevent rapid cooling. In the cool evenings, when sitting in the open air, a coat should always be put on, or thrown over the shoulders. If you are subject to rheumatism, keep out of draughts, even in the warmest weather.

Clothing light in color is much cooler, when working in the sun, than dark clothing; in the shade, for the same weight and quality, there is no difference.

When working in the sun, if the perspiration ceases to flow, and the head becomes hot and reels, the person should at once stop working and go into the shade, for sunstroke is threatened. So long as the perspiration flows freely and the head is clear, there is little danger of sunstroke. When it is threatened, go into the shade, and bathe hands, arms, chest and head freely in cold water—icewater if you have it.

As preventives of malaria keep the premises scrupulously clean; and have pure drinking water (it is often impure on farms).

Fruits, if ripe and fresh, do no harm, even to children. It is unripe, overripe and stale fruits which cause mischief in summer. Even cucumbers, if fresh and properly prepared, are cooling and healthful.

Where the sun cannot enter, the doctor probably will, and it is better to have faded carpets than faded children. Thoroughly clean, white-wash and subject the cellar to thorough ventilation the whole summer. Too much shade about the house produces dampness and causes loss of vigor in families of growing children. Rather than trim the trees, cut out some of them.

Eat less meat in summer than during the cold months; meat heats the blood, and indirectly causes disease when eaten in excess in warm weather. An abundance of vegetables are better and cheaper than drugs.—[Dr. G. G. Groff.

NEW ADVERTISEMENTS.

All Advertisements, to insure insertion, must be in this office by the twentieth of each month.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can, in the nature of things, be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery. Advertisements unaccompanied by specific instructions inserted until ordered out, and charged at regular rates.

The FARMER'S ADVOCATE is the unrivalled advertising medium to reach the farmers of Canada, exceeding in circulation the combined issues of all the other agricultural publications in the Dominion. Send for an advertising circular and an estimate.

DISPERSION SALE

—OF THE—
PENKETT HERDS
—OF—
Pure Bred Shorthorns
—AND—
POLLED ANGUS CATTLE.

The entire herds will be sold by auction in
BRANDON, JULY 25,

(day after Brandon Fair).
TERMS—All sums under \$20 cash, over that amount six months' credit on furnishing approved notes. For catalogues write

LESLIE SMITH,
PENKETT FARM,
WAWANESA, MAN.
294-b-M

AT THE STUD!

The grand Clydesdale Stallion.
CAIRNBROGIE OF THE DEAN
(Imp.) [448] (4898).

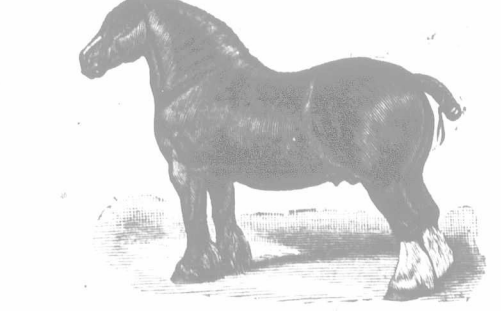
TERMS TO INSURE, \$16.00.

CLYDESDALE HORSES,
SHORTHORN CATTLE, BERKSHIRE PIGS
AND GAME FOWLS FOR SALE.

JAS. A. MULLENS,
291-f-M Model Farm, CYPRESS RIVER, MAN.

J. D. Mcgregor & CO,
—Importers of—

ENGLISH SHIRES
Cleveland Bays and Blood Horses,
BRANDON, MANITOBA.



Our second importation of Shires, Cleveland Bays and Thoroughbreds arrived direct from England, on Friday, 7th March, and will be offered for sale at reasonable terms. Every horse guaranteed a foot getter.
292-y-M

R. D. FOLEY,
Rosedale Stock Farm
MANITOU, MAN.
BREEDER AND IMPORTER OF
CLYDESDALES AND SHORTHORNS.
Young animals, males and females, imported and Canadian bred, always on hand for sale. Visitors welcome. Satisfaction guaranteed as to price and quality.
284-y

A. B. SCOTT & SON,
VANNECK, - - - ONTARIO.
IMPORTERS AND BREEDERS OF
REGISTERED CLYDESDALES
The get of McGregor, Belted Knight, Good Hope, etc. Colts and fillies, winners at all the large shows, for sale at moderate prices.
283-y-OM

Imported Clydesdale Stallions and Mares for Sale.

Each stallion guaranteed a breeder. Prize-winners and the get of prize-winners compose our shipments. Grand style, clean legs, sound feet, together with fine action and perfect constitution are characteristics found in every one of our horses. Intending purchasers should see our stock. Terms made very easy. Visitors always welcome. Catalogue on application.
DUNDAS & GRANDY,
283-y
Cavanville Station and telegraph office C. P. R.
SPRINGVILLE P. O.

ELGIN STOCK FARM.
We are one of the largest breeders in the Dominion of
CLYDESDALES,
And have for sale a lot of imported and home-bred Clydesdales - male and female

Durham and Ayrshire Cattle, Berkshire and Chester White Pigs, Shropshire and Cotswold Sheep.

A. & J. BELL,
Athelstan, P. O.
291-f-OM

D. & O. SORBY, GUELPH, ONT.,
Breeders and Importers of

FASHIONABLY BRED CLYDESDALES

We always have on hand a large number of imported and home-bred Clydesdales (male and female) of good breeding and quality, which we will sell at honest prices. Our specialties are good and well bred horses and square dealing. Come and see us or write for particulars.
277-y

SHIRE HORSES.
We have a choice selection of imported Stallions and Mares always on hand. Having a partner resident in England our expenses are very light, and we are able to sell at figures 25 per cent. lower than any other importers.

Improved Yorkshire Pigs.
We were the first importers of pedigreed Yorkshires in Canada. All our stock is registered, and our motto is, "A good pig with a straight pedigree at a fair price." Our terms are, "Satisfaction guaranteed or money refunded."

Also Pure-bred Shropshires, Imported and Canadian-bred; all registered. **ORMSBY & CHAPMAN,** The Grange Farm, Springfield-on-the-Credit, Ont. Stations, Streetsville, on the C. P. R., and E. Credit, on G. W. R.
285-y

JOHN S. ROBSON,
Thorndale Stock Farm,
MANITOU, MAN.
Breeder and Importer of Clydesdales and Shorthorns.
Young animals for sale. Satisfaction guaranteed.
285-y

ROBT. NESS, Woodside Farm
—IMPORTER AND BREEDER OF—
CLYDESDALES, SHIRES, SHETLANDS, AYRSHIRE CATTLE

The eleventh yearly importation consists of some of the best specimens of the several breeds. Clydesdales from such noted sires as McGregor (1487), Crown Royal (4315), Top Gallant (1850), Macfarlane (2988), Macbeth (3817), Sir Hildebrand (4024), Golden Guinea (3660), Old Times (579), Good Hope (1679), Knight of Snowden (2212). The stock is selected by myself with great care. Intending purchasers are invited to inspect.
The farm is situated 40 miles south-west of Montreal, on the G. T. R., and 100 miles east of Ottawa, by C. A. R. Howick Station on the farm.
ROBERT NESS, HOWICK P. O., Que.
Visitors always welcome.
291-y-OM

BERESFORD STOCK FARM.

Imported Clydesdale Horses, Stallions and Mares, Shorthorn Cattle, young Bulls and Heifers, all Registered and of the most fashionable breeding, for sale at reasonable prices. Inspection solicited.
JOHN E. SMITH, Box 274, Brandon, Man.
P.S.—Always on hand high grade Brood Mares, suitable for Agricultural purposes. 289-y-M

'300 PERCHERONS,
100 FRENCH COACHERS
Comprising my importations for 1889, are now on exhibition at
ELLWOOD'S RANCH,
DeKalb, Illinois.

This collection embraces all the **FIRST and SECOND PREMIUM STALLIONS** (with one exception); the First Premium for best Collection of Stallions; a majority of First and Second Premium Mares; shown at the greatest of all Percheron Shows, held at La Ferte Bernard, from May 29, to June 2, 1889.

The quality of this stock is guaranteed superior to any importation that ever crossed the water. In addition to the superior Draft animals which have ever characterized my selections, particular attention has been given to the selection of Coach Stallions, which is the largest ever brought from France by any importer. Conspicuous among this lot is the selection made from the famous stable of Edward de-la-Ville, being the only party that was willing to pay the price that would bring the quality of horses handled by Mr. de-la-Ville to this country, he having been the recipient of more show ring honors than any other owner of Coach horses in Normandy. It will be to the interest of intending purchasers to make a careful examination of quality and prices before buying. I desire to impress upon my customers that, as heretofore, I was the first American buyer in France this season, and my selections are made from the leading Studs, and having the first choice of all of them, I spared no expense to secure the best. All stock fully guaranteed. Favorable prices and terms. For particulars, address,

W. L. ELLWOOD, Proprietor,
DeKalb, Illinois.
DeKalb is situated on C. & N. W. Ry. 58 miles west of Chicago.
288-y

Pure-Bred Registered Clydesdales & Jerseys
Bred from pure imported stock. Young stock for sale at farmers' prices. 283-y-OM
JOHN PULFER, Springvalley Farm, Brampton, Ont.

FOR SALE. Five young Shorthorn Bulls, and a lot of Berkshire Pigs. These are all first-class animals. Send for catalogue and prices. **EDWARD JEFFES, Bond Head, Ontario.** 294-y-OM

FOR SALE.

Seven Scotch-bred Shorthorns, including the Cruickshank bull Endymion (52847); Pompadour, a 16 months' bull, from Mina 11th; a 12 months' bull by Earl of Mar, dam Imp. Clementina. Cows and Heifers—Imp. Clementina, Mina 11th, Sunnyside Mina, Sunnyside Mina 2nd. 294-c-OM **GEO. THOMSON, Bright P.O., Ont.**

Shorthorns for Sale.

Bulls and heifers, sired by Laird of Kinellar, of the Campbell-Buchan Lassie family, from which we have some fine show animals, several prize takers at the Provincial Show, 1889.

JAMES CRERAR, SHAKESPEARE, ONT. 294-y-OM



D. ALEXANDER, Brigiden, Lambton Co., Ontario.

My Shorthorn herd now consists chiefly of Imp. Lady Violet Lustre and seven of her daughters, and two daughters of Imp. Beauty 15th, almost all sired by one bull, and of one character, thick, and fine quality. Can furnish a splendid young herd at reasonable prices. Trains twice daily. Station one mile. 282-y

DAVID BIRRELL, Greenwood, Ont.
Breeder and Importer of First-class Clydesdales, Cotswolds

—AND—
Scotch Shorthorns.

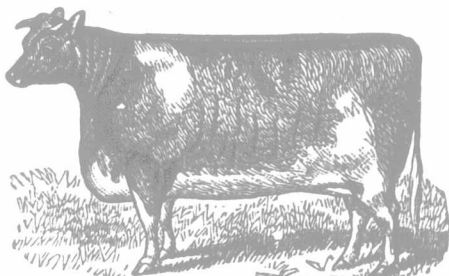
YOUNG and BREEDING STOCK FOR SALE at prices to suit the times. A call or correspondence solicited. Pickering is my station on the G. T. R., and Claremont on C.P.R. 286-y

FOR SALE,

A few Shorthorn and high grade heifers and cows, bred to Silver King 4th, a grand son of (imp.) 4th Duke of Clarence, so long in use at Bow Park. Good colors and pedigrees. Also a few choice registered Berkshires, male and female, six months old. Leicester and Southdown sheep. Prices to suit the times. Correspondence promptly answered.

R. RIVERS & SON, Springhill Farm, Walkerton, Ont. 293-y-OM

ARTHUR JOHNSTON, Greenwood, Ont.



I have for sale by far the best lot of young animals of both sex that I have ever offered. My yearlings are especially good; they are all by imported sires, and mostly out of imported dams. I have a number of excellent imported and home-bred Clydesdales of both sex for sale.

New Catalogues for 1890, will be ready by January, 20, 1890. Send for one.

My motto is, "No business no harm."

Greenwood P. O. and Telegraph Office, Claremont Station, C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see them. 289-1f

PURE-BRED JERSEY BULL FOR SALE.

Hugo Alpha of Oaklawn No. 23499 A. J. C. C. A grand bull with an A 1 pedigree. Apply **ORMSBY & CHAPMAN, Springfield-on-the-Credit Ont.** 293-c-OM

BOW PARK HERD

—OF—

PURE-BRED SHORTHORNS.

We have on hand Eighteen Young Bulls, fit for service, that we offer at reasonable prices and easy terms. They are good individuals, and well bred.

ADDRESS—

JOHN HOPE, Manager,

290-y **Bow Park, Brantford, Ont.**

DISPERSION SALE

—OF—

BREEZE LAWN HERD OF SHORTHORNS



Owing to a change in our business, we will sell the balance of our herd by auction at Brandon, during the fair, July 24 and 25, 1890. In this lot there are a number of prize winners at the Provincial and other leading fairs. Six months' time given on approved joint notes; discount for cash.

SHARMAN & SHARMAN, 295-a-OM SOURIS (PLUM CREEK), MAN.

JOHN MILLER & SONS

Brougham, Ont.



Extensive breeders and importers of **Clydesdales, Shorthorns and Shropshires.** Business established in 1848. We always have on hand and for sale a large number of imported, and home-bred animals. A visit, or correspondence solicited. 282-y

SHORTHORNS

—AND—

COTSWOLDS FOR SALE.

My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select. Prices to suit the times. Satisfaction guaranteed. Correspondence promptly answered. Visitors welcome.

JAMES GRAHAM, PORT PERRY, ONT. 279-y



H. & W. F. BOLLERT,

Cassel, Ont.,

HOLSTEIN-FRIESIANS,

Comprising Aaggie Barrington, Bonnie Queen, Jennie B. Trijntje, Glenburine and Geldertje families. Stock for sale at reasonable rates. Railroad station, Tavistock, on G. T. R. 294-y-OM



NOW READY FOR SALE

SEVEN CHOICE

YOUNG BULLS

Of the most approved Scotch breeding, all out of imported cows, and mostly sired by the imp. Secret bull, **SUSSEX (50025)**, bred by A. Cruickshank, Sittyton, Scotland. Also a few young cows and heifers. Catalogues on application.



JOHN DRYDEN, BROOKLIN, ONT. 289-1f

PARK HILL HERD OF AYRSHIRES.

This herd took all the first prizes in Quebec in 1887 and 1888, and in Ontario in 1889, in competition with all the leading herds. Young stock for sale, all of which is from the celebrated bull **ROB ROY (3971)**, which is at the head of the herd.

JAMES DRUMMOND, 291-y-OM PETITE COTE, MONTREAL, P. Q.

Prize Winning Ayrshires for Sale.



Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOS. GUY,

290-y **Sydenham Farm, Oshawa, Ont.**

R. J. MACKIE,

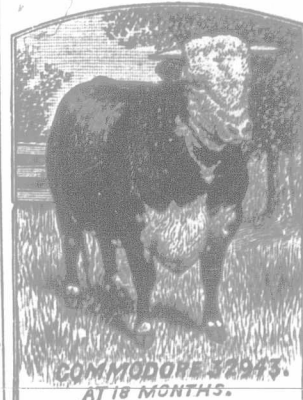
Springdale Farm, OSHAWA, - ONTARIO,

Breeder & Importer of Pure Bred

HEREFORD CATTLE

Forty first-class animals, of various ages, for sale.

An inspection solicited. 287-y



HILLHURST HERDS

ABERDEEN, ANGUS, HEREFORD,

—AND—

A. J. C. C. JERSEY CATTLE.

Choice Young Bulls and Heifers of the above breeds for sale at moderate prices at all times. A few fine young Hereford Bulls, by Cassio, at low prices if taken at once.

M. H. COCHRANE,

286-y **HILLHURST P. O., Compton Co., Q.**

HOLSTEIN BULLS FOR SALE

Two nicely marked Yearling Bulls of the best milking strains.

JOHN TREMAIN,
FOREST, ONT.
295-b-OM

BROCKHOLME STOCK FARM.

Holstein-Friesian Cattle.

ADVANCED REGISTRY STOCK.
Netherland Romulus, a grandson of Netherland Prince and Albino the second, heads the herd. Young stock for sale.

R. S. STEVENSON, Proprietor,
ANCASTER P. O., ONT.
295-y-OM

FOR SALE—TWO GUERNSEY BULLS!

7 AND 9 MONTHS OLD. ALSO A

RENNIE DITCHER,

but little used and made good as new.

WM. DAVIES & SON,
KINE CROFT FARM,
MARKHAM, ONT.
295-a-OM

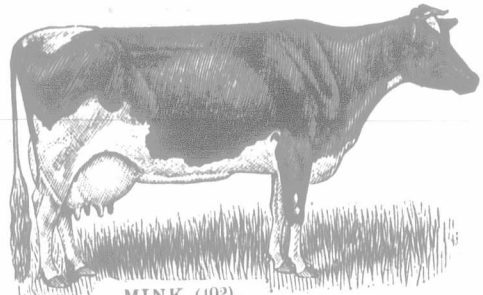
Prize Holsteins for Sale.

About disposing of my farm, I offer for sale my entire herd of Holstein Cattle. This is the finest herd in Canada, having for the last three years won more money prizes, more gold and silver medals, and more diplomas than was ever won by any herd of any breed at same number of exhibitions in this province. At the Industrial in Toronto last fall, with an American expert as judge, we practically swept the ring, taking first for aged bull, sweepstakes for best bull of any age, first for yearling bull, first, second and third for cows, and first herd prize for best bull and four females. (Breeders will understand what that means.) Whether the herd is sold or not, it will not be exhibited this year. Small breeders will therefore have a chance to get what they have never been able to do since I have exhibited a share of the principal prizes.

JOHN LEYS,
TORONTO, ONT.
295-a-OM

Credit Valley Stock Farm,

SMITH BROS.,
CHURCHVILLE, PEEL COUNTY, ONT.



MINK (102).

The great butter and milk herd of pure-bred, registered **HOLSTEIN-FRIESIAN CATTLE.** Most first prizes at Provincial and Industrial Exhibitions, 1888, 1889. Best strains; 75 head in herd; prices low for quality of stock. Send for catalogue. 291-y-OM

CHOICE Jerseys for Sale.

All ages and sex, of best milk and butter strains, St. Lambert blood prevailing. This herd has won sixteen medals (gold, silver and bronze), one hundred and forty prizes in money, several diplomas, many discretionary prizes, solid silver cup at Kellogg's New York sale for best prices on five head, silver tea set donated by FARMER'S ADVOCATE at London, 1889, for three best dairy cows of any breed.

MRS. E. M. JONES,
Brockville, Ontario, Canada.
291-y-OM

FOR GOOD HEREFORD CATTLE

—WRITE TO—
F. A. FLEMING
Address, WESTON P. O., ONT.,
Or 15 Toronto-St., Toronto, Ont
Mention this paper. 292-y-OM

GALLOWAY CATTLE! HOLSTEIN-FRIESIANS



Herd contains prize winners at Ottawa, Toronto, Guelph, Brandon and other shows.

YOUNG STOCK FOR SALE

Address—
J. G. BROWN, Manager,
Hope Farm, St. Jean Baptiste,
St. Jean, N. P. & M. Ry. 4 1/2 miles. Morris, C P.
Ry. 10 miles. 289-y-M



PIONEER HERD OF SHORTHORNS.

Walter Lynch, Proprietor, Westbourne, Man.
Fifteen first and one second herd prizes in sixteen years. A choice lot of young bulls for sale. 290-y-M



Kingswood Stock Farm

GREIG BROS., Props,
OTTERBURN, MAN.,

Breeders of
Milking - Shorthorns.

18th Duke of Kirklevington = 3077 = at head of herd.
Choice young Bulls and Heifers for Sale at all times. 291-f-M

MARCHMONT—:- HERD

OF IMPORTED AND CANADIAN BRED
SCOTCH SHORTHORNS.



The Marchmont herd took five first and three second prizes at Portage la Prairie Fall Fair in 1888. This fact is significant, as this was the largest fair held in the province that season. Eight head exhibited in strong competition. Inspection invited. Parties wishing to see the stock met at Winnipeg station. Distance from Winnipeg, seven miles north.

YOUNG BULLS AND HEIFERS FOR SALE.

W. S. LISTER,
MIDDLECHURCH, MAN. 293-y-M

My Southdown Sheep

Are descended from the well-known flocks of Lord Walsingham, Jonas Webb and Sir William T. Mockmorton, and are thoroughly acclimatized. Prices to suit customers.

J. L. VINING,
POPLAR POINT, MANITOBA. 289-y-M



The Choicest and most Uniform Herd in Canada.

Telegraph and Post Office, New Dundee, Waterloo Co., Petersburg Station, on G. T. R. Send for our new catalogue.

A. C. HALLMAN & CO.
294-y-OM

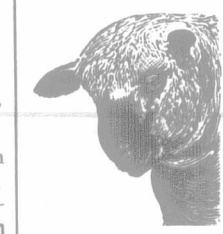
SHROPSHIRE



I have on hand a splendid crop of lambs, all from imported ram, and mostly from imported ewes. Shearling Ewes, similarly bred; also imported Ewes. Sheep in American Shropshire Record; also some very good grades.

S. A. MILLSON,
GLANWORTH, ONT.
295-y-OM

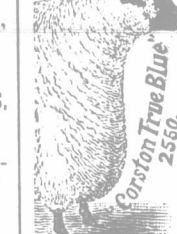
SHROPSHIRE—:- SHEEP.



This flock has won numerous prizes in England for the last twenty years, besides America, France and Africa. Has been established over seventy years. Several of the best flocks in England started from this flock thirty years back. Sheep always for sale.

F. BACH & SON,
Onibury, Shropshire, ENGLAND.
289-y

SHROPSHIRE SHEEP



DAVID BUTTAR,

Corston, Couper-Angus, N.B., Scotland

Has taken all the principal prizes in Scotland for several years. His sheep are of the purest blood, and carefully bred; every sheep eligible for registration. Pedigrees and prices on application. 294-y-OM

SHROPSHIRE

MY SPECIALTY.



I beg to lay before intending purchasers that my recent importation have proved themselves to be very prolific, fully realizing my expectations, as I have had a very heavy crop of lambs, all of which are by the most noted sires of recent years. Purchasers should inspect this stock before buying elsewhere.

W. S. HAWKSHAW,
GLANWORTH, ONTARIO.
Seven miles south of London. 291-tf-OM

DORSET HORN SHEEP

MY SPECIALTY.

These sheep drop their lambs at all seasons of the year; are good mothers and most prolific. Devon Dairy Cattle, good milkers and grazers. Flock and Herd established nearly one hundred years. Also Shire Horses and Berkshire Pigs. Sheep, Horses and Pigs exported to America have given every satisfaction.


THOMAS CHICK,
Stratton, Dorchester, Dorset, England.
295-y-OM

SUFFOLK AND BERKSHIRE PIGS
From imported stock, \$6 each, \$10 pair. Address
293-y-OM F. J. Ramsey, Dunnville, Ont.

Improved Yorkshire Hogs and Shropshire Sheep,
All bred from imported stock and registered.
293-y-OM JAS. HALL, Edmonton, Ont.

BERKSHIRE PIGS FOR SALE
Three litters of May and June pigs from choice
exhibition stock. Can supply pairs not akin.
Write for prices and references.
JOS. RIGHTMYER & SON, Wooler P.O.,
Trenton G.T.R. 295-a-OM Northumberland Co., Ont.

BERKSHIRES
I have a choice lot of young
Berkshires, from two months
old and upward, bred from
my prize-winning imported
stock. Pairs furnished not akin.
294-b-OM GEORGE GREEN, Fairview, Ont.


CECIL FRENCH,
Ightham Court Farm
Truro, N. S.
Importer and
Breeder of

Improved Large White Yorkshire Pigs
Our herd consists of two importations from F.
Walker-Jones, and N. I. Hine, Eng. Registered
stock for sale at all times. 295-y-OM

H. GEORGE & SONS, CRAMPTON, ONT.,
Importers and Breeders of
Ohio Improved Chester White
SWINE.
ALSO SUFFOLK & BERKSHIRE SWINE
We will have over one hundred pigs for spring
trade, sired by four noted imported bears. Orders
booked for spring pigs in pairs not akin. All breed-
ing stock recorded. Correspondence solicited.
Single rate by express. 280-y

E. D. GEORGE
PUTNAM, - - ONT.
Importer and Breeder of
Ohio Improved Chester White Swine
I have bred fourteen choice sows
for spring trade; have used four
imp. boars. Orders booked for
spring pigs in pairs not akin. Pedi-
grees furnished. Prices right.
Special rates by express. 293-y

Improved Large (White)
Yorkshire Pigs and
Scotch Shorthorns.
Entire breeding stock of
Yorkshires are imported;
specially selected from
stock of F. Walker-Jones and Sanders Spencer,
Eng. Registered sows and boars supplied not akin.
Shipped to order and guaranteed to be as described.
J. E. BRETHOUR, Burford, Brant Co., Ont.
293-f-OM

Ohio IMPROVED Chesters
WARRANTED CHOLERA PROOF.
EXPRESS PREPAID. WINS 1ST
PRIZES IN U. S. & FOREIGN COUN-
TRIES. 2 WEIGHED 2800 LBS.
SEND FOR DESCRIPTION & PRICE OF
THESE FAMOUS HOGS, ALSO FOWLS
L. B. SILVER CO. CLEVELAND, O.

A. FRANK & SONS, The Grange P. O.,
Ont., Cheltenham Station,
C. P. and G. T. Railways.
The Centennial - Sweep-
stakes herd of
SUFFOLK PIGS,
being the oldest, largest,
and most successful prize
winners in America. The
boar I-am-First, at the head
of this herd, is 17 months old and weighs 440 lbs.
Thoroughbred Horses.
Shorthorn Cattle
of the Cruickshank blood. Young bulls for sale,
got by Baron Camperdown = 1218 =, imp., (473-9) and
Baron of the Grange = 10654 =. Also
Southdown Sheep
from Webb's and Coleman's stock. Young stock
of all the above for sale. All orders promptly at-
tended to. 294-y-OM

IMPROVED -- LARGE -- YORKSHIRES !
All bred from imported stock and registered. Im-
ported boar "Holywell Wonder II." heads the herd.
293 y-OM **JAMES FIELDS,**
Castle Hill Farm, ANCASTER, ONT.

Improved Large
Yorkshire Pigs
From the strains of Sand-
ers Spencer and F. Walker
Jones, England. Regis-
tered young pigs for sale. Apply to
WILLIAM GOODGER,
293-y-OM Woodstock, Ont.

Write At Once!
If you want something extra good in the line of
LARGE IMPROVED YORKSHIRE PIGS.
E. M. JARVIS,
ONTARIO LODGE,
291-y-OM **CLARKSONS, or OAKVILLE.**

DANIEL DeCOURCEY
BORNHOLM, ONT.,
Importer and Breeder of
OHIO IMPROVED CHESTER
(WHITE) SWINE.
I have twenty choice sows to farrow this spring;
have used six imported boars, so I am now ready to
book orders for pairs or trios not akin. Pedigrees
furnished; prices moderate; single rates by express.
Mitchell Station and Telegraph Office. 293-y-OM

The Great
AMERICAN HOG
Two-thirds more raised
than all breeds in the
United States. Rapid
growth. Most Pork for
food consumed by actual
test. Pedigreed. 200
FOR SALE.
294-
C. M. ANDERSON, Tyndside, Ont.

BERKSHIRES
-AND-
LARGE YORKSHIRES
A SPECIALTY.
We are now prepared to
book orders for spring de-
livery pigs of the above
breeds. Also for sale a
few fall pigs, Ayrshire,
Cattle, Shropshire and
Southdown Sheep. Call
or write for what you want.
287-y **W. H. & C. H. McNISH, Lyn, Ont.**

THE - GLEN - STOCK - FARM
SCOTCH SHORTHORNS,
SHIRE HORSES,
Improved Large (White)
Yorkshire Pigs.
First importation of Yorkshires specially selected
from the herd of F. Walker-Jones, Eng., whose herd
won upwards of \$10,000 in prizes in 3 years. Second
importation shortly expected. Orders now booked
for young registered pigs. Shorthorns and Shire
horses for sale.
GREEN BROS.,
292-y-OM INNERKIP, Oxford Co., Ont.

W. & F. P. CURRIE & CO.
100 Grey Nun St., Montreal,
MANUFACTURERS OF
SOFA, CHAIR AND BED SPRINGS.
A LARGE STOCK ALWAYS ON HAND.
IMPORTERS OF
Drain Pipes, Vent Linings, Flue Covers, Fire
Bricks, Fire Clay, Portland Cement, Ro-
man Cement, Water Lime, Plaster
of Paris, Borax, Whiting,
China, Clay, etc. 277-y

AGENTS WANTED to canvass for the sale of our
Home-grown NURSERY Stock
WANTED MOST LIBERAL TERMS.
Unequaled facilities. One of the largest, oldest-
established, and best known Nurseries in the country.
Address **W. & T. SMITH, Geneva Nursery,**
Established in 1846. 294-c-OM Geneva, N. Y.

FARMS LANDS
Joseph Pollard, Jr.
Washington, Iowa, U.S.
has bargains in Iowa, Southern and Western States.
294-y-OM

AGENTS WANTED If you want to make
MONEY, take hold and
sell our choice Nursery Stock. Now is the time.
Write us at once for terms. **MAY BROS., Nursery-**
men, Rochester, N. Y. 295-a-OM

TO BUTTER MAKERS.
We have discovered a new process, which we
guarantee will make you one-half more good butter
than you can make by the old way of churning.
We will mail this process to any address on receipt
of one dollar. Address **PA. DAIRY CO., L. C.,**
East Brady, Pa. 295-a-OM

RIGBY - POTATO - DIGGER
The only successful potato digger ever invented.
Durable, easy to work and satisfactory in results.
Is being used in the great Aroostook potato region.
Will be manufactured at Houlton and Upper Still-
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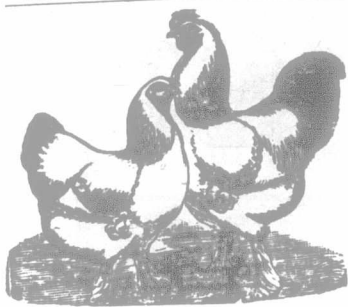
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 Eggs, \$2.00 per set; Pekin Ducks, \$2.00 per 11; Bronze Turkeys, \$3.00 per 10. No stock for sale till fall. The finest stock of Fowls in the Northwest. Call and inspect them. Address
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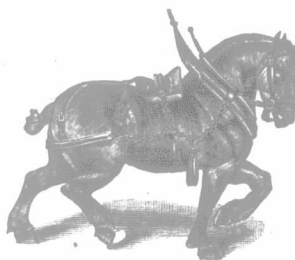
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 Always on hand. A full and varied stock of

STAPLE AND FANCY GOODS.

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 We have everything in stock to suit the farming community.
 Our stock will be found most complete, and in prices cannot be undersold.

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FARMERS,
ATTENTION!
 Who is Your Saddler?

If it is E. F. HUTCHINGS, of the Great Northwest Saddlery House, 437 Main Street, Winnipeg, then you are at the headquarters of the Harness and Saddle trade of Manitoba, the first business started in the Province, and the house that stood the test for the past twenty-two years, and to-day stands head and shoulders above all competitors. If HUTCHINGS is not your Saddler, then try him. He will sell you team Harness from Twenty Dollars (\$20.00) and upwards; single Harness at Nine Dollars (\$9.00) and upwards.

We manufacture all our goods, and guarantee them as represented. Our new Viscal Waterproof Finish will be put on all Harness, if desired, without charge.

We keep everything for the horse—Blankets, Bells, Whips, Trunks and Valises, &c., &c., at the lowest prices possible. Don't be deceived by importers of ready-made rubbish, but patronize home industry and the old reliable house where you know you will get the worth of your money.

Our Saddles have a world-wide reputation, and we are sure to please you.
 Mail orders promptly attended to. Don't forget the house.

E. F. HUTCHINGS,
 437 Main Street, WINNIPEG
 NEAR POST OFFICE. 295-f-M

HAY TEDDERS, - - -
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 Hay Forks and Carriers, etc., etc.



FOST'S PATENT HAY LOADER, GRAND RAPIDS HAY TEDDER,
WISCONSIN DEAD LOCK HAY CARRIER AND FORK,
ANDERSON'S PATENT RAKE ATTACHMENT.

The above mentioned implements are the most popular Haying Tools in the market. Send for descriptions and prices.

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SHEEPSKINS AND WOOL.

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We will be in the market this season as usual for all classes of Wool, and are prepared to pay the highest market prices. 293-f-M

ADVERTISE IN THE ADVOCATE.

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate

Public sales held this spring show that Jerseys have recently increased in value from 30 to 35 per cent.

Ayrshires are coming more and more in favor in Canada. Over large sections of the country these hardy, vigorous and profitable cattle are destined to hold a prominent place.

Mr. Cecil French, Truro, N. S., reports the sale of three improved Yorkshire boars and two sows to Andrew Gilmore, and one boar to Edward Blanchard, of Truro, and further, says he is expecting some pigs from England daily.

Mr. Charles Groat, Brooklin, writes that all his stock are in a flourishing condition, has an extra fine foal from his imported mare Velvet, by Granite City, and at the date of writing was expecting others. Cotswold sheep were more than ordinarily prolific and Shorthorn cattle were doing well.

A. & G. Rice, Holstein breeders, Currie's Crossing, sold recently to A. Ramey, Esq., Brant Co., near Harrisburg, the Holstein yearling McGinty, dam Duchess of Hollowell. A large joint stock cheese factory has been started this spring in that locality, and Mr. Ramey shows considerable enterprise in introducing such superior milkers as the Holsteins, and only good results can follow such action. The demand for Holsteins is very active. Messrs. Rice have sold all their last year's crop and have many inquiries. They have now some great youngsters from the superior bull Jewel III. Daisy Netherland, a grandson of that famous cow Jewel, the handsomest and greatest prize winner of a great breed from 1883 to 1889. Jewel was also winner of sweepstakes milk prize of 1888 at Buffalo, besides winning numerous butter prizes at various exhibitions in 1889, in all of which tests she had been in milk six months. Her record is 100 lbs. of milk per day; 31 lbs. of butter in seven days. Jewel III. record is 2,387 lbs. of milk in thirty days at four years of age. Both are in the Advanced Registry. Jewel II. also stood well in public milk and butter tests of 1889, showing this to be a remarkable family, which combined with the "Netherlands" makes a grand combination of performers. Of such is the pedigree of Jewel III. Daisy Netherland at the head of the herd of A. & G. Rice.

The following resolutions were introduced and adopted at the last meeting of the directors of the American Southdown Breeders' Association:—
Resolved—That the American Southdown Association learn with pleasure that the leading breeders of Southdown sheep in England have taken steps for the founding of a public record of their sheep.
Resolved—That this Association will gladly co-operate with a like association of reputable breeders in England for the continued improvement and dissemination of Southdown sheep.
Resolved—That the animals recorded in the British Southdown Record shall be eligible to registry in the American Southdown Record, at the same rates charged for American bred animals, upon the receipt of pedigrees officially certified by the said British Association as correct and admitted to the said British Record.
 J. H. Potts, Jacksonville, Ill., was elected President, S. E. Pather, Springfield, Ill., Secretary, and D. W. Smith, Bates, Ill., Treasurer, for the ensuing year. The Board of Directors is as follows:—T. W. Harvey, Burlington, Neb.; J. H. Potts, Jacksonville, Ill.; G. J. Hagerty, Hanover, Ohio; C. M. Clay, White Hall, Ky.; John Jackson, Abingdon, Ont.; Can.; Levi P. Morton, Rhinecliff, N. Y.; D. W. Smith, Bates, Ill.; Phil. M. Springer, Springfield, Ill.; C. F. Mills, Springfield, Ill. Letters were read from a number of members not present, all expressive of the highest confidence in the future of Southdown sheep.

Messrs. Ormsby & Chapman, Springfield-on-the-Credit, write us as follows:—Our stock has come through the winter in good order. We find the demand for Improved Large Yorkshires increasing to such an extent that we have decided on making another importation. Mr. G. S. Chapman sailed for England on the 27th, and we expect him back with some good ones before show time. Among our sales this winter were the following: Shires—To Mr. Wm. Yake, Cedarville, Ont., the imported stallion Leake Royal George, a dark bay three-year-old, got by the famous sire Royal George 2nd. Leake Royal George won second at the Provincial Show at London last fall, and should make a thick heavy horse. To Mr. Wm. Bessey, Hillsburg, Ont., the brown three-year-old stallion Packington 2nd, a son of John Barr's famous old Big Ben, and out of a mare by the almost equally famous Appleby Champion. Packington 2nd is a colt of much promise, and will, we think, be heard of again. Mr. Wm. Mullin, of the same place, takes the imported filly Leake Polly, a nice smooth bay rising four years old and in foal to Gamecock 2nd, a V. H. C. colt, London last February. The lowest blocky colt, Leake Rover, by The Orphan, goes to Michigan, Mr. John Strutt, of Grand Rapids, being the purchaser, and in Leake Rover he gets a typical cart horse. The imported filly Leake Lovely goes to Messrs. John Fothergill & Son, Burlington. Leake Lovely is a mare of wonderful substance, and should make a grand brood mare. Yorkshires—To Mr. G. Steggall, Streetsville, one sow; to Mr. D. Haragan, Kinkora, one pair; to Mr. D. Kennedy, Kinkora, one sow; to Mr. Wm. Mullin, Hillsburg, one boar and two sows; to Mr. J. M. Hurley, Belleville, one boar; to Mr. L. E. Richardson, Warden, P. Q., one sow; to Mr. Rd. Hampson, Mt. Forest, one sow, besides many others that we have not time to enumerate.

STOCK GOSSIP.

Messrs. Sharman & Sharman have sold their stock bull Buchan Laird -4317-, to Mr. James Phair, of Melita, Man. Also bull Laird of Breeze Lav. a 3rd and a fine young heifer to Mr. M. D. Wright, of Turtle Mountain, Man; also bull Laird of Breeze Lawn 4th to Captain Kellar, of Turtle Mountain.

Messrs. F. Bach & Son, of Onibury, Craven Arms, Salop, England, write us "advertising through your medium has brought us, this month, several Canadian and American buyers, besides many letters of enquiry. Mr. W. S. Hawkshaw, of Gleanworth, Ont., has been among the purchasers and has taken thirty-two choice shearing Shropshire ewes and one fine shearing ram named Wool Merchant. Our flock last year won 1st and 2nd at the Royal A. S. of England for wool, and numerous other prizes at all the leading shows."

Mr. Jas. Mullins, Cypress River, Man., writes thus:—"The small Shorthorn calf I showed you when you were here is now five months old and I think he will weigh 500 lbs. When last weighed he was four months old and weighed 406 lbs. My horse, Cairnbrogie of the Dean [448] (4898), is a beauty now. He took first at our show this spring. His colts are coming good, many hold them at \$100 from common mares that will not register. I have a very nice colt from Maud [612] (imp.) His name is Canadian Lion [1404]. My horses and cattle are looking well.

Mr. A. E. Maclean, of Caven, Assa., in company with his brother, Mayor Maclean, of Regina, recently purchased from Mr. Pope, of Cookshire, Que., the Polled Angus bull Dan Duff [1728], and two finely bred heifers of the same breed, for their ranch in the Qu'Appelle Valley. This ranch was established two years ago and has sixty-two head of horses, and the firm expect twenty-two foals. Most of the mares kept were selected in Ontario. The thoroughbred stallion Zulu is at the stud. The cattle number but thirty at present, being but the nucleus of a herd. All are of superior quality.

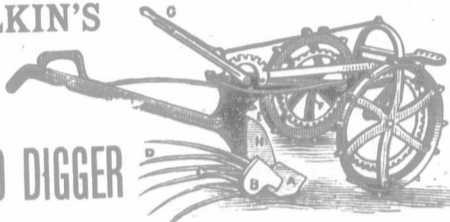
Manitoba is being filled up rapidly with thoroughbred stock, and the farmers in Brandon county are not behind in securing their quota. A carload of thoroughbred Polled Angus and Hereford cattle passed through a short time ago from the stock farm of the Hon. R. H. Pope, of Cookshire, P. Q., from which Mr. C. C. Hearn, of Hayfield, was fortunate in purchasing two very fine Polled Angus at a good figure. One is a bull, Roy of Eastview, registered 10302, and a fine looking cow, Naomi of Eastview 4th, also registered. These two animals make an excellent addition to his stock, and form the nucleus of a herd in the future. They may be seen on his farm Sec. 20, 8-19.

The Kingswood herd of Shorthorns has been recently reinforced by extensive purchases from the herd of Col. W. S. King, at his recent sale in Minneapolis, Minn. The purchase is of excellent breeding, and, we are informed, of great individual merit. The prices ranged from \$200 for Darlington 34th, a four-year-old heifer, to \$1,000 for Duke of Lyndale (Duchess). The Breeders' Gazette, of Chicago, referring to this purchase, says:—"Major Greig, of Toronto (formerly a stockholder in the Canada West Farm Stock Association), purchased the cream of Col. King's offering, sending them to his sons who are established on a ranch at Otterburn, Manitoba. Mr. John Hope, of the Bow Park Farm, Brantford, Ont., was in attendance and assisted the Messrs. Greig in making their selections, the result being the foundation of a herd of Shorthorns from which, with proper care, we shall expect an excellent outcome."

Messrs. Green Bros., of Innerkip, write us that their importation of Improved Large Yorkshires have arrived home safely, notwithstanding the rough passage they encountered. It consisted of breeding sows selected from the most noted herds in England, among which were five very promising young sows for the Ontario Agricultural College at Guelph, all carrying their first litters. As to their breeding, those from the prize herd of Mr. Joseph Ashforth were some of the best sired by The Don (309), winner of the first prize at the Royal at Preston, and the others by Donald (495), also a first prize Royal winner at Norwich, while the dams of several of them are sired by the celebrated boar Yorkshireman, winner of nineteen prizes as well as first prize at the Royal at Shrewsbury. Some of the sows are carrying litters to Duke of Windsor, winner of first at the Royal at Windsor last year. From the well-known herd of Mr. Geo. Charnock were sows sired by Worsley General IV. (1134), while the far-famed herd of Mr. Sanders Spencer is represented by Holywell Lass, of the Holywell Dame family, which is so raised for its prolificness, and sired by their present importation to their previous one, which was entirely from the herd of Mr. F. Walker-Jones, specially selected by him for them. It will be seen that Messrs. Green Bros. now possess representatives from most of the best herds in England. Their recent sales of Improved Large Yorkshires are:—Boar to Alex. Leeson, Burnbrae; boar and sow to R. & T. Hepburn, Port Stanley; boar to T. G. Smith, Rosemont; boar to F. Crookshank, Lion's Head; pair of sows to J. G. Clarke, Ottawa; boar to Geo. Reeder, Ridgetown; boar to Wm. Werry, Solina; boar and two sows to W. G. Pearce, Morpeth; sow to A. J. Dolson, Chatham; sow to H. A. Wilcox, Chatham; sow to H. C. Gibson, Newcastle; and boar to P. Hefferman, Barnet. Also the following sales of Shorthorns:—The red yearling bull Paragon, by the Earl of Mar (47815), out of the imported cow Proud Duchess, to Mr. H. Jarvis, Ingersoll; and the red yearling bull Count, also sired by the Earl of Mar and out of Imported Clara 40th of the old Shethin family, to Mr. Thos. Baird, of Blandford.

WILKIN'S

POTATO DIGGER



295-b

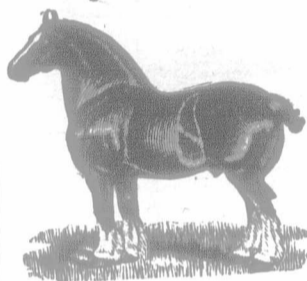
Agents wanted.

ALEX. WILKIN, Manufacturer, London P. O. Ont.

THE BEST IN THE MARKET, STRONG, SIMPLE AND COMPLETE. Shovel A raises the drill or hill. Mould-board B and Standard H casts off the outside. Prongs C and D move right and left alternately, with a drop of six inches from C to D. The potatoes are shaken to the surface by the quick action of the Double Action Prongs. Pitman F operates prongs; is fifteen inches above A; it cannot choke. Knife E cuts all tops and weeds that collect on Standard H. Send for circular, &c.

THE FOLLOWING NOTED

Clydesdale and Hackney



Stallions



Will travel for this season at under-mentioned places:

GRANITE CITY (5397), Clydesdale, Portage la Prairie.
BOUNTING WILLOW (5580) [811], Clydesdale, Brandon.
FIREFLY (1779), Hackney, Portage la Prairie.
JUBILEE CHIEF (2122), Hackney, Ridgemere Stock Farm.

We can graze a few mares at reasonable rates. For terms and further information apply to grooms or to

EVEREST & KERR, Ridgemere Stock Farm, Reaburn.

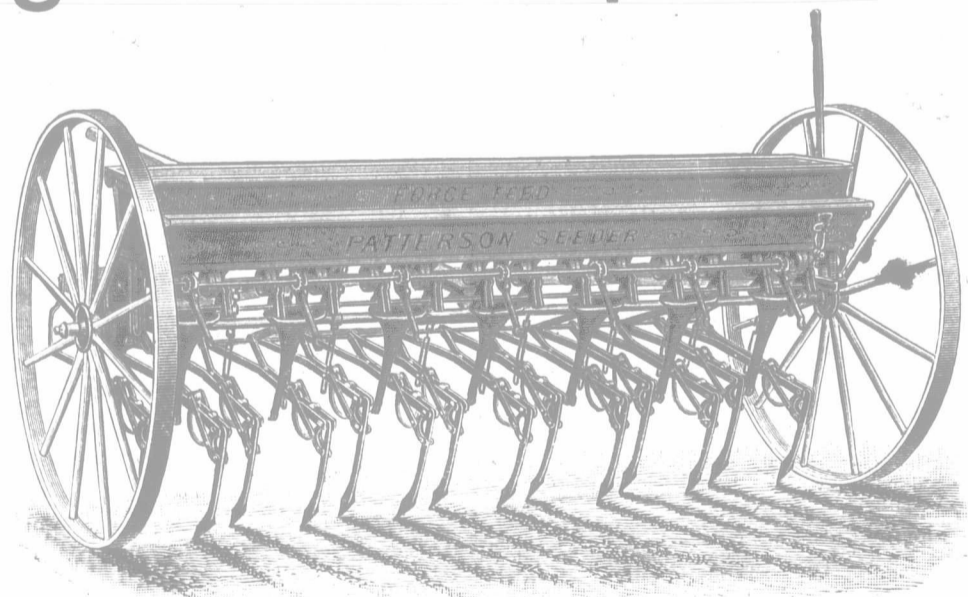
Breeders of Clydesdale and Hackney Horses, Holstein Cattle and Shropshire Sheep. 293-c-M

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SNOWBALL WAGGONS AND AYR AMERICAN PLOWS.

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SETTLERS' COMPLETE OUTFITS A SPECIALTY.

Price Lists and Printed Matter sent free.

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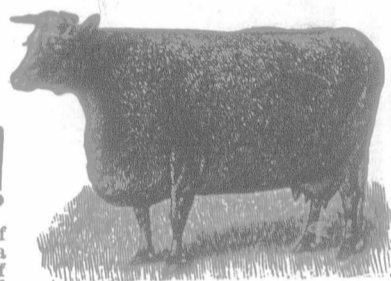
ADVERTISE IN THE ADVOCATE.

DR. CARVER 7369, Rideau Stock Farm PALM LEAF 7634,
 two-year-old record 2.40.
 By New York Dictator, (trial) 2.25 1/4.
 Dam—Kitty Morgan.
 Dam of Nannie Talbot, 2.20 1/4.
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Standard-bred Trotting Horses, Registered Holstein (H.F.H.B.) and Jersey Cattle (A.J.C.C.)
 YOUNG STOCK FOR SALE.
 F. A. Folger, Box 579. Send for catalogue.

Foaled 1887,
 BY PANCOAST 1430.
 Sire of Patron, 2.14 1/4,
 Dam—Augusta,
 Dam of Chanter, 2.20 1/4,
 Dam of Shallcross, (trial) 2.23.
 2nd dam—Dolly Mills,
 Dam of Orange Girl, 2.20,
 Walkill Chief, etc.

H. CARGILL & SON,
 CARGILL, ONT.,
 BREEDERS OF SCOTCH-BRED
Shorthorn Cattle!



With Campbell, of Kinellar, bull, imp. Albert Victor, at the head of the herd; also several imp. Urys, also bred at Kinellar, and a daughter, and grand daughters of the sweepstakes cow Rose of Strathallan 2nd, and other useful sorts. A nice lot now on hand for sale.
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Imported Clydesdale Stallions and Mares for Sale.

Highest Prize Winners in the Leading Shows of Scotland and Canada,
 AND THE GET OF FAMOUS SIRES

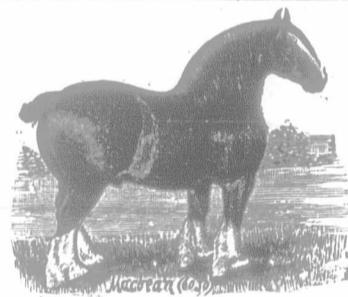
Such as Lord Erskine, Darnley, Old Times, McCammon, Prince Lawrence, Lord Hopton, Bold Magee, Sir Wyndham, Good Hope and Fireaway.

Prices Reasonable. Catalogues Furnished on Application.

ROBT. BEITH & CO.

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Bowmanville is on the line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal.
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IMPORTED AND REGISTERED
CLYDESDALE AND HACKNEY
 STALLIONS AND MARES

Constantly on hand, and For Sale at Reasonable Terms.

Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1487), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES**. Correspondence solicited, and visitors always welcome.

GRAHAM BROTHERS

Twenty-five miles east of Toronto, on the C. P. R. 280-y CLAREMONT, ONT.

THE CHATHAM FANNING MILL
 FOR 1890,



Has some valuable improvements, and the following sales show that it still takes the lead in all parts of Canada. An order has been booked this month for sixty-five mills and baggers to go to London, England.

2,000 MILLS SOLD IN 1886
 2,300 " " 1887
 2,500 " " 1888
 3,600 Mills and 1,500 Bagging Attachments sold in 1889.

More than three times as many as have been sold by any other factory in Canada.

The Bagger is now run with chain belt that will not slip.
 My new Patented Attachment for taking clay out of beans works first-class. For full particulars apply to

Manson Campbell,

233-a-OM CHATHAM, ONT.

STOCK GOSSIP.

The following stock was sold at Ferriss' stables Portage la Prairie, on Thursday, June 20th, under power of sale by chattel mortgage.—British Tom (Shire), to J. J. McRobbie and Roger Bell, for \$1,200; Suffolk Haro (Suffolk), to Chas. Fox, Winnipeg, \$485; Victor (Suffolk), to A. H. Ferriss, Burnside, \$500; Shorthorn bull, Lord Percival, to John McMahon, Portage la Prairie, \$98.

Mr. William Wilson, of Edmonton, has purchased from Mr. Arthur Johnston, of Greenwood, the very promising young bull Crimson Warfare, of Mr. Johnston's well-known Crimson Flower tribe—the family from which spring the Messrs. Currie's Provincial sweepstakes bull, at London in 1889—besides many other equally successful show animals, including the first prize cow at the Provincial Exhibition in 1883. Crimson Warfare, though not in show condition, is a very heavy fleshed, even, smooth bull, with the very best back quarters and thighs, good shoulders and good neck.

Savage & Farnum, of Island Home Stock Farm write us that their sale season has opened up very satisfactorily, and the correspondence promises a good business during the next few weeks. A notable feature of the correspondence is this, that it indicates a better class of farmers and breeders going into the horse business in the near future, than we have had in the past. The very best farmers and many business men in towns and cities are engaging in the draft horse industry for a simple reason that there is always a ready market and at good prices for their product. With all the attention that has been given during the past ten years to breeding large horses, it is still impossible to supply the demand. A good big horse always finds a ready sale at a fair price. Messrs. Savage & Farnum have a large number of good ones on hand, including their prize winners at the great shows last fall, among which might be mentioned: Agricultor 7848 (5247). They imported this horse in 1887, as a two year old. He has developed into a magnificent animal, weighing now nearly two thousand pounds. He is a horse of great style and courage, and his colts are uniformly large, and give promise of future greatness. This horse took first prize in his class at the Buffalo and Detroit Fairs last fall. One of his colts, Ajax, 10549, coming a year old May 26th, 1890, was sold to J. L. Hale, of Keith's, Noble County, Ohio, last week. Horace 7884 (8911) is another grand good one, weighing at the present time 2030 pounds. He took first prize in his class at Buffalo two years ago over a very large competition, and second prize in Detroit last fall, first prize going to Agricultor, above mentioned. Albert le Grand 7349 (1174), a dark grey, imported by his dam's side in 1887, has developed finely, and took first prize in his class wherever shown last fall. Pluviose 8755 (683), standing at the head of this stud, has never been beaten when shown with his get. He took first prize at Toledo two years ago, first prize at the Ohio Centennial in 1888, great prize at Buffalo in 1888 and 1889, and first prize at Detroit in 1889. He attracted a great deal of attention at all these shows, and all day long a crowd of women and children were gathered about his stall, admiring him and a little Shetland pony, Tom Thumb, that for the last two years has lived in the same box with him. Tom was sold to go to West Virginia a few days ago, and Pluviose is very lonesome without him, but the best of friends must part, and it is to be hoped that Pluviose will transfer his affections elsewhere. Among other prize winners, and good ones, may be mentioned Primus 5705, by Pluviose, dam Isis 1774, who was awarded gold medal by the Percheron Society of America last fall for the best American Bred Percheron Stallion; Rigolo 7915 (8854); Xenophon 7933 (7928), all prize winners in their classes. The firm have on hand at the present writing seventy-eight stallions, comprising all the various ages, weights and colors. They are prepared to make close prices, sell on easy terms, give liberal time to buyers, and guarantee their horses breeders. They also have a large number of grade stallions, which they do not catalogue. These horses weigh from fourteen to seventeen hundred pounds, and sell at from \$250.00 to \$500.00 a piece. Among their pure bred Percheron mares might be mentioned the following, all being prize winners in their respective classes within the last year:—Abelle 6740 (8883) a dark grey, weighing 1800 pounds, imported in 1887. Abelle now has a filly foal at foot by Pluviose. Babette 4398, a dark grey, winner of first prize in her class at Detroit last fall. Coquette 7871 (2281), a grand good mare, imported in '87 with Albert le Grand by her side. Coquette is the dam of Ajax, mentioned in this article, and a grand good mother she is. Fanchon 4399, Juliet 5710, both born and bred at Island Home, attract a good deal of attention wherever shown. One is a dark grey, and the other a bay. Fanchon has raised two colts and Juliet one. Juliet is the daughter of the famous Percheron stallion Jupiter, sold by Savage & Farnum two years ago to D. H. Wilder, of North Bloomfield, Ohio. Jupiter was painted in France by Rosa Bonheur, the most famous animal painter living, and afterwards presented to the Percheron Society of France. Savage & Farnum bought the colt at a very long price. Space will not permit us to go through the entire number of their good ones. Suffice to say, they have on hand forty-one Percheron mares at the present time, which they offer intending purchasers to select from. Savage & Farnum will be glad to mail their catalogue free, showing extended pedigrees of their horses, view of "Island Home," and portraits of many of their best animals. We would advise intending purchasers not to make a selection until they have seen what Savage & Farnum have to offer. Address them, Savage & Farnum, Campau Building, Detroit, Michigan.

ADVERTISE IN THE ADVOCATE.

STOCK GOSSIP.

In the August number we intend to publish a list of the dates of holding the various exhibitions and fairs throughout the Dominion. Secretaries kindly send along the desired information.

In a business letter received from Mr. James Russell, Richmond Hill, he adds that "I have sold eleven bulls this winter, and twenty-five Cotswolds to an Ohio breeder last fall, besides several Cotswolds through Ontario."

Sir.—Please accept thanks for the beautiful engraving, "Canada's Pride." It surpasses anything of the kind I have ever seen. I am proud to know such a work of art can be executed in Canada.—John Jackson, breeder and importer of Southdown Sheep, Abingdor, Ont.

NOTICES.

In another column appears the advertisement of J. C. Millson, of Glanworth, who has a number of very fine Shropshire sheep.

We direct our readers' attention to Rigby & Burling's advertisement of potato digger. This digger appears to be very highly spoken of, but we have not had the pleasure of seeing it at work.

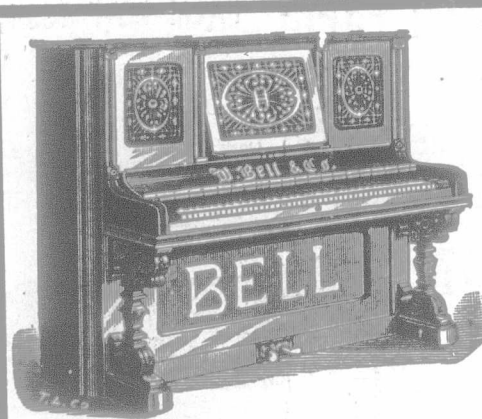
Messrs. Everest & Kerr, of the Ridgemere Stock Farm, Reaburn, have dissolved partnership. Mr. Everest will remain at Ridgemere and keep the Holstein cattle and all the Clydesdale horses except Granite City. Mr. Kerr takes the farm at Burnside. Mr. Kerr takes all the Hackney horses, including Jubilee Chief, Firefly and Conquest; also the grand Clydesdale stallion Granite City.

LONDON MUTUAL.—We beg to direct attention to the advertisement of this company in this issue of the ADVOCATE. This company was established over thirty years ago by the farmers of the county of Middlesex. The proprietor of this paper took out one of the first policies and the property has been insured with the company ever since. This shows practically our confidence in the institution. The company are now located in their handsome offices on Richmond street, a very good out of which appears in the advertisement.

THE TOLTON PEA HARVESTER.—Peas are one of our staple crops, and doubtless much of the success in stock raising in Ontario may be credited to feeding this grain. Canadian sheep would never have attained their present prominence across the lines had not this crop formed part of the rations, and it is doubtful if sheep raising can be brought to as high perfection without it. The dread of harvesting this crop by hand, the amount of waste by shelling and dirt accumulating by the use of the horse-rakes, have prevented many from growing peas. By using this machine we can keep up to the times, as by its use peas can be expeditiously handled while the straw is in the prime, and without waste and dirt or any of the drawbacks attending the old-time methods, so that we can with confidence pronounce this harvester as well up in its line for the purpose as the mowing machine or self-binder are for theirs. For particulars see advertisement.

FARMERS, THRESHERS and MILL MEN

Every Stable Should Have Peerless Hoof Ointment. 294-b-OM

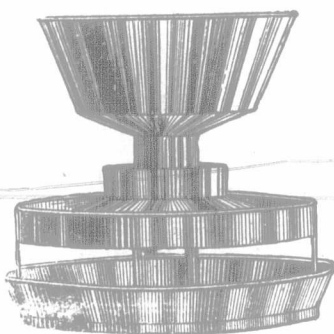
**THE GENUINE BELL PIANOS AND ORGANS**

New Williams, White and Household SEWING MACHINES

Fully warranted. Prices low. Terms easy.

W. Grundy & Co.

294-y-M 431 MAIN STREET, WINNIPEG.

Dairymen, Attention!**Thomson's Milk Aerator!**

PATENTED 1888.

EVERY CHEESEMAKER

Knows the necessity of the thorough aeration of milk. This Aerator works automatically, strains and aerates the milk on the milk stand or in the wagon or any other place required. When milking is finished the milk is in the finest condition for making a first-class article of cheese. Endorsed by the best dairymen in the Dominion. All information, with circulars, testimonials, etc., sent free on application to

ALEX. THOMSON, General Agent, Caintown, Ont.

Right for sale for Manitoba and the Northwest. Agents wanted in every county in the Dominion. 294-d-OM

MICA ROOFING**USE Mica Roofing**

On all your Buildings.

It is Cheaper than Shingles.

Water Proof and Fire Proof.

**USE MICA PAINT**

To Repair Leaky Roofs.

Shingle, Iron or Tin Roofs painted with it will last twice as long.

RAPIDLY TAKING THE PLACE OF SHINGLES.

Is put up in rolls of 108 square feet each, 36 feet long by 3 feet wide, and costs 2 1/4c. per square foot, thus affording a light, durable and inexpensive roofing suitable for buildings of every description, and can be laid by ordinary workmen. One man will lay ten square in a day, which brings the cost of Mica Roofing about 75c. per square cheaper than shingles. Special terms to dealers who buy our Mica Roofing to sell again. Orders and correspondence answered promptly.

HAMILTON MICA ROOFING CO.

Office—108 James Street North, HAMILTON, ONT.

MANITOBA LANDS FOR SALE BY D. A. ROSS & CO.

ESTABLISHED 1877.

We have over 1,000,000 acres for sale in the best districts in the Province. 200 improved farms for sale. We are sole agents for the sale of lands of four loan companies, and consequently can give you some cheap farms and easy terms of payment. We have been inspecting lands for loan companies and private individuals for the past twelve years and know every farm within a radius of 50 miles around Winnipeg. Parties buying from us get the benefit of our experience. Send for list of land or any other information. Large blocks of land a specialty. References—British-Canadian Loan Co., Canada Landed Credit Co., Freehold Loan & Savings Co. (Ltd.), Manitoba & North-west Loan Co.

D. A. ROSS & CO., 2 William St., Winnipeg.