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No 13

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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VOL. XXXV. LONDON, ONTARIO. AUGUST 15, 1900. WINNIPEG, MANITOBA. No. 508

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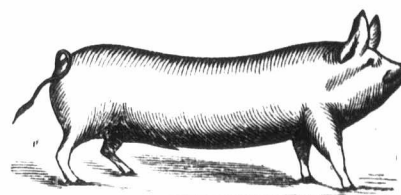
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PUBLISHED TWICE A MONTH, AT LONDON AND WINNIPEG, CAN.

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AND HOME MAGAZINE

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

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VOL. XXXV.

LONDON, ONT., AND WINNIPEG, MAN., AUGUST 15, 1900.

No. 508

EDITORIAL.

The Influence of the Fairs.

The part which agricultural and industrial exhibitions have played in advertising Canada, and the influence they have had in the improvement of her live stock and methods of farming, we believe bulks more largely than many of our people realize. Only those who are old enough to remember, and who were associated with the work of the pioneers in the establishment of competitive examinations in live stock and other farm products in the older provinces a little more than half a century ago, have any true conception of the immense benefits which have accrued to the country as the result of their efforts in this line. The educational influence and stimulus to improvement exercised by these enterprises has been grandly demonstrated in the last decade in the prominent place Canada has filled in the International Exhibition at Chicago in 1893, where our live stock took the lead, and in Paris in the present year, where our agricultural and dairy products, fruit and farm machinery are eliciting the admiration and wonder of the world, and are advertising the Dominion as a field for immigration and investment in the best possible manner. It is gratifying to know that the spirit of the fathers in this regard is present with their sons of the present day, and that the good work is being carried on with undiminished zeal and energy; that where in the Province of Ontario a quarter of a century ago one large provincial fair was held, we have now at least three that are worthy of that appellation, since they are patronized by exhibitors and visitors from all sections of the Province, while each of the other provinces has its one or more strong, vigorous and successful exhibitions which are doing good work in their several spheres.

The Winnipeg Industrial, the first of the summer shows, as will be seen by the extended report published in this issue, has auspiciously opened the campaign for the closing year of the century by scoring a record in its short but successful career, and demonstrating by the magnificent display of high-class stock brought out that the Prairie Province is no longer wholly dependent upon wheat for its revenues, but has more than two strings to its bow, and, thanks to the wise foresight of its leading men in instituting the exhibition, and of no small number of its farmers in turning their attention to live stock, is happily prepared to tide over the effects of a season of drought, a contingency to which any and every country is liable. The Toronto Industrial, by common consent the greatest exhibition on the continent, continues to prosper, and promises this year to far excel its past record in the quality, extent and variety of its educational and business features, as well as its special attractions and the beauty of its splendid grounds by the lake shore.

The Western Fair at London, the pride of the farmers of Western Ontario, annually draws from all over the Province hundreds of exhibitors and thousands of visitors who are delighted with the city and the show, the latter being made up largely of the cream of the Toronto exhibits, supplemented by a large contingent of western stock reserved for the home show, which, fresh from the fields, not infrequently wins over the Toronto victors on the parklike exhibition grounds of the Forest City.

The Canada Central Exhibition at Ottawa, the capital of the Dominion, grows in popularity and excellence with the years. Its grounds are picturesque, its live stock buildings the most complete and comfortable, alike for exhibitors, visitors and stock, in all the list of fairs, while the best of the winners in the west are met by the elite of the studs, herds and flocks of Eastern Ontario and the sister Province of Québec, while the favorable excursion rates make it easy for thousands of visitors

from both east and west to avail themselves of the opportunity to visit the capital. There is, perhaps, no city in the Dominion more full of interest to visitors than Ottawa. The education of no young Canadian is complete who has not seen the capitol and from Parliament Hill looked out upon the Chaudiere Falls and the beauty of the far-reaching landscape view on either side of the Ottawa.

The Maritime Provinces each have their own provincial exhibition, all well equipped, growing in interest and popularity, and exerting an excellent influence on the conditions of the agricultural community. To business men, and to pleasure-seekers as well, a profitable circuit is afforded by the exhibition fixtures at St. John, Halifax, and Charlottetown. For a healthful trip and wholesome associations, for charming scenery and the inhalation of ozone, commend us to a tour of the Maritime Provinces. To those whose preferences lead them to long for a look into the newer and ambitious West and its immense possibilities, the fair fixtures at Calgary, Kamloops and New Westminster are open, and a trip over the trans-continental Canada Pacific is an education in itself. The dates for the holding of the fairs mentioned, and many more, will be found in the list on another page, and we commend them all to the liberal patronage of our people, who in these times of prosperity can well afford to take a few holidays, and have every reason to be thankful that the lines have fallen to them in pleasant places.

For the Lumber and Mining Camps.

We have been requested by Mrs. May R. Thornley, President of the Ontario Women's Christian Temperance Union, to bring before the attention of our readers the good work which that organization is carrying on among the men in the lumber and mining camps of what is called the New Ontario. Many of those who have drifted into these regions came from farm homes, and do not now enjoy the comforts, privileges and restraints of their earlier days. The Union has been sending them "comfort bags," containing many articles not otherwise obtainable, however highly enjoyed, in these camps, together with wholesome books and other literature. The territory covered includes Algoma, Muskoka, Nipissing, Thunder Bay and Rainy River Districts, where two workers or missionaries are engaged, Miss Sproul, of Ft. William, and Mr. Leckie, of Huntsville, though there is ample scope for a dozen. Thousands of miles of rough country are traversed in order to personally visit the camps, where the comforts are distributed and meetings held among the men. The good counsel given them on these occasions, backed up by practical sympathy, has been the means of untold good. The work is supported voluntarily, and the Union being composed of women, the large proportion of whom do not carry the purse, the outlay for the work, which is undenominational, gets beyond their slender means. The object is a worthy one, which we gladly bring before the notice, especially, of our Ontario readers. Any sums, large or small, donated should be sent to Mrs. Jennie Walters, Treasurer Ontario Provincial W. C. T. U., 57 West Avenue, North Hamilton, Ont.

The magnificent average of \$836, made by the fifty-six Shorthorn cattle sold at the Flatt sale at Chicago last week, in which statement is included four calves, coupled with their dams, though sold separately, may be taken as a pretty good index of the outlook for the beef trade, in which the demand, present and prospective, is greater than ever before. A look through the Chicago packing houses, with their immense capabilities and gigantic operations, serves to strengthen the confidence of breeders and feeders in the solidity of the business and the safety of its future, while the enormous transactions in cattle at the Union Stock Yards there still confirms the confidence entertained.

Opportunities for the College of Agriculture Graduate.

We are frequently asked by prospective students, "What are the opportunities of the Agricultural graduate compared with those of Colleges of Science, Literature and Engineering?" It is not the writer's intention to make any comparison whatever, but merely to call the attention of the reader to a few of the many chances for a young man along the line of agriculture.

No agricultural college claims to be able to place all of her graduates in good remunerative positions as soon as they graduate. In the past it would have been folly for them to think of doing so, but the tide has turned, and the importance of education in agriculture has come to be generally recognized. This change is mainly due to the more exacting conditions, and to the influence of the agricultural press, the Farmers' Institutes, the various live stock and dairy associations, and the Experiment Stations and Agricultural Colleges.

It is not the main object of the college of agriculture of the present day to train men for salaried positions. Its main object is the training of students not only to be good farmers, but good citizens and successful men. In this connection I might mention the fact that all of our College of Agriculture graduates during the past two years have returned to manage their fathers' farms, notwithstanding the fact that many tempting offers were made them to accept other positions. But there is another class of young men who are intensely interested in agriculture, that have no farm or capital of their own to start them in life; thus they must of necessity become salaried men, for awhile at least. It is for these young men that this article is written.

During the past few months we have had a great many inquiries from the various States of the Union asking us to furnish trained men along the following lines: herdsmen, farm managers, managers of special dairy farms, creamery experts, specially trained men along crop lines, nursery managers, landscape gardeners, agricultural editors, and requests from seven State colleges and experiment stations asking us to furnish them men in rank from the position of instructor to that of full professor.

The question quite naturally arises, what remuneration do such positions offer to the right kind of a man? The best answer to such a question is to quote from a few of the enquiries along the different lines of work. Just a few days ago we received a letter from one of the leading physicians in good old York State asking us to furnish him a superintendent for his large dairy and stock farm, where pure milk is bottled and sent to New York City for infants' use at fifteen cents per quart. "The man for such a position must be well versed in live-stock breeding, feeding, pedigrees, etc.; he must also understand the care and management of dairy machinery, the care of milk, and superintend eighteen men that work on the farm." The proprietor wrote us as follows: "You know the kind of man I need; if you have such send him along at once, and I will pay him a salary equal to that of your highest university professor, and should he turn out first-class I can pay him much more."

A large land owner in the central part of the State wishes us to furnish him a young man well up in farm crops and live stock, to superintend his farms, and instruct his tenants as to how to increase their yields of grain without having to increase their acreage. This gentleman informed me recently that he would pay such a man \$100 per month and expenses to start on, with good prospects for an increase later. One of our best young men is fitting himself especially for this line of work.

One of the far south States recently wrote us asking if we could recommend them a good man for the position of agriculturist and horticulturist for their college and experiment station, salary \$1,800 a year to start with.

Within the last few months we have had a dozen or more applications for trained men along dairy and live stock lines at salaries ranging from \$25 to \$50 per month to start on.

I might say that this demand is steadily increasing from month to month, and it has been 100 per cent. greater this year than any previous year. I might also mention that the most remunerative positions open to any of the university students during the past year were along the line of agriculture.

W. J. KENNEDY,
College of Agriculture, University of Illinois.

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Address—THE FARMER'S ADVOCATE, or
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LONDON, CANADA.

The Hardness of Wheat and its Relation to Milling Qualities.

BY G. H. CLARK, B. S. A.

It has been generally understood that the wheat most desired by the millers is a variety that is hard and flinty, because, in milling, it produces a flour of superior quality.

Wheat-growers are giving preference to those varieties from which they are getting the best returns, and it would be extremely unjust to censure them because they do not produce wheat to suit the miller's requirements unless sufficient allowance is made to compensate them for the deficiency in yield.

The question as to what determines the strength of flour is one which, so far as I know, is not very well understood. The ordinary method used by millers is to weigh out a definite amount of flour, note the amount of water required in order to obtain a given texture, and if little water is required, they conclude that it is low in the percentage of gluten. The gluten-content is also the measure of the nutritive value of the flour; consequently, a flour poor in gluten will produce a bread deficient in nutrients.

There is a noticeable connection, too, between the strength and the color of flours. Those varieties of wheat which produce a light, bulky, soft flour, white in color, are invariably those which require the addition of a large percentage of Manitoba wheat in order to increase the strength.

There appears to be a peculiar fancy among bread-consumers for a white loaf. This is undoubtedly of great importance to millers, and in order to supply the demand, an increased quantity of those wheats which are low in the percentage of nutritive constituents is used. Now, the intuition that leads us to prefer the white loaf to one of a darker shade may be sound; at the same time, it is possible to have too much of a good thing, and we sacrifice a great deal for the sake of the dazzling white loaf. With the increase in gluten there is also a peculiar sweetness in the bread which, although a question of individual taste, ought not to be objected to, especially when it is associated with increased nourishment.

A gluten-content of nine per cent. is insisted upon by the French Government.

It has been argued that amongst a nation of meat-consumers, there is no need for the consumption of nitrogen in the shape of bread; it might, however, be viewed from the point that being condemned to the consumption of starch creates a craving for meat. It certainly does not tend to diminish it.

It has been asserted that the gluten-content of wheat is increased in an inland and elevated district. This idea has perhaps been taken from the fact that western wheats contain a much higher per cent. of gluten than ours. There are, however, other causes which have a direct influence on the quality of their grain. Their soil is exceedingly rich in nitrogen, and it has been shown by experiment (Agr. Gazette, N. S. W., Vol. I.,—91, p. 146) that the application of nitrogenous fertilizers increases the gluten-content of wheat. The stage of cutting also makes a perceptible difference.

The object of this (O. A. C.) experiment was to obtain an approximate relation with reference to milling qualities between the various varieties of winter wheat which are at present being grown on the experimental plots. Concluding that their milling qualities depend largely upon the proteid matter which they contain, and believing that the hardness of the caryopsis is an indication of its gluten-content, our idea was to determine the relative hardness of the varieties, and by analyzing a few typical samples, demonstrate the relation which we believe to exist.

The instrument used for testing the hardness of the grain consisted of a pair of forceps, one handle of which was firmly attached to the end of a short board. In the other handle a small hole was drilled in order to conveniently attach a wire, which was connected with a spring balance. On the opposite end of the board was fitted a small pulley, whereby gradual traction could be applied to the balance, to which it was connected with a stout cord. The spring balance used was graduated in ounces, and would weigh up to four pounds.

The mechanical advantage in the leverage of the forceps handle was eight to one.

An average was taken of each variety from forty kernels of grain, which were throughout the entire lot uniform in size and true to type. They were invariably placed in the jaws of the forceps in the same position, and in case of a defective grain that would not register within the average range, the reading was not taken.

The following table shows the amount of direct pressure required to crack the average kernel of each of sixty-two varieties which were grown on the experimental plots in 1896. The table is arranged from Bulletin No. 103, with a view of indicating the relation between the comparative hardness of the varieties, and the color of the grain, percentage of rust, dates of maturity, percentage of straw lodged, weight per measured bushel, and the average yield of grain per acre during the years grown:

VARIETIES.	(Color of grain.)	Per cent. of Husk.	Per cent. of Straw lodged.	Weight per Measured Bushel.	Yield per acre.	Pressure required to crack Ounce.
From O. A. C. Exp. Bulletin 103, 1896.						
Grown for five years.						
Dawson's Golden Chaff.....	W	40	2	59.8	49.9	161.0
Egyptian.....	R	25	29	60.7	46.8	199.4
Golden Drop.....	R	30	47	61.5	46.5	194.8
Early Red Clawson.....	R	50	45	58.7	46.2	188.6
Reliable.....	R	15	14	61.7	45.3	194.8
Russian Amber.....	R	29	19	61.5	44.0	210.2
American Bronze.....	R	70	2	58.8	42.8	204.8
Bulgarian.....	W	40	18	61.1	42.1	199.3
Red Velvet Chaff.....	R	45	35	58.4	41.5	238.1
Golden Cross or Volunteer.....	R	50	22	60.1	40.4	235.2
Standard.....	W	45	16	58.5	39.4	191.2
Surprise.....	W	45	25	58.3	39.3	166.4
Bonell or Sandreth.....	W	29	26	58.8	39.3	214.8
Jones Winter Fyfe.....	R	40	22	59.2	38.4	206.8
Longberry Red.....	R	29	42	61.0	37.4	249.8
Valley.....	R	50	10	61.0	37.1	226.0
Mediterranean.....	R	55	31	60.4	36.9	222.4
Monette.....	W	25	17	59.6	36.5	220.2
Genesee.....	W	33	19	61.4	35.9	212.3
Velvet Chaff.....	R	35	5	62.8	34.9	217.6
Fultz.....	R	45	5	62.4	34.9	213
Grown for four years.						
Stewart's Champion.....	R	45	6	58.6	37.2	216.4
Early White Leader.....	W	70	5	56.5	33.8	189.0
Soules.....	W	60	7	57.4	33.7	169.6
White Star.....	R	70	6	59.8	32.8	188.1
Treadwell.....	W	35	6	59.5	29.2	180.2
Grown for three years.						
Early Genesee Giant.....	W	70	5	60.9	47.8	187.4
Imperial Amber.....	R	15	37	50.7	46.3	201.4
Tasmania Red.....	R	35	47	61.8	45.7	222.6
Early Ripe.....	R	45	18	61.7	45.0	205.4
Egyptian Amber.....	R	15	27	61.7	43.9	187.8
Pool.....	R	35	15	61.0	43.8	192.6
New Columbia.....	R	45	5	59.2	41.7	207.4
Siberian.....	R	35	19	61.6	41.0	256.6
Pride of Genesee.....	R	30	22	62.3	41.6	224.2
Red May.....	R	25	13	62.3	40.4	199.4
Geneva.....	R	25	33	62.5	40.3	218.8
Arnold's Hybrid.....	R	35	12	61.7	39.8	204.2
Bissell.....	R	20	34	61.5	39.3	222.4
Emporium.....	R	10	20	59.3	39.2	224.6
Rudy.....	R	50	34	60.7	39.0	224.0
Tuscan Island.....	R	65	30	60.2	38.4	241.4
McPherson.....	R	30	25	61.6	37.3	236.8
Golden Tankard.....	R	55	33	60.5	36.6	235.6
Andrew No. 4.....	R	60	17	60.0	36.0	229.4
Simcoe Red.....	R	35	25	59.2	35.8	197.2
Turkish Red.....	R	15	12	62.0	34.6	253.2
Kentucky Giant.....	R	35	32	59.3	34.6	253.2
Jones' Square Head.....	W	50	4	58.5	33.8	204.8
Penquit's Velvet Chaff.....	R	70	12	61.4	32.6	225.6
Currell.....	R	50	18	61.0	31.8	231.4
Hindostan.....	R	85	29	60.7	31.5	222.6
Billard's Velvet Chaff.....	R	70	2	60.5	25.0	231.6
Grown for two years.						
Michigan Amber.....	R	40	8	61.5	46.2	211.6
Hunter's Wheat.....	R	25	8	61.8	40.1	216.0
Pride of Illinois.....	R	50	15	61.6	37.0	218.1
White Boarded.....	W	45	2	59.5	35.3	201.2
German Emperor.....	R	30	30	61.0	33.1	243.1
Silver Star.....	W	65	5	61.2	30.5	212.0
Kalina.....	R	60	5	60.2	27.9	210.0
Amherst Island.....	R	10	43	59.9	27.2	214.2
Sampersham.....	W	40	1	60.4	26.9	213.0

In the above table it may be noticed that the direct pressure required to crack the grain of the various varieties tends to increase as the average yield per acre decreases. From this the inference may be drawn that the actual amount of nitrogenous matter per acre would be approximately the same among many of the varieties which are adapted to our climate, and that the increased weight of grain from the large yielding varieties is due to a proportionate increase in the percentage of starch.

It may also be noticed, though perhaps it has but a slight bearing on the subject in question, that there is a perceptible relation between the hardness of the grain and the percentage of rust.

The rust-resistant varieties (Queensland Bulletin No. 19, p. 13) are often, though not necessarily, inferior in appearance to the familiar white, starchy, rust-labile kinds. It seems to be true that the firm, hard red wheats are rust-resistant to a much greater extent than the plump white sorts." Dr. Cobb points out that the glabrous condition of the plants of such types renders them more resistant to the mycelium threads of the *Puccinia graminis*.

The varieties selected for determining the gluten-content were: Dawson's Golden Chaff, a soft white wheat; Early Red Clawson, a comparatively soft red wheat, and two of our hard red wheats, Pride of Genesee and Turkish Red.

Three pounds of wheat from each of these varieties were ground in a large-sized coffee mill. From this the flour was separated by using a No. 10 silk screen, according to directions of the foreman at Goldie's Mill, Guelph, who stated that the flour was identical with that placed on the market.

PROCESS OF TESTING FLOUR.

(1.) Strength of flour. To 100 g. of flour water was added from a graduated burette until a definite texture was obtained. The cubic centimeters of water required were taken as an indication of the strength.

(2.) Gluten-content. (a) Determined with 10 g. of flour the percentage of hygroscopic water present.

(b) To 100 g. of flour was added an excess of lukewarm water. This was allowed to stand for two hours. It was then kneaded in cold water until the starch was washed out, or until a drop of the tincture of iodine imparted no blue coloration to the water.

(c) Reduced (as much as possible) the excess of water and dried for six hours at 100° C.

The crude gluten thus obtained (Dr. Armsby—Cattle Feeding, p. 28) is a mixture of at least four albuminoids, and contains, besides, some starch and fat.

The following is the result of the analyses of the four varieties named:

VARIETY.	Pressure required to Crack Ounce.	Crude Gluten Percent.	Hygroscopic Water Percent.	Texture of Dough.	Water Absorbed Cc.	Appearance of Flour.
Dawson's Golden Chaff.....	161.0	7.14	11.3	(Non-adhesive, slightly elastic, bulky)	46	Bulky, soft, white.
Early Red Clawson.....	188.6	9.63	11.6	(Non-adhesive, slightly elastic, easily broken)	47.5	Soft, slightly dark.
Pride of Genesee.....	236.6	12.1	11.5	(Adhesive and quite elastic)	52	Dark and gritty.
Turkish Red.....	284.4	12.36	11.3	(Elastic and very adhesive)	54.5	Very dark and gritty.

The above table indicates that the appearance of the flour, the texture of the dough, the water-absorbing capacity and the hardness of the grain varies with its gluten-content.

In the process of breadmaking the water-absorbing capacity of flour is of great importance to

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ble) the excess of 00° C. Dr. Armsby- of at least four- omestarch and fat. The analyses of the

bakers. With flour having a large gluten-content they are able to increase the weight of the bread from three to five per cent. more than they can with an excessively starchy flour, and the bread will not dry out so quickly.

In the case of most varieties of wheat grown on the American continent, it is impossible to trace their lineage back more than a few years. The new varieties that are yearly introduced meet with favor according to their hardness and productivity. Their milling qualities seldom prevent them from gaining popularity until the millers find that they require a more liberal mixture of wheat rich in gluten.

Although the various grades of flour put upon the market differ in gluten-content, the demand for them is regulated by the consumer, and competition in the open markets has sufficient influence among the millers to govern the supply of inferior brands.

The system of valuing wheat according to its weight per measured bushel was an approach toward the actual valuation per gluten-content. The specific gravity of wheat decreases as the percentage of starch increases. It may be noticed from the preceding table that the hardest wheats are those that are considerably above the standard weight.

Wolff estimates the comparative cost of producing porteid and carbohydrate substances, allowing the former three times the money value of the latter. Now, according to such a method of valuation, if we allow the Dawson's Golden Chaff wheat \$3 1/2c., we would value the Early Red Clawson at 86c. and the Pride of Genesee at 89 1/2c. per bushel.

There is, however, a demand for white wheats, on account of the color which they give to flour, and their value is sometimes raised above their actual nutritive value.

CONCLUSIONS.

If a system could be practiced so that the price paid for wheat would be governed by its gluten-content, the necessity for importing Manitoba hard wheat into our Province would tend to decrease; the actual money value per acre among many of our wheats would be approximately the same; the quality of the grain would receive better attention among those who seek to improve our varieties by selecting and by hybridizing.

The system of judging of the value of wheat from its apparent hardness is a correct one, and the relative percentage of gluten among the varieties could be closely estimated by an instrument similar to the one used in this experiment.

[*EDITORIAL NOTE.—Mr. G. H. Clark, B. S. A., a graduate of the Ontario Agricultural College, who is now in direct charge of the \$10,000 (prizes) grain-growing competition instituted by Prof. Jas. W. Robertson throughout Canada, writes us that he is much interested in the articles and letters published in the August 1st FARMER'S ADVOCATE, adding that he does not think the millers should unload the whole blame for the present conditions in regard to our winter wheats (and which he does not think are as bad as some represent) upon the farmer. He also sends us the foregoing revised thesis on the "Hardness of wheat in relation to milling qualities," which he prepared and for which he received first-class honors at the Ontario Agricultural College. It is a valuable contribution to this important discussion.

Rural Life and Education.

The New York Independent, one of the foremost journals of good standing in the United States, quotes the Hon. W. T. Harris, who said, one year ago, that no educational problem began to compare in magnitude with that of the rural school, and, as we understand it, the right solution of the problem must begin with the educational curriculums laid down and the training of teachers in the Model and Normal Schools and Schools of Pedagogy. Referring to the demand that young people should not be educated away from the farm, but toward it—that is, they should be specifically fitted to comprehend the problems of agriculture and to deal with them with tact, in which course the faculties of the youth would be trained for life service—the Independent goes on to say:

"It was our specific charge that the rural school made merchants and manufacturers, but turned the faces of the brightest of our young folk toward. We have already seen the school curriculum gradually modified, and a wholesome public opinion growing up to accomplish what we desired. The fact is there is no reason why the children of the country should be turned away from the object lessons with which nature surrounds them, to be confined in school rooms to the lessons of books. The book is a version of nature at best; and common sense requires that the child be taught to investigate for himself.

"We believe that when properly educated no life becomes so attractive as that opened by agriculture. The land is full of intense interest to those who are taught to see it. Entomology and geology as sciences are not abstruse, but deal with the commonest things lying about the child; and with the simplest facts. 'Surely,' says Professor Teegan,

"The teaching of practical school gardening is as valuable as setting the pupils to memorize the height of the principal peaks of the Rocky Mountains."

Chemistry and botany are knowledge of the things children see and handle most. In their elementary

form they are more simple sciences than geography, grammar, or arithmetic. They consider stones, flowers, trees, insects, birds, brooks: exactly what our children long to study. As for teachers, what are normal schools for? To make merchants? Or are they to turn the whole population into middlemen and consumers? Why cannot they furnish teachers of geology as easily as teachers of geography? Give a boy a right sort of schooling till fifteen, and you cannot coax him away from the land. The problem is not solved by establishing chairs of biology in our colleges; for these only create a learned class at the top.

"The farm should be the absolute center of intelligence—the home of science and of art. Every farm should be and will be an experimental station; while every boy and every girl will be a scientific experimenter. In this direction our graded schools are slowly learning to look, while such men as Professor Bailey, of Cornell; Professor Voorhees, of Rutgers, and Professor James, of Toronto, are furnishing the required text-books. It is not necessary to be a prophet in order to foresee that the rural school of the future will be built in gardens of no less than one acre; that it will devote one-half of each day to the study of books; but the other half to the application of what is learned, and to the actual cultivation of the soil. Every school will have attached to it also a shop well furnished with tools. The education of the hands and the brain will go on together; in other words, hand labor will be intellectualized.

"We have entered an age of experimentation. It is difficult to get the full meaning of this fact. But we are surely readjusting the whole of agriculture to the experimental basis. The farmer of the twentieth century will not move in beaten tracks, but will be educated to think his way to new methods, with new crops. The field is absolutely unlimited. It is barely fifty years since we had placed in our gardens the first strawberries, cherries and pears, improved by the Downings, Wilders, Campbells and Rogers. The progress of these fifty years in multiplying new and delicious fruits, more valuable cereals, new and important vegetables, leads the London Spectator to say:

"Imagine a new cereal, in silicate armor, with a head twice as heavy and grains twice as nutritious as those of wheat. A cereal as fruitful as wheat, and as hardy as rye, would change the face of Europe. Farmers may smile, but there are grains no doubt to be born as important as these which we suggest."

"But farmers are not any longer smiling at such dreams; they are working them into garden facts. Professor Goodale, of Harvard University, says:

"There is no reason why we shall not have seedless raspberries, strawberries and blackberries; seedless plums, cherries and peaches, as we already have pineapple, bananas and oranges without seeds."

These are some of the problems that agriculture offers to the educated wit of the coming schoolboy. No one to-day would eat the old-time pears and grapes which were relished by our fathers. An orchardist writes: "Give me ten years more and I will give you a currant bush that must be picked with a stepladder." There is progress all along the line—in the orchard, in the garden, and in the grain field. What one part of the world cannot produce is offered by another. The education of the schools is promptly supplemented by the field work of the farmer.

"It must be understood that no other occupation requires for complete success so wide culture, so much educated tact, such a store of information as agriculture. If any one of the industries requires collegiate training, it is this. Every science finds here its application. When we get the right schools we shall get a style of farming that will be as keenly intellectual as the present style is unintelligent and wasteful. Our colleges will then face away from professional life and find their better aim to create a new race of Washingtons and Jeffersons."

The Ontario Millers' Importation of Seed Wheat.

The series of articles published in the FARMER'S ADVOCATE for August 1st, on the complaint of the Ontario millers regarding the milling qualities of the more popular winter wheats, particularly Dawson's Golden Chaff, resulting in their importation from Kansas of eighteen or twenty carloads of a hard wheat known as Turkey Red, to be distributed and sold to farmers for the approaching seeding, has been followed up by a vigorous and widespread discussion among farmers and through the local press. Knowing the extent to which Manitoba wheat had to be used to make Ontario flour salable, and the increasingly serious complaints made by the milling fraternity regarding many of our commonly-grown winter wheats, we felt compelled to bring the matter before the public. It was inconceivable that our millers would go to the trouble and expense of importing seed wheat from Kansas unless they had a real grievance. We gave full publicity to their view of the situation, and trust the Turkey Red variety will be generally and thoroughly tested. In order that that might be accomplished, we advised the millers to keep the cost to the farmers down as low as possible, because there is no great money for

the Ontario farmer, at the best, in wheat-growing, and experimenting with new varieties is more or less risky, and if done on a large scale, may prove serious. The millers have put the price at \$1 per bushel, which, the Goldie Milling Co. advise us, will hardly cover expenses; but it would be much better to have the trial a success, even at a loss, than that any of the importation should be left over to be ground into flour. If a variety has been hit upon that will combine the good yielding (both grain and straw) and hardy qualities of Dawson's Golden Chaff with the presumably superior milling quality of the importation, it will prove a boon alike to millers and farmers, as the one grows and the other grinds wheat for the money there is in it. We would further suggest that the millers, to encourage growing the new sort, should pay a premium of so much per bushel on the crop harvested next season.

The subject of the milling qualities of wheat has not received the attention in the past that its importance demands, and we believe a great deal of good will come from its discussion now. Such articles as that by Mr. Clark and others appearing in this issue contain information of very great value.

Our Food Products at Paris.

BY W. A. MACKINNON, OF GRIMSBY, ONT., IN CHARGE OF THAT DEPARTMENT AT THE PARIS EXPOSITION.

The main entrance to the Canadian section of the British Colonial building is opposite the Algerian pavilion on the slope of the Trocadero Gardens. As the visitor comes along the rose-bordered avenue from the Palace, he is attracted by the sight, rare enough at this season, even in Paris, of a solid mass of beautiful fresh, red-cheeked apples. These are arranged behind plate glass at the side of the door, and facing up the avenue. The rows of apples extend to within a few inches of the ground, so that the effect is that of a bin full of tempting Eden-like fruit, in which the prevailing red color is relieved by a layer of Golden Russets. The majority of passers come up close to examine what they think is an excellent imitation, and some even then refuse to believe that the fruits are natural and genuine, until they have tried their flavor. After that they inspect the cold-storage showcase and the thermometer inside with increasing amazement, interest and praise. They are then convinced that we have means to bring the finest of last season's apples from the different provinces of Canada and to exhibit them in perfect condition at this time of year. The excellence of the natural fruit and the working reality of the modern Canadian cold-storage plant are quite a contrast to the numerous shams that are to be found all over the grounds, even the exhibits of the most important countries.

THE AGRICULTURAL TROPHY.

Once inside the building, the visitor's attention is claimed in several different directions. Perhaps it rests longest on the trophy devoted to bottled fruits and grain, which occupies the central position in the court. It has an octagonal shape and is 20 feet high. The base is fitted up with comfortable settees, a convenient rendezvous much appreciated. Eight glass pillars filled with grain support a sort of veranda roof, beneath which are arranged some of the finest varieties of fruit and vegetables, prepared at the various Experimental Farms, and representing all parts of Canada. Among the best fruit shown are Bartlett pears, from the Horticultural Society of Burlington, Ont.; the souvenir pears, put up by J. W. Vanatter, of Goderich; and the Pocklington grapes, sent by M. Burrell, of St. Catharines. Above this display is a pyramid of bottled grains of all kinds, in fancy jars, tastefully arranged, surmounted by a flag draped mast, which, in turn, is crowned by festoons and sheaves of grain in the straw. The whole magnificent trophy, which gives silent but imposing testimony to the agricultural resources of our country, is the work of Mr. Hay, Accountant of the Central Experimental Farm.

THE HONEY.

At the right is a six-sided stand three stories high, on which is a display of honey, both liquid and granulated, in bottles of various sizes and shapes, arranged about a center of mirror glass. The upper half of the lower storey is fitted with glass panels, behind which comb honey is seen in squares, just as it is sold. The upper two stories are separated only by a sheet of plate glass, which supports the apex of the pyramid while resting on the tops of the bottles beneath. The effect is that of a solid cone of glass and honey four feet high, offering almost no obstruction to the passage of light, which is transformed into the prettiest shades of amber and pearl. This exhibit is one of the most attractive and most admired. It is the climate of Canada in liquid and crystal—flowers, fragrance and sunshine compressed into sweetness.

FLOUR AND OATMEAL.

Less beautiful perhaps, but not less interesting, is the display of flour and oatmeal, flaked wheat, rolled oats, and other breakfast foods; this is the main exhibit, both in size and importance, of the western half of the section. Columns of glass filled with flour, flanked by smaller ones filled

Very dark and gritty. Turkish Red. 51.5

the appearance though, the water-ness of the grain the water-absorb- but importance to

with wheat, support two stories, on which are shown large and small barrels, bags and boxes—the original packages in which these products are exported from Canada. There are fancy globes and jars by way of decoration. Here again many parts of the country are represented, but it is especially the West that is prominent. The Lake of the Woods Milling Co., the Hudson's Bay Co., and the Jacob Steinmiller, of Walkerton, Ontario, are the largest exhibitors of flour, while the Brackman-Ker Milling Co., of Victoria, B. C., and Martin Bros., of Mount Forest, Ontario, furnish the bulk of the breakfast foods.

TINNED AND POTTED GOODS.

Near this trophy are placed two wall cases, containing canned fruits and tinned meats respectively, and also a circular stand of corned beef and a diamond-shaped pyramid of MacLaren's Imperial cheese. The latter is a decided novelty in France, and the neatly-labelled white jars attract much attention and enquiry.

THE DRINKABLES.

Between the central trophy and the "India" entrance is a group of beverages, among which are found ales, wines, champagnes, whiskey and gin, with a fine show of mineral waters. Beyond this group and near the main stairway is the immense case containing Gurd's ginger ale, soda water, vichy and other beverages. The bottles are arranged in the form of a cone, enclosed by four large sheets of plate glass, and surmounted by a fancy carved moulding of Canadian cherry.

Next to the beverages is found another exhibit, including all kinds of canned fruits, jams, jellies, vegetables, and meats. This display occupies a case six feet square, nine feet high, with glass sides, and a passageway all round it, so that, as in the case of all other exhibits, the public can inspect the goods conveniently.

MAPLE SYRUP AND SUGAR.

On the inner circle, facing the agricultural trophy, is the exhibit of maple syrup, in Columbia show bottles, set on a diamond-shaped pyramid of four stages, with mirror background and red velvet trimmings, crowned by a tall fancy double-stoppered jar. The maple sugar is shown on a table where are displayed large cakes and small, plain and fancy, together with the granulated product, tins of syrup, and samples of maple vinegar. This exhibit comes mainly from the eastern townships and is an exceedingly creditable one, which attracts much attention from foreigners, and is a welcome reminder of home to the many Canadians now living in Paris.

CANNED FISH AND CHEWING GUM.

Besides these central exhibits, the wall spaces are lined with handsomely decorated "vitrines," nine feet high, in which are displayed canned fish—salmon, lobster, carabus—dried cod, hake and mackerel, fish oil, and table salt. One particularly attractive case is that containing confectionery and chewing gum. Three sloping shelves are adorned with exhibits of plain and fancy candy, nut taffy, "velveteen" chocolates and bon-bons, while above them is a complete assortment of pepsin and fruit gums, in their pretty show-boxes. This exhibit, again, is a novelty to the majority of visitors, for many of the candies are unknown here, and chewing gum is a new-world luxury.

THE COLD STORAGE.

There remains in this section only one other exhibit of note. Much has been written about it, perhaps without a full knowledge of the facts. It is the large show-case in which our chief perishable food products are exhibited, perfectly preserved, at a temperature of from 37 to 40 degrees, while the surrounding atmosphere is at 80 degrees Fahr. This case is 15 feet long, nine feet wide and nine feet high. It has glass on the four sides and a central compartment is used through which to place goods in the outer space. Behind the three thicknesses of glass which form the sides of the case there is a space three feet wide, surrounding the central chamber. In this space are shown varieties of apples, in original packages, boxes and barrels, just as they were shipped from Canada. Three sloping shelves, suspended by chains from the ceiling, are covered with fine samples of Northern Spies, Russets, and British Columbia Pippins, respectively, as taken from the exhibits of the different provinces. These shelves run the full width of the show-case, at the end nearest the central passage as it leads to the building containing the mineral exhibit, so that visitors are greeted at this entrance, as at the main one, by a beautiful display of apples, strikingly presented. At the opposite end of the case are rows of cheese, white and colored, piled one above the other, the lowest being shown in the shipping-boxes. A similar plan is followed in the exhibit of butter, the lower boxes of which are unopened, while the upper ones have the covers removed, with a square of fine fresh butter exposed to view. Beside the butter are four cases of selected eggs, with a tray arranged to show the white and brown eggs in contrast. Outside the cold-storage case is a surrounding hand-rail of brass, through which brine at about ten degrees below freezing point circulates. Its "freezing feel" startles those who touch it into a closer examination. Then a large thermometer on the inner wall, the announcement that the exhibit illustrates the cold-storage system of Canada, and, above all, the tiny silk flags which flutter in the current of cold air over the delivery ducts, lead to interesting en-

quiries, which the attending refrigeration expert is most willing to answer. The frames of the show-case were made by W. C. Edwards & Co., of Ottawa, and it, with the cooling apparatus in, an adjoining basement, and the connecting ducts, were planned by Professor Robertson, and installed by the chief travelling engineer of the Linde British Refrigerator Company, of London, England, and Montreal, Canada, the plant having been supplied by the Canadian branch. The air, which is cooled by the ammonia system, is circulated by means of a large electric fan, also through the storeroom in the basement, where reserve stocks of fruit and cheese are kept. The efficiency of the plant and insulation is shown by the fact that less than two dozen apples have had to be removed from the show-case since it was first stocked, nearly a month ago, and these had only begun to spoil at braised spots. Fancy relief letters made of butter, announcing that it is from Canada, have kept their form perfectly, notwithstanding the great heat we have had lately. It is needless to say that the cheese is keeping in prime condition, as all attest who taste the sample offered on a stand near the show-case.

This is the only cold-storage exhibit in the whole Exposition.

STOCK.

It Pays to Treat Stock Kindly.

I have known a great many free-going horses of nervous temperament kept in a continual worry by the rough words and ways of their drivers. They would fret and sweat and grow poor doing the work they would thrive while doing under mild-mannered, considerate control. I have seen a great many heifers and cows in a tremor of excitement while some ignorant or brutal fellow was milking them. I never knew them to be made quiet and willing to be milked by scolding, kicking or pouring; but they might have been made docile by early and gentle handling. It is safe to say that rough usage of cows often occasions the loss of half of their milk. They refuse to "give down," and that dries them up very rapidly. Boys, dogs and heedless men worry them when driving from the field. Irregular feeding and milking, and everything out of the regular order, disturbs and therefore damages them. Change of residence frequently causes cows to shrink their milk for a year. A noted Holstein butter cow, taken to the fair to test her buttermaking qualities, made only a pound of butter from 44 lbs. of milk, while in the quiet of her home she made a pound of butter from 21 lbs. 3 ozs. of milk. Likely she was extra nervous; but all cows have nerves enough to require that their treatment be gentle and regular.—Hugh T. Brooks in *Our Dumb Animals*.

Intensive Agriculture with Stock.

During a recent visit to the Minnesota State Experiment Farm at St. Anthony Park, we were pleased to observe the great success following the continued efforts of Prof. Thos. Shaw in growing successions of fodder crops on the same land and appropriating it to the feeding of sheep and other stock. On the seventeen or eighteen acres of naturally poor, sandy land devoted to Prof. Shaw's department, there will be grown this year sufficient fodder, apart from grain, to support about 130 head of sheep and lambs during the entire twelve months, besides producing green fodder for 11 head of cattle and 160 hogs of various ages. Both hogs and cattle receive all they will consume of such green crops as are suitable as the season advances. The chief crops grown are the following: Fall rye, corn, oats and barley, rape, cow peas, soy beans, sorghum, millet, clovers, and such roots as turnips, mangels and carrots. By the use of rye sown early in the fall the sheep are privileged to pasture soon after the middle of April. By the time this is grazed down, plots of oats and barley sown together are ready for them, and when these are eaten off the rye has produced a luxuriant second growth. Quite early in the season plots of corn and rape are put in, and come as a nice change in due season. The rye plots, also those from which oats and barley were grazed, are sown to corn, sorghum, rape, cow peas, etc., and some of them are again followed with fall rye for the fall and following spring's pasture. Cabbages, too, are made to produce liberally of an excellent quality of fall fodder, upon which the sheep graze or feed from the rows until very late autumn. This crop costs considerable for seed, but the returns amply justify the expenditure. This is the second year cow peas and soy beans have been tried, and the experiment demonstrates that Manitoba farmers can grow these crops with advantage for live stock. Probably other crops will yield as well, but the power of this family of plants to enrich the soil gives it a valuable place in the rotation. Stock relish the green plants, and the leafy hay produced from it proves to be particularly suitable for sheep. All of the crops we have mentioned, except the roots, are pastured, and during the heated season soiling is practised with the sheep to some extent during the middle of the day. The sorghum and corn for pasture are sown quite thickly in the rows, while the corn for the silo is given more room. The stock all appear thrifty and happy, the lambs especially making rapid development. The stock will be wintered on silage, roots and cured fodder of various sorts that will not be required for

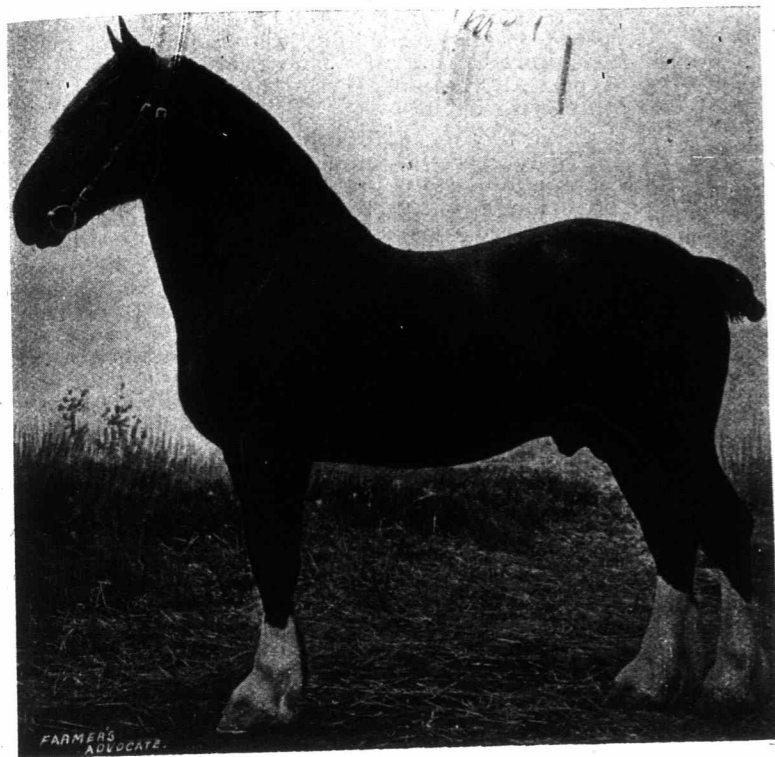
pasture. The plots are maintained in clean condition and well cultivated, so as to retain moisture where cultivation is practicable.

Border Leicester Sheep at the Highland Society's Show.

This breed was quite a characteristic show; there is no falling off in the essentials that are universally reckoned to form a true Border Leicester—a sheep to produce the maximum of mutton with the minimum of waste. The present-day breeders are preserving all the good properties that made the breed famous in the past. In a class of 17 rams, two years and upwards, the first place was awarded to an exhibit belonging to Mr. T. McIntosh, Balquharn, Brechin, for a three-shear tup, bred by exhibitor, which stood second at Edinburgh. His sire was Balquharn Prince, which was got by an Auchenbrain ram. This exhibit possesses a beautiful skin, with a great wealth of mutton in the right place, and stood in well for the championship. The second ticket holder, shown by Mr. J. E. Nicholson, Manor House, Lanchester, is a very lucky animal to get what he did. At the Royal he had not a look in, but he was first at Alnwick. His breeder was Mr. Angus, Bearl, Stocksfield, and his sire Snowstorm, Mr. Matthew Templeton, Sandyknoke, Kelso, showed the third winner in Sensation, a three-shear sheep of his own breeding. At Edinburgh he stood first, but yesterday he was beaten by his opponent there. The shearing ram class proved the contest of the day. In it there were no less than 42 entries, and it took the judges a long time to find a short leet. The quality of the exhibits was exceedingly high, and indeed this class proved one of the attractions of the sheep classes. Mr. Thomas Clark, Oldhamstocks Mains, was successful in beating his opponent, the Right Hon. A. J. Balfour, Whittinghame, the final result lying between their two exhibits. Mr. Clark's first-prize animal was first at Edinburgh and first at Alnwick this year, and since the Edinburgh show he seems to have gone on improving. He is a first-class specimen of the breed. After stiff competition, this animal has succeeded in winning the Tweeddale gold medal for the best Border Leicester tup. Mr. Balfour's exhibit was second at the Royal, and he is looking rather better than he did then. Besides that, he was also first at Haddington and Dalkeith. The purity of head of this sheep is remarkable, and his quality has rarely been seen. The judges were unable to decide between him and the first winner, and Mr. Ferguson, of Pictstonhill, was called in and gave his decision in favor of Mr. Clark's sheep. The decision was, perhaps, not altogether a popular one. Mr. J. E. Nicholson, Manor House, Lanchester, showed the third-prize taker, a sheep that was second at the Royal. He was sired by Matt. The fourth prize sheep, shown by Mr. Robert Wallace, Auchenbrain, Mauchline, is, perhaps, one of the best skinned animals Mr. Wallace ever presented to the public. It might be a little stronger, but its regularity is very pleasing. The ram's head is not so perfect as we have seen on an Auchenbrain ram, and he is a little bare about the eyes and crown generally, which probably influenced the judges, as that is not a common failing of the Auchenbrain stock. Mr. David Hume, Barrowwell, got the very highly commended place; Mr. McIntosh, Balquharn, the highly commended, and Mr. Clark the commended. Mr. A. J. Balfour, in the class for ewes over two years, showed the first and second winners, both of which were bred at Whittinghame. They were first as a pair at the Royal, and stood first and second at Haddington. The first-prize winner is a magnificent specimen of the breed; indeed, such a one we have rarely seen. The Duke of Buccleuch, Dalkeith Park, had forward the third prize exhibit. It has a capital face, with clean, hard bone, and though a real good sheep, wants the pith of the former winners. Mr. John M. Twentymen, Hawkrigg House, showed a bonnie ewe, which took the very highly commended card, and the highly commended ewe, from the same exhibitor, is remarkably like her. There were 35 entries of shearing ewes or gimmers, and the quality all over was very high; while in this class also was found the winner of the president's gold medal. This, as also the first prize in the class, fell to a sheep shown by Mr. David Hume, Barrowwell. She is a very gay sheep, though she did not appear to be very much forced. If anything, she wants size, but her fleece is beautiful. Her legs and face are covered with the best of hair, and her ears and crown are especially good in cover. This is the second year in succession in which Mr. Hume has been champion. Messrs. Smith, Galalaw, showed the second winner, which is in better condition than the first, but not so sweet or sprightly. She has a magnificent back, and the head is of the purest white, with good black nostrils. The cover of the head is excellent. Good as the first one is, she has no advantage over the second in this point; indeed, if there was an advantage it lay with the second winner. Mr. A. J. Balfour sent the third and commended winners. Both were shown as a pair at Haddington, where they took first place. The third-prize holder is not so good on the loin as some of the Whittinghame sheep are. Mr. Thomas Clark secured the very highly commended ticket. Mr. J. E. Nicholson the highly commended, and Mr. Wm. Ford, Fentonbarns, Drem, was commended. All these showed stock bred by themselves. Champion of the breed—Barrowwell gimmer.

The Winnipeg Industrial Exhibition.

The very discouraging reports coming from the country only a few weeks ago made a successful exhibition appear next to impossible, but ever since the breaking of the drought early in July the prospects have daily improved, until it was realized on the closing dates that the most successful show in the history of the Association had concluded. There were more and better animals shown than ever before, and a greatly reduced percentage of inferior, thin stock. Considerable extra accommodation had to be provided after the stock com-



ROSEMOUNT.

First-prize 2-year-old Clydesdale stallion at Winnipeg Industrial Exhibition, 1900.

OWNED BY W. SWENERTON, V. S., CARBERRY, MAN.

menced to arrive, and when all were placed under cover, there were sheep, horses and cattle in the same sheds, but they were made comfortable and well looked after, so that no complaints were heard from exhibitors, who evidently accepted the inconvenient, but best obtainable, accommodation in the spirit it was given.

For a country so young, it is truly remarkable that such a collection of live stock can be brought together, and it serves well to indicate the possibilities of Western Canada as a stock-producing country. Much credit is due Manager Heubech and his able board for the provision made for the exhibitors and the attention given them during their stay, all of whom seem to fully appreciate the efforts made on their behalf. In fact, the stockmen feel at home to such an extent that it would seem quite safe to direct some of the energy of the live-stock committee in the interest of visitors, with a view to increase the educational value of the exhibition. The "Industrial" may now be considered established quite as much as the larger shows of the East, and the time has come for a more systematic effort in the direction just mentioned. To this end we would suggest a closing of the entry books at a somewhat earlier date, and then keeping them closed. If this were done there would be no excuse for an incomplete and imperfect live-stock catalogue, which was this year a help, but not an authority. Imperfect as it was, it might have been of some value had the cards corresponding with the catalogue numbers been attached to the stalls while the animals were in, and attached to the attendant or animal while in the ring or on parade. The intention in getting out the catalogues was no doubt good, but the effort in carrying out the system seemed to end too soon, apparently, as though visitors did not care much after all, and came to the Exhibition to be entertained rather than enlightened. The educational value of such shows as the Winnipeg Industrial must not be lost sight of or it will degenerate at a much more rapid rate than it grew to its present prosperous position.

While the delays in judging had of necessity to be made as short as possible on account of the enormous amount of work shouldered unto single judges, more care might have been expended by allowing the spectators to see upon which animals the awards were placed. This could have been accomplished by having the winners drawn out from the others, and after attaching the cards, walked or

trotted out as the occasion demanded, so that all who wished could see and learn the desirable points of the best animals. In this connection, too, much more seating accommodation for spectators could be provided at the ring-side, which would be very liberally patronized by would-be students of ideal animal forms. That there is a demand for such provision was amply demonstrated many times during the judging of cattle and horses, when the crowds surrounded the animals so closely that neither the judge nor anyone else could obtain a clear view of the competitors. The condition of the

horse ring also needs attention, especially where the action of the animals is required to be shown. If the ground cannot be all made level, at least a track a few yards wide could be provided surrounding the ring inside the fence. If sufficient cinders, gravel or crushed stone cannot be gotten to cover such a track, the ground could at least be levelled and re-sodded so that a horse could trust himself to show his action without fear of receiving a sprain. These are a few of the needed improvements to send this Exhibition forward in a substantial, helpful manner, and will, if carried out along with other features of a like nature, do more to help the show in public favor and financial support than all the Midway performances, even though of a much more elevated character than most of those on display this year beneath the canvas.

Speaking of the entertainment feature as provided before the grand stand, it is a pleasure to note that the board deserve praise for providing such a liberal programme of worthy performances. In addition to the succession of meritorious and keenly contested horse races during the after-

noons, and the wonderfully grand spectacular events winding up each evening's programme, the immense crowds that thronged the capacious and comfortable new grand stand were maintained in the best of humor by the clever feats of performers, which seemed to rest and please the immense concourses of people who had come in for these features alone or had trudged the rounds of the stock ranges and other buildings earlier in the day.

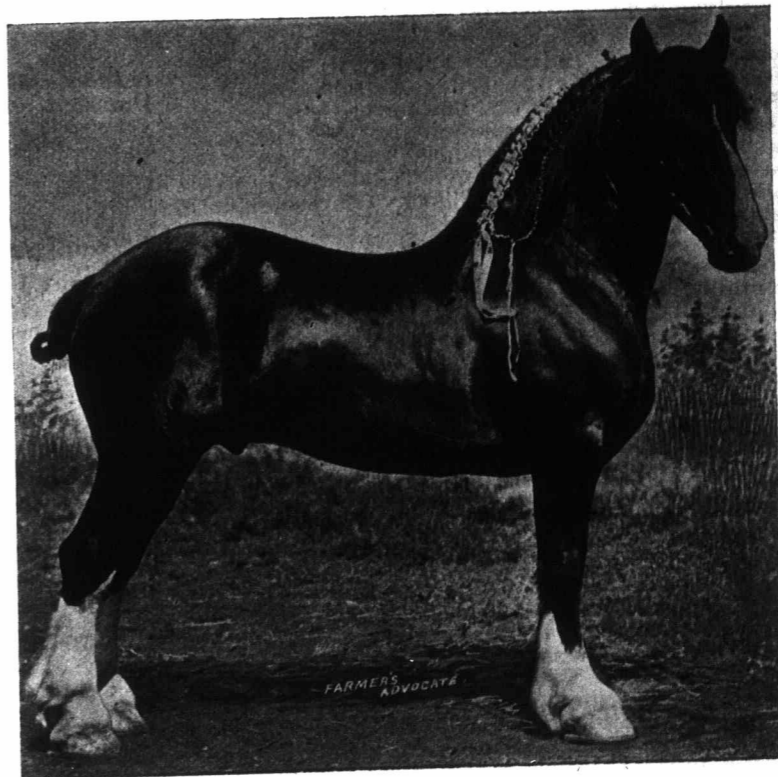
From Monday morning till Saturday night, when nearly all of the exhibits had been removed, the weather was as nearly ideal as the board could have wished. At no time was it excessively warm, disagreeably windy, or at all wet, so that it was not surprising that the attendance was the record-breaker in the history of the Association. The classes, too, that came in from the farms of the Canadian or American West or from centers of population were of sorts worth encouraging as visitors or residents to a country or city that needs development. Whether Anglo-Saxon or those speaking in foreign tongues, practically all were well dressed and intelligent; so that if this Exhibition does nothing more than attract outsiders and then show them our resources, it has done a work that will bear fruit in keeping with the fertile prairies surrounding the metropolises where the "Industrial" finds its home.

HORSES.

The commodious accommodation in the horse barns was taxed beyond its capacity, a number of animals having to accept space in the sheep pens. This was no hardship, however, as Winnipeg has perhaps the best exhibition sheep barn on the continent. The quality of the exhibits was, as a rule, good, and unfitted prairie-fed stock was less conspicuous than ever before at this exhibition. The judging in all the classes was done by Prof. J. A. Craig, of Iowa Agricultural College, which institution is the only one on the continent attempting horse-breeding on any considerable scale.

CLYDESDALES.

Clydesdales put up a showing that would do credit to any showing, as many of the best breeders in the western country presented animals which were produced from the leading studs of Great Britain, Ontario, and the United States of America. The mature stallions, seven in number, were a massive, typical lot, and generally presented in flesh and fitted form regardless of having concluded heavy stud seasons at very recent dates. Among these were the following: Burnbrae, owned by Wm. Bailey, Carberry, the champion of two years, and a favorite when shown as a two-year-old in Chicago; Geo. Cartwright's Golden Hero, a thick-bodied, good-legged sort that grows in popularity as his stock become known. Benaven, owned by P. B. McLaren; and Erskine Lad, owned by C. Colquhoun. None of these, however, were privileged to participate in the spoils, although in the opinion of many good horsemen one or more from among them could have justly done so. The decision was not hurriedly given, nor was it a light task. The first award was fairly popular, going as it did to J. A. S. Macmillan's Pilgrim, a really good sort, sired by MacLure. He is an upstanding, massive brown, with a grand set of timber, perhaps a bit wide in front. He is thick and deep before and behind, and carries a proud head. His action is fine, perhaps a trifle wide to suit a Scotchman, but he flexes his hocks well and goes forcefully in front. The second award fell to a big young, well-topped horse brought up from Ontario at the commencement of the present stud season. He is Jubilee Prince, bred by Neil Smith, Brampton, and is owned by Messrs. D. Fraser & Sons, Emerson, and sired by Kintore Hero (imp). The third prize fell to the tried and true Balgreggan Hero, an eleven-year-old horse that has done thousands of dollars of valuable service on R. G. Robinson's Elbow Park ranch, and previously on J. A. Turner's ranch, Calgary. He is a grand specimen of the breed, one of the wearing sort, good in all his parts and at all gaits. The judge admitted his superiority and would have placed him higher had he been a few years younger. Three-year-olds included only three entries of good type. It was here that the sweepstakes male was looked for, and when the final contest came the interest was keen, as two good horses had met. We refer to John E. Smith's Prince Charles that came against Pilgrim, but the older horse by his maturity carried the day. Prince Charles is indeed a hard colt to fault, as he has abundance of substance for his years, while he is of the real Scotch type and goes true and level at all gaits. He was bred in Scotland and sired by Sir Morrell McKenzie. His class rivals were G. & W. Bennie's Aberdeen and D. Stephenson's Jubilee Prince. The former, by Macquaker, in the hands of Graham Bros., Claremont, Ont., won good premiums in eastern competitions. He appeared on this occasion in only moderate condition, but defeated by a narrow majority the more rangy, finer Jubilee Prince, sired by Prince Patrick. The two-year-old section presented five really beautiful colts,



PILGRIM 7020.

First-prize and sweepstakes Clydesdale stallion at Winnipeg Industrial Exhibition, 1900.

OWNED BY J. A. S. MACMILLAN, BRANDON, MAN.

including one of the best things in the show in Prince Stanley, bred by D. & O. Sorby, and sired by Grandeur, and out of Miss Stanley. He was shown by Messrs. A. & G. Mutch, Lumsden, Assa., who purchased him from John A. Turner, Millarville, Assa. Unfortunately, however, he was not placed. The 1st award went to Rosemont, by Young McQueen, a low-set, good sort, shown by W. Swenerton, V. S., Carberry. The 2nd went to John A. Turner's Grand Prize, by Grandeur and out of Lady Fleming; and the 3rd to his stable mate, Prince

Grandeur, by Grandeur and out of Lady Boydston. These latter two were bred by Messrs. D. & O. Sorby. Two yearlings were shown: Lord Roseburn, by Burnbrae, owned by J. B. Thompson, Hamiota, and General Duke, by Friar, and owned by Purvis Thompson, Pilot Mound. They won as named, and, although they were each really good, the winner was claimed by the judge to be the best Canadian-bred yearling he had yet seen.

The mare sections were strong throughout, the brood mares with foals at foot being the best lot we have yet seen presented in a Canadian showing. There were eleven entries, and nearly all present. Mr. J. E. Smith alone had in five grand ones, all bred by himself from imported dams and sires. It was from these that the 1st and 3rd winners were drawn, in Lady Overlaw, by Carnvail, and Flora Beresford, by Lord Randy. The 2nd award fell to Victoria Macneilage, shown by E. A. August, Bates, Man. She is a thick, useful mare, with good bone and pasterns, and was well fitted. The foal awards went, 1st to J. E. Smith's son of McBain and Maggie of Beresford; 2nd to John Wishart's produce of Wonderful Boy and Lady Coleridge; and 3rd to Smith's Baden-Powell, from McBain and Queen of Beresford. A lot of beautiful foals were left unplaced. There were three entries for mare and two of her progeny. The best was found in J. B. Thompson's Lady Almondale, a thick, round-ribbed matron, with her three-year-old daughter and yearling son. Mr. D. Stevenson won 2nd on Clato Burns Rosebud, with offspring, and 3rd to Lady Granite.

The filly sections contained many really high-class individuals. The 1st prize three-year-old, a grand one bred by N. P. Clark, Minnesota, and shown by W. Black, Hayfield, Man., is a mare that would shine in any company. She was from the famous Prince Patrick, and out of Lady Superior. Purvis Thompson won 2nd on the produce of Sir Patrick and Lady McArthur, a roomy, rangy mare with good legs and feet, while the 3rd award was given to J. B. Thompson's daughter of Lady Almondale and Auld-muir. This filly won sweepstakes over all ages as a foal in Brandon. Half a dozen two-year-olds competed, the winner being found in Wm. Bailey's Patricia Macgregor, bred by N. P. Clark, a wide, smooth filly; J. A. S. Macmillan's promising daughter of Pilgrim and Melba coming 2nd. A. & G. Mutch's well-furnished roan, Lady Charming, by Lord Charming, came next in order. Messrs. Mutch led the way in yearlings with Charming Eva, a beautiful type, bred by Messrs. Sorby. She was sired by Lord Charming, and out of Eva. The best mare any age was not easily chosen from among the ten grand entries, including all the 1st-prize winners and several dry mares. She was ultimately found in Hon. Thos. Greenway's Kate Hill 2nd, by Westfield Stamp. The best stallion, one year and over, foaled in Manitoba, was found in J. B. Thompson's yearling Lord Roseburn, and 2nd best in D. Stephenson's three-year-old Jubilee Prince. The best and 2nd best mares, one year or over, foaled in Manitoba, were found in the entries of J. E. Clark. In the open class for Clydesdales and Shires, the award for male was won by Pilgrim, and for female by Lady Overlaw.

SHIRES.

There were only two Shires shown, the four-year-old black, Indiana, owned by H. Byres, McGreggor, Man., and the yearling, Activity, owned by J. M. Boyles, Plympton. The former is a low-set, useful, active horse of medium size, and the latter a showy fellow of good promise. In this class, however, a two-year-old Percheron was allowed to claim the award. This is a black blocky fellow of smooth pattern.

DRAFT HORSES.

This class included a large entry of exceedingly useful horses, most of them possessing a good percentage of Clydesdale blood, if not themselves already registered. The brood mare with foal section was light, there being in all four entries. George Cartwright won on a heavy, useful matron, whose foal came 2nd. D. T. Wilson, Asessippi, won 2nd and 3rd on mares and 1st and 2nd on foals. Mr. Wilson's mares are a grand pair, very active and showy; in fact, hard to surpass as useful farm horses. Mr. Wilson also won for mare with foal of her progeny. In three-year-old gelding or filly, Wilson again scored on a beautiful brown daughter of the same family as above, the 2nd and 3rd falling to W. A. Stuart's daughters of Prince of Eastfield. In two-year-olds, Wilson's stud was again victorious on a characteristic member—a very active, well-fitted filly. Stephenson won 2nd on a get of Ellersley Chief, and A. Cummings 3rd on a plain specimen. The yearlings were a somewhat plain lot. Teams had two sections, one fit for dray purposes, and the other for agriculture. The former had four entries present, including the sweepstakes Clydesdale female and her mate, Boydston Lass 7th. This pair, which was bred by James I. Davidson, Balsam, Ont., and now owned by Hon. Thos. Greenway, won 1st, a feat they have accomplished several times before. John Stott, Brandon, came 2nd on a pair of upstanding, well-fitted, grand-limbed, active horses, bred in Manitoba; the 3rd award falling to a pair shown by J. E. Smith, one of which was suckling a foal. The lighter class had six entries of good horses, well fitted and matched. The 1st award fell to E. A. August, whose entry included the 2nd-prize Clydesdale brood mare, Victoria Macneilage, and her mate. The 2nd was won by a toppy, active pair of chestnuts, owned by David Little, Portage la Prairie; and the 3rd by J. B. Thompson's Lady Almondale and her three-year-old daughter. The

best mare any age was one of John Stott's 2nd-prize team, and 2nd best, D. T. Wilson's 1st-prize three-year-old. For stallion and three of his get, George Cartwright won 1st on Golden Hero, with a fine family; Allan Struthers 2nd on Young Glenburn; and P. B. McLaren 3rd on Benaven, with a good following.

GENERAL PURPOSE HORSES.

This class had a good entry of mixed breeding, but chiefly of Clydesdale paternal descent. Among the chief exhibitors were Geo. Cartwright, D. T. Wilson, Allan Struthers, and D. Fraser & Sons, the last-named showing beautiful gets of the late Thoroughbred Disturbance. Four useful teams contested, the 1st and 2nd awards falling to well-mated, useful grays shown by A. B. Magee and J. B. Kelough. The best mare was D. T. Wilson's three-year-old daughter of Golden Hero.

STANDARD-BREDS.

Apart from stallions, there was a light showing of this breed, there being eight mature and five young stallions. The well-known chestnut Sharp-er, that has sired so many good ones, appeared in his usual vigorous form after a heavy season. As also on former occasions, he captured the 1st award, his nearest rival being the bay twelve-year-old Complete, by Autocrat, and owned by T. L. Hill, Winnipeg. He is a good-looking horse, of considerable substance and first-rate action. McLaren Bros., Winnipeg, won 3rd on a racy fellow of considerable speed. Robt. Park, of Wawanesa, showed the three-year-old College Chum, winning over H. Benard's Dr. Davis. The former was by Wildbrino, and the latter by Oliver Bunker. Sharper won for best male in his class, and also for stallion and three of his get.

ROADSTERS.

There was a good showing of young things as well as harnessed entries in this class. The three-year old geldings and fillies were a creditable, well-grown lot, as were also the two-year-olds. The best brood mare was found to be the handsome Birdie Mont, by Paragon, owned by W. Hardy, Pomeroy. R. S. Preston, Pilot Mound, won 2nd on Maud, whose foal by Golden Bobby won 1st, while S. R. Henderson's brood mare won 3rd, and her foal by Sharper, 2nd. Pairs in harness were a rapid-go, well-bred, useful lot. The 1st prize pair, which are owned by D. McLaughlin, Chatham, Ont., are by Wildbrino, and inclined to pace in action. The 2nd pair, also bays, were shown by Thos. Scott, V. S., Portage la Prairie. The single section included ten entries, most of which were A 1 road horses, evidently well bred and of good size. Dr. Henderson, Carberry, won 1st on the Standard-bred mare, Delicious, a rapid, open-gaited daughter of King Sothorn. Geo. Moffatt, Souris, won 2nd on his chestnut May, by Stanton Chief, a prompt, good mare of compact conformation; while W. Metcalf won 3rd on his chestnut Minnie.

HACKNEYS.

There is very little to say about the Hackney exhibit, as there were only three horses in the class, all of which competed in the mature stallion section. They were rather uneven in form, and none of them sensational actors. The big horse, Prince Danegelt, owned by J. Mooney, Wawanesa, is a very strong specimen of the breed and should be a success in siring big carriage stock from mares at all suitable. He has considerable style about him and flexes his hocks well in action. He won 1st premium. The 2nd prize horse is Jonás, owned by John Little, Carman. He is of considerably finer type, but possessing a good amount of substance. Stuntley Comet, owned by T. W. Brown, Headingly, is a chestnut of eleven years and is more nearly the Thoroughbred type than either of the others.

CARRIAGE HORSES.

This class was not remarkable, as the entry was not large nor the quality startling. The mature stallion section contained several strong coach horses of various breeding. The frequent visitor, Knight of the Vale, was shown by his new owners, Muir Bros. & Mathews, Highbluff. He showed in his usual form, but he seemed to go with less vim and dash than belongs to him, which circumstance probably allowed two rivals to rise above him. These were the German Coach Pasha, owned by A. Colquhoun, Brandon, and Ryshawk, owned by Alex. McCaig, Carberry. The former is an upstanding, rather coarse horse in his parts, but his action is high, forceful and rapid. Ryshawk, as his name implies, possesses trotting blood, but his pedigree also shows English Coach breeding. He is handsome, fine in form, and travels rapid rather than high. The next choice in the collection was probably the Cleveland Ingmanthrope, owned by Frank Walker, Boissevain. He is one of the big ones, showing his breeding in his make-up and action. The mares with foals were thin and plain, but the gelding and filly sections contained several good things. In three-year olds, Fraser & Sons' get of the Thoroughbred Disturbance won 1st, and the get of the Thoroughbred Dr. Hurd won 3rd for F. W. Shaw; the 2nd award being won by Thos. Scott, Atwell. In yearlings, we were somewhat surprised to see a pacer win 1st over the get of Disturbance, which, however, was rather thin for the showing. The harnessed sections, single and double, were not high-class, although the three double entries were upstanding, good movers. The single entries were rather plain, and as a rule big

enough, but for carriage purposes they would hardly fill the bill where fancy turnouts were called for.

THOROUGHBREDS.

This breed was not strongly represented. There were, however, several notable stallions in the mature class. The former winner, Dermot, owned by F. Thompson, McGregor, is a superior horse in many respects. He is very handsome, has enough substance and really fine action fore and aft; in fact, he should get either carriage or saddle stock of a salable sort. The horse Jase Phillips, by Great Tom, was the next choice of the judge, and he was followed by Hudson Bay, by Ecuador. These latter two are more of the racing type, and strong enough to produce good saddle stock. F. W. Shaw, Carberry, showed one in each of the following sections: Two-year-old stallion, yearling stallion, brood mare with foal at feet, brood mare with two of her progeny, one-year-old filly, and stallion (Dr. Hurd) with three of his get. They were all of the racy type. Alf. Yeandle, Birtle, showed a racy pair of three-year-old fillies.

SADDLE HORSES.

There were a number of creditable gets of Thoroughbred sires in the gelding and filly sections, of various ages. D. Fraser & Sons' gets of Disturbance figured conspicuously here, and a useful lot they are. Alf. Yeandle, Birtle, and W. S. Swan, Austin, also won 1st awards. Just two stallions competed, Stripling and Summer Rustro. They won as named.

The entries shown under the saddle were rather few, especially those over 15½ hands, but the four entries were strong, breedy horses of the Thoroughbred type. The section for horses under 15½ hands contained some very pretty saddle stock of smart type.

CATTLE.

It was an overflow meeting at the cattle barns; every available stall was full and a number of the grades were tied in adjoining sheds. Not only was there a large increase in numbers over previous years, but there was a decided improvement in the average quality and finish of the exhibits. The beef breeds, Shorthorns, Herefords, Galloways and Angus, also the beef grades, were judged by John Davidson, Ashburn, Ont. His task was a long and tiresome one, many sections containing long strings of individuals of wonderful excellence that would puzzle any but an expert veteran. That there were no protests and but few adverse opinions expressed is evidence of the general satisfaction given by Mr. Davidson's decisions. In the Shorthorn class there were 130 entries, constituting the strongest array of the red, white and roans that ever faced a judge in a Western showing, and it is doubtful if the display could be much surpassed on the American continent. The prize list in this class totalled \$1,334 in cash prizes, of which the Dominion Shorthorn Breeders' Association contributed \$500 and the Canadian Pacific Railway Co. \$288. The classification tended to a distribution of money prizes to the majority of exhibitors.

Five aged bulls lined up when the class was called, including the dark red Lyndhurst 3rd, shown by F. W. Brown, Portage la Prairie; Robbie O'Day, by imp. Prime Minister, shown by Andrew Graham, Pomeroy; Judge, the sweepstakes bull of 1898, from the Hon. Thomas Greenway's herd; a big red son of Topsman, entered by Benalick & Lafrance, Winnipeg; and Sir Walter 3rd, shown by R. H. Shore, Manitoba. The three prizes were placed in the order given above, the Lyndhurst bull being the levellest and smoothest, although evidently carrying all that he was able for; Graham's entry, a big, massive fellow, not quite so thick in the thighs and somewhat bare over the loins; while Judge did not show in his old form, carrying his back arched and showing a bit slack in the girth. He still possesses, however, all his old-time quality.

In three-year-olds, the four entries were headed by the roan George Bruce, shown by W. B. Cockburn, Souris. This bull was first two-year-old at Toronto last year, in Capt. Robson's herd. He was brought out loaded with meat, a bull of wonderful fullness and smoothness forward from the hooks, but hardly what he should be behind. Second went to Bennie Bros. (Castleberry) Knight of Lancaster, by Edward's imported bull of that name, out of imp. Missie 142nd. This is a good straight bull, shown in working condition, as were also the 3rd- and 4th-prize entries—Chief Ulva, shown by Jas. Gardener, Cypress River, and Lakeview Chief, by George Allison, Elkhorn. The two-year-old class was made up of seven entries, three of which were imported bulls. J. G. Barron, Carberry, topped the lot with a thick-fleshed roan son of Topsman, followed by his imp. bull, Nobelman, in thin condition; Greenway's imp. Jubilee 3rd, with his Grand Quality 4th, leaving Thomas Wallace's (Portage la Prairie) Charger and W. S. Lister's Prince Alpine unplaced.

The yearling class contained what afterwards proved the sweepstakes bull in the roan Duchess of Gloucester bull, Sittytton Hero 7th, bred by Jas. I. Davidson, Balsam, Ont., and shown from Mr. Greenway's string, a bull of wonderful conformation, not easy to fault, smoothly and thickly fleshed, straight and level, with fine handling qualities. Andrew Graham had a strong entry in Pomeroy Favorite, a smooth, handsome red, of his own breeding, sired by Robbie O'Day. To him was awarded the blue, with third going to the straight, even red Mysie's Stanley, shown by Purves Thompson, Pilot Mound; while fourth went to a big, lengthy, mellow roan shown by Frank Murdock, Cypress River. A half dozen really good bull calves

lined up before the judge, who sent the red to the Cargill-bred Veracity, a thick, smooth roan son of imp. Knuckle Duster, out of imp. Beauty 16th, and shown by A. Graham. Greenway's red Grandeur of Prairie Home, by Judge, made a close second; with Barron's big, lusty, dark red Lord Kitchener third; and Purves Thompson's Field Marshal, by Caithness, following.

Graham again had the winning number in the class for bull calves of calendar year in a son of his stock bull. Bobs is a smooth, handsome, neat red, full of promise. H. O. Ayearst, Middlechurch, came into second place on a Crimson Duke, and A. & J. Chadburne, Ralphton, third. For the sweepstakes, Brown's Lyndhurst 3rd, Cockburn's George Bruce, Barron's Topman's Duke, Greenway's Sittyton Hero 7th and Graham's Veracity made up the group of toppers, the yearling Sittyton Hero and George Bruce being favorites round the ring, which gave general assent when the coveted award was sent to the youngster.

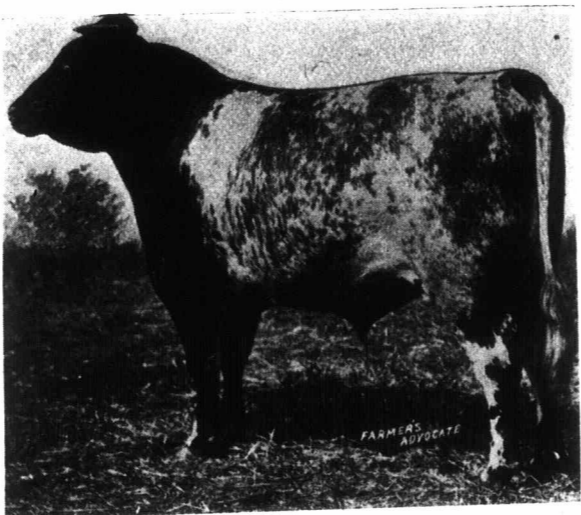
When the aged cows were called, not less than 16 noble matrons marched into the ring, not a bad one in the bunch; in fact, many had figured in sweepstake rings at this and other leading Canadian fairs. Nine entries came from the stalls of the Prairie Home Stock Farm, a show in itself, and one that could scarcely be equalled by any other breeder in Canada, or the United States, for that matter. Mr. Davidson was careful and painstaking in his scrutiny, and after long deliberation, drew out of Greenway's string the roan Mildred 6th, for first place, sending the blue to the red Matchless 18th, from the same exhibitor. These were both bred by J. & W. B. Watt, Salem, Ont., and sired by imp. Royal Sailor. They had stood in reverse order at the head of the three-year-old class at the Toronto Industrial last year, the big handsome red being also female sweepstakes. Her successful stall mate now surpasses her in levelness and thickness of flesh over the hind quarters, and is also more smoothly filled out in chest and neck veins. They have been sold to W. D. Platt for \$1,000 each, and are being sent under the hammer at his great international sale at Chicago on the 7th. Barron's imported roan, Jennie Lind 4th, made a very good third. She is lengthy, deep and level, and was presented in nice fresh condition. W. S. Lister's red Rosabella, sweepstakes female in '99, now 8 years old, low-set, thick and level, was given fourth place, leaving unplaced such grand cows as Greenway's Isabella Stanley, Begonia, Roan Mary, Miss Earl, Clara 3rd, Bracelet 8th, and Matchless 11th, Lister's Medora 12th, and Rose Monrath 5th, Walter Lynch's Rosette 10th, and Barron's Laurette 4th. The three-year-old class was also strong, Greenway again winning 1st and 2nd on Watt-bred cows, by Royal Sailor, the great, thick-fleshed, massive Dora Stamford 1st, with Matchless 19th 2nd. Barron got into 3rd place with the Topsman cow, Lily Lorne, a square, tidy beast, well brought out; Graham's Crimson Rose, by Manitoba Chief, getting 4th. The Prairie Home herd had an invincible entry in the two-year-old class in Matchless 24th, by Judge, 2nd-prize yearling at Toronto last year, a wonderfully thick-fleshed, smooth red, with good head and fascinating style. She was afterwards awarded the female sweepstakes of the breed. For 2nd place the judge selected Graham's Golden Belle, by Golden Royal, a dark red, wonderfully good from the hooks forward, but a trifle slack behind the hooks on top; Greenway's imp. Marina, a tidy roan, 3rd; leaving the last year's 1st-prize yearling, Crimson Cloud, and Barron's Red Baroness unplaced. For real beauty and sweetness commend us to a well-fitted string of yearling heifers. A dozen lined up in this class, and a beautiful lot they were. Manager Yule sent out five from the Greenway herd, and every one a plum; Graham contributed three Manitoba Chief heifers of his own breeding, all good ones; and one each were sent out by Lynch, Barron, Cockburn, and Chadburne. After a careful investigation, Greenway's Village Princess, a smooth, well-balanced, stylish roan daughter of H. Smith's Abbotsford; Roan Girl, bred by T. Douglas, by Valkyrie; Graham's Princess, by Manitoba Chief; and Greenway's big, strong roan of R. Duff's breeding, by Bonnie Lad, were drawn out, and it looked for awhile as if the judge could not make up his mind which end to begin at. However, the tickets were placed in the order named. The heifer calf class also brought out a strong string, to be headed by another roan daughter of Abbotsford, this time in Regalia, a sweet, well-proportioned calf from the Prairie Home stalls. A good second was Graham's Ury Girl 5th, by imported Knuckle Duster, and out of an imported Ury. Third went to an extra well-fronted calf, sent in without much fitting, Marigold 3rd, by Knight of Lancaster, shown and bred by Bennie Bros., Castleavery; Barron 4th, on a nicely-topped red by imp. Nobleman; and Bray 5th, on a wonderfully nice-fronted red Knuckle Duster calf. Calves of calendar year were a nice lot of seven, Manager Yule being justly proud of his winning entry, Beauty of Prairie Home, by Judge, a sweet, finely-finished red, with beautiful head and neck, full bosom and neck veins. Barron's daughters of imp. Nobleman won 2nd and 4th; Cockburn's entry 3rd. In section for three calves, bred and owned by exhibitor, Greenway won 1st and Barron 2nd. In the class for get of bull, there were five competitors, Graham winning 1st, Greenway 2nd, Barron 3rd, and Bennie Bros. 4th.

In the home-bred herd of three animals, any age, the X, get of one bull, bred and owned by exhibitor, Barron won with Topsman's get; Graham 2nd with the get of Manitoba Chief; Greenway 3rd

with Judge calves; and Barron 4th on Nobleman's calves. Cow and progeny was won by Greenway, with Barron and Ayearst following. Herd bull and three females, females home-bred, Barron won 1st, Greenway 2nd, and Graham 3rd.

One of the grandest rings ever seen here was that comprising the open herds. The Prairie Home herd was represented by two herds, one consisting of roansweepstakes yearling bull, Sittyton Hero 7th, and the red cows, Matchless 18th, Begonia, Matchless 24th, and Dora Stamford; the other roans throughout, Judge, Mildred 6th, Matchless 19th, Village Princess, and Roan Girl. They were given 1st and 2nd in the order named. Barron won 3rd on Topsman's Duke, Jenny Lind, Loretto 4th, Lady Lorne, and Louisa; with Graham's entry 4th. The herd prize on four animals, any age, bred by exhibitor, was won in the following order: Barron, Graham, Greenway. Barron won the home-bred herd, Greenway the young herd, with Graham and Barron following.

The Canadian Pacific offered a special classification for animals bred in Manitoba or N.W.T., not previously winning any prizes. In yearling bulls, Ayearst won on a good level, growthy white, by Gravesend Heir II.; Preston, of Pilot Mound, getting 2nd. Ayearst won with another white in the calf class, with Bray 2nd, and Bennie Bros. 3rd and 4th. In three-year-olds, Lynch's handsome roan, Imogene, won the red; Purvis Thompson (Pilot Mound) won 2nd on a nice smooth red; and Ayearst 3rd. Four extra good heifers lined up in the two-year-old class, Greenway winning with Ninga Jubilee Queen, bred by J. G. Washington; Walter Lynch 2nd on Faith; and Chadburne's entry following. In the yearling class, Yulesentin the roan, Minnie Bud, bred by Purvis Thompson, a winner in most any company, and won on her 1st-prize and sweepstakes female. The calf class was also a good strong one, Graham's Lily O'Day defeating Lynch's handsome Unique 2nd, with a good strong calf of Bennie Bros. following. Lynch won the herd prize, and Ayearst's white yearling, Crimson Sirdar, the male sweepstakes.



SITTYTON HERO 7th = 30892 =

First-prize yearling and sweepstakes Shorthorn bull over all ages at the Winnipeg Industrial Exhibition, 1900. NOW OWNED BY J. G. WASHINGTON, NINGA, MAN.

POLLED ANGUS.

Two herds were represented, A. Cummings, of Lone Tree, being an old exhibitor, and C. M. Speers, of Griswold, an exhibitor for the first time. Both herds were shown off grass, in good condition. The Cummings herd showed rather the better care, some of his entries coming out in very nice bloom, and to him went most of the red tickets. He won 1st on aged bull with Victoria's Montrose, bred by the John Traquair, who, by the way, was absent for the first time in a number of years. This is a bull of good breed type, shown in good condition, with a fine skin. To this bull also went the diploma for the best male any age. First on yearling bull and bull calf, 1st and 2nd on aged cow, 1st on three-year-old cow, with a particularly choice, smooth entry; 1st on two-year-old and heifer calf also went to Mr. Cummings. He also won in the open as well as in the young herd, and in three females any age, and two calves.

GALLOWAYS.

J. A. Simpson, Poplar Point, has for several years been showing a few head in this class. Wm. Martin, Hope Farm, St. Jean Baptiste, after staying out for the last two years, came forward with a strong herd brought out in excellent condition, and was the winner of nearly all the 1st prizes. The newly-imported bull, Waterloo, bred by Rev. T. Rain, is one of the best Galloways ever shown here. He is winning 1st in his class and sweepstakes. He is lengthy, deep, smooth in the shoulder, thick through the heart, deep in the flank, and well filled down in the thighs, a particularly good top, with a handsome head and magnificent coat of long silky hair. In aged cows, the Hope Farm entries, Guinevere and Majuba, both bred by Mr. Martin, were excellent specimens of the breed, thick, deep cows with wonderful substance, and shown in fine condition. In three-year-olds, Mr. Martin again won 1st and 2nd with Blossom of Hope and Lady Derby, a fine, smooth pair shown in nice bloom. In the yearling

class, 1st went to Hannah of Hope, a particularly nice quality heifer; the 2nd to Jean Stanley; both bred at the Hope Farm. Both herd prizes were also won by Mr. Martin.

HEREFORDS.

Year by year the competition in "white faces" has been steadily increasing, until this year there were brought out the strongest exhibit ever made in the West. Not only were the different sections well filled, but in many of them the entries were exceedingly good, making the competition for honors keen throughout. The herds represented were those of J. E. Marples, Deleau; J. D. Chapman, Beresford; F. B. Millar & Son, Solsgrith; John Baird, Winnipeg, and Alfred McMurray, Solsgrith. Marple's Spotless of Ingleside was brought out this year in fine form, and was an easy 1st in aged class; McMurray's entry, Barrister, being 2nd. In two-year-olds, John Wallace showed a yearling, Rock Lake Duke, a big, strong, smooth bull, well brought out, winning 1st over Millar & Son's Strathcona, shown in rather thin condition. The yearling class called out five of the best Hereford entries that had ever been seen in Winnipeg, three of them bred by H. D. Smith, Compton, P. Q., two being by the Corrector bull, Sir Horace. After a careful examination, the judge drew out Chapman's Lord Inglesford, of H. D. Smith's breeding, sired by Mark Hanna, for the red ticket. He is a low-down, thick-set bull, particularly well covered over the loin and back, good head and neck, well filled between the shoulders, with well-packed thighs. He was afterwards declared sweepstakes over all ages in a strong class. Second place went to a very even, smooth bull, Maple Duke, shown by John Wallace; 3rd to Marples' Rex of Ingleside, by Sir Horace. This is a bull of fine quality, straight and smooth, but not in high condition. The bull calves were a very nice, even lot, Wallace's Buller getting the red, Chapman's entry the blue, and Marples' Rex of Poplar Grove 3rd place. Eight cows in the four-year-old class were brought out in very creditable condition. Wallace won out on Lady Belle, a deep, thick-fleshed cow, a trifle gaudy at the tailhead; Chapman coming 2nd on Fairy 5th, a cow wonderfully good over the shoulder, and brought out in fine fit, but a trifle bare on the back. In the three-year-olds, Marples got 1st on Isabel, a cow of good size and depth; Baird's entry 2nd. In two-year-old heifers, Marples again won 1st and 2nd on Lady Marjorie, a good quality beast with a nice face, well marked, but a trifle off on horn; and Countess of Poplar Grove 2nd, with Wallace's Mary recommended for 3rd place. In young heifers, Marples was again successful on a nice pair by Spotless of Ingleside. Wallace won on heifer calf, with Marples 2nd. Marples won 1st and 2nd on open herd, 1st on young herd, 1st on three females by one bull, bred in Manitoba; and 2nd on two calves bred by exhibitor; Wallace winning 2nd on young herd, 2nd on three females by one bull, and 1st on two calves.

DEVONS.

For the first time since the inception of the Industrial, this class was represented, or, rather, there were entries made by A. E. Luxton, of Georgetown, Ont., who had evidently come West knowing there would be no competition, and anxious rather to pick up a few dollars in prize money than to benefit the breed. Some of his entries would have been a disgrace to a grade class of any county fair. As there are no Devons in Manitoba, it would seem advisable for the exhibition association to cut this class out rather than have money wasted on such an exhibit.

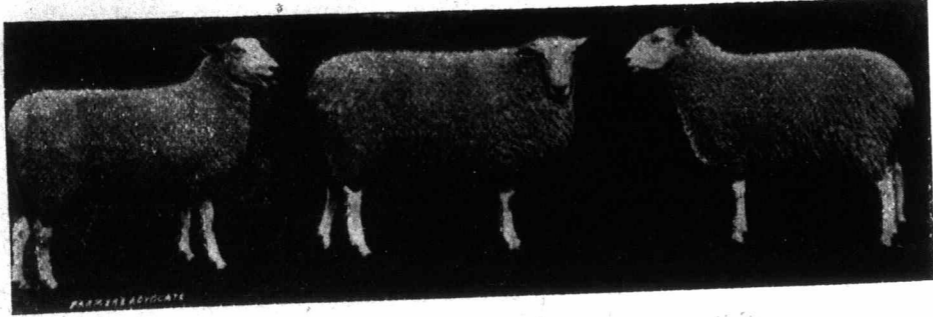
DAIRY BREEDS.

The Holsteins, Jerseys, and Ayrshires, particularly the last class, were well represented, although as a rule these breeds are not given the preparation and fitting that is generally done for eastern show-rings; consequently the animals, particularly in the female sections, are apt to be harsh in the hair and show the effect of sun and weather. These classes were judged by A. C. Hallman, New Dundee, Ont., who went about his work in a businesslike manner, getting through it expeditiously, and giving very general satisfaction.

HOLSTEINS.

The exhibitors in this class were: Jas. Glennie, Longburn; J. Oughton, Middlechurch; A. B. Potter, Montgomery; Wm. Baldwin & Son, Manitou; with a few entries from William Ranson, Carberry; James Herriott, Souris, and the Munroe Creamery Co., Winnipeg. Four aged bulls lined up when this class was called. The judge awarded the red ticket to Glennie's Tempest 3rd's Clothilde, a three-year-old, of good dairy form, with well-developed rudimentaries, fine quality of skin, showing rich yellow color. William Ranson's Hayfield Prince Clothilde was placed 2nd, the showiest animal in the group, possessing, perhaps, the most breed character, but short in the hind quarters. Third went to Oughton's Royal Duke, a son of Daisy Teake's Queen, that was 1st and sweepstakes in 1899; a big, strong animal, but considered by the judge as inclining too much to the beef type. All these bulls were well brought out. Baldwin's Prince of the North, a rather short-quartered, plain entry, was unplaced. The two-year-olds shown by Munroe Creamery and A. B. Potter were rather plain pair. The yearling class contained four entries, Glennie's Cornelius Teake being 1st—a characteristic dairy bull. Oughton's King Tempest, which came 2nd, is a promising yearling with fine shoulders, but rather effeminate head. Herriot's

Sir Pieter Burk De Kol is of fine type, but young for the class. In the bull calves, Glennie won over Potter with a calf imported from M. H. Gardiner, of Wisconsin. This youngster, Chief Mercedes De Kol, is by Paul De Kol 2nd, out of Daisy Mercedes, who has a record of 15,540 lbs. of milk in a year, giving an average test of 3.6, and traces closely to the famous Pauline Paul. He is a typical dairy calf of open form, wide, strong hind quarters, but a trifle harsh in hair and skin. The class for calves of a calendar year was made up of three entries: Glennie's 1st, Baldwin & Sons 2nd, Oughton 3rd. Glennie's three-year-old Tempest 3rd's Clothilde was awarded sweepstakes. The aged cow class contained a number of excellent entries. Glennie's famous Daisy Teake's Queen (now nearly 10 years old) again won 1st and female sweepstakes; the same exhibitor's Sadie Teake's Beauty, a typical



LEICESTERS.

First-prize 2-year-old ram and pair of ewes, and diploma ram and ewe. Bred by J. M. Gardhouse, Highfield, Ont.

OWNED AND EXHIBITED BY DUNCAN SINCLAIR, OAKVILLE, MAN.

Holstein, 2nd; and Oughton's Nymph Lively 3rd. Daisy Teake's Queen seems to be a better producer of females than males, judging from the showyard records. Her three-year-old daughter, Flosseta Teake, headed the three-year-old class; with Oughton's entries, May of Echo Valley and Catrina Aggie, 2nd and 3rd. The Manitou herd came to the top on two-year-old heifers with a very typical entry in Prairie Queen of Manitou, Glennie 2nd and Oughton 3rd. Another daughter of Daisy Teake's Queen won in the yearling class, with Potter's Lady Aberkirk 2nd and Oughton's Primrose 3rd. Potter won with May Akrum in heifer calves, Oughton following with Modest May. Glennie won both the open and the young herd awards, with Oughton following, and Potter in 3rd place. Glennie also won in three animals the get of one bull, and two calves under a year, with Oughton 2nd in either case.

JERSEYS AND GUERNSEYS.

The entries in this class were not very numerous, but many of the individuals were of great excellence, and the general character of the entries seems to steadily improve year by year. W. V. Edwards, Souris, the most extensive and successful exhibitor, won the following premiums: 1st on bull calf, with Artisan of Brampton, bred by B. H. Bull & Sons, Brampton, sired by Monarch (imported from the Island), winner of sweepstakes at Toronto in 1898, and is out of Jetsam's Molina, a first-prize winner at Toronto. This bull has beautiful skin and quality and lots of style and breed character throughout, fine shoulders, thick through the heart, deep in the rib and flanks, wide and long in the hind quarters, with good rudimentaries and veins. He afterwards won the sweepstakes award as the best bull, any age. To this herd also went 1st prize for bull calf of calendar year on a promising son of the 1st prize cow, Yankee Rosebud, a cow of deep-milking qualities, rich skin and typical breed form. This cow won female sweepstakes. Baby Malone, with large, well-formed udder, prominent milk veins and deep body, headed the three-year-olds, and her daughter, Elsie Malone, by Dean of Highfield, was 1st prize yearling. Edwards' 1st-prize herd was made up of the sweepstakes bull and sweepstakes female, 1st prize three-year-old, and Brampton Rose and Duchess Malone. H. Byres, McGregor, exhibited some good entries in this class, winning as follows: 2nd on aged bull (Rover Pogis), 1st on young bull, 2nd on aged cow with Phillipa Hugo, 2nd on a typical three-year-old, Pet of Portage Beauty; 2nd on Lillian in the yearling class, 1st on Gladys Abbott, one of his best entries, with well-developed dairy points and a wonderfully developed udder, the making of something extra; 2nd on the open herd with Rover Pogis, Celeste, Phillipa Hugo, Fawn Hugo, and Pet of Portage Beauty. C. H. Wilson, of Winnipeg, exhibited in this class for the first time, winning first on yearling bull with Royal Kildonan, 2nd on bull calf with Joe Brock, and on calf of calendar year with King Brock; 1st and 2nd on two-year-old heifer with a pair of typical Jerseys with very nice, well-formed udders. In the aged bull class, P. D. McArthur, Winnipeg, won on a very handsome, rich-skinned three-year-old, Klondyke of Grand View. W. J. Edwards, Burnside, came in 3rd with a Guernsey bred by Hon. Sydney Fisher, a big, strong bull, but out of his element with Jerseys. John Webster, of Portage la Prairie, got 2nd on a bull calf; Mumroe Creamery Co. 3rd on heifer calf, a well-grown and well-developed calf with a nice udder. To this exhibitor also went 2nd prize in the heifer calf class.

AYRSHIRES.

The principal exhibitors in this class were: Hon. Thomas Greenway, Crystal City; Steel Bros., Glen-

boro; W. Hardy, Pomeroy, and Edward T. Petar, Souris. In the class for aged bulls there were three entries, 1st going to the Prairie Home entry, Surprise of Burnside, a bull of good size and of typical Ayrshire form, a winner for the past several years at this show. Second went to Cock o' Walk, shown by R. A. Lister & Co., bred by Steel Bros., and sired by What-Care-I, a bull of the real Scotch type. The 3rd went to Hardy's Craigielea of Auchinbrain, imported by W. W. Ballantyne, and recently purchased from him. In two-year-old bulls, Steel Bros. Royal Chief, of Dyment's breeding, was placed 1st. He is a bit strong in the shoulders, but with good skin and dairy indications. W. M. & J. C. Smith, Fairfield Plains, Ont., who have for years been coming up from Ontario to capture some of the prize money offered at the Industrial, got a 2nd place on Commodore, a son of Surprise of Burnside, out of Gerta. In the yearling class, Steel Bros. had two entries, winning 1st on Surprise of Fairfield, by Surprise of Burnside, with a beautiful, rich, mellow skin, good, open dairy form and smooth shoulders. Greenway's entry, a son of Surprise of Burnside, was shown in high fit, is of good dairy type, and was placed 2nd. Hardy's St. Lawrence, an animal of good type, handling a bit thick and harsh in the skin for this breed, was 3rd. Petar showed the winning bull calf, that was bred by W. W. Ballantyne, and sired by

Hardy's new stock bull. In calves of calendar year, Greenway showed the winning number in Hugh John Mac, a son of Surprise of Burnside, very big and growthy for his age. Second went to Steel Bros. Rob Roy, 3rd to Petar's Stately Prince. Greenway's Surprise of Burnside was given the sweepstakes over all ages, closely followed by his yearling son, Surprise of Fairfield, from Steel Bros.' herd. The cow class contained three good entries. First went to Silver Maid, a deep, smooth, handsome cow, with nice udder, prominent milk veins, and well-placed teats. She is from Greenway's string; the 2nd going to Hardy's Jessie, a useful cow, with deep, smooth quarters, and a large, nicely-shaped vessel, but not possessing the quality of her successful rival. The 3rd went to Greenway's Queen of Elm Shade 6th. Three-year-old cows made up one of the strongest strings of the class. Four of them were from the Prairie Home stalls, and from these the winners were selected, Ayrshire Maggie 2nd being placed 1st, a big, handsome cow with beautiful neck, and swinging a large, well-placed vessel; 2nd going to Mattie Meadowside, a cow of extra fine quality and particularly characteristic hind quarters. In two-year-olds, Greenway again won out with Beauty of St. Anne, with beautiful head and neck, deep, open quarters and nicely-shaped udder. Second went to Steel Bros.' Spunky, with nice head and neck, straight, strong back, deep body and good dairy form; 3rd to Clara Belle, from Greenway's exhibit. Hardy had a big, well-developed heifer in this string, showing a very handsome udder. She was a bit strong in the head and neck, and thus got turned down. In yearling heifers, the 1st, 2nd and 3rd prizes went to Greenway; 1st to Stately Queen, by Surprise, a heifer of extra quality, perhaps a little beefy about the jaws, but with extra quarters, depth of middle, and showing a nice udder; Prairie Flower, also by Surprise, with a beautiful skin and good dairy form; and Spotty of St. Anne. The heifer calf class brought out one of the most perfect Ayrshire types, in Greenway's Queen of Prairie Home, bred by J. Yuill & Sons, Carleton Place, Ont. This heifer possesses in a marked degree the perfection of dairy form, with beautiful head and neck. Second went to the same exhibitor's Heather Honey, an extra nice thing; and third to Princess of Prairie Home. Hardy had a nice calf in Daisy of Fairview. In heifer calves of calendar year, 1st went to Greenway's Bonnie Doon of Prairie Home, 2nd to Hardy's Pride of Fairview, 3rd to Nancy Belle. For female any age in milk, Greenway won 1st on Ayrshire Maggie and 2nd on Silver Maid. In the open herd, Greenway won 1st and Steel Bros. 2nd, and their young herds were placed in the same order. On three animals, the get of one sire, bred in Manitoba, 1st went to Greenway's Prairie King, Prairie Flower and Stately Queen; 2nd to Steel Bros. Bella, Spunky and Nancy, the get of What-Care-I.

In the dairy grades, the Mumroe Creamery Co. won 1st, 2nd and 3rd in aged cows.

BEEF GRADES.

In this class, George Allison, Burnbank, won 1st

and 2nd on cows; D. Fraser & Sons, Emerson, 3rd, H. L. McDermott, of Headingly, won 1st and 2nd in two-year-old heifers. Allison won on the female herd, D. Fraser & Sons 2nd.

The class for fat cattle is becoming less and less patronized. The day for massive, fat carcasses seems to have passed away, and with it the ton-weight steers and old cows. D. Fraser & Sons, Benallack & LaFrance, Winnipeg, were the principal exhibitors, honors being about even. Greenway and R. H. Shore, of Manitou, also had entries in this class.

SHEEP.

The number and quality of entries in this class indicate a decided revival in the sheep industry, there being a larger company, with a greater percentage of fitted animals, than in recent former years. As we have repeatedly pointed out, exhibitors do not all realize the importance of presenting their animals in a becoming and reasonable length of wool. On this, as on former occasions, flocks appeared carrying the fleeces of the former season, which, needless to say, detracts from their appearance, and also mitigates against favor from the judge. Some men, too, bring in animals of inferior type right off the prairie, but these latter are learning by experience that such stock cannot win, so that a few more seasons will correct this objectionable feature as well as that of excessive fleeces. Manitoba is undoubtedly a suitable sheep country, as many of the exhibits indicate, and as more mixed farming is introduced, sheep will take their places as they have done in the older provinces of the Dominion. As in the other classes of live stock, the single-judge system was adopted, the work being done by Mr. Thos. Teasdale, Concord, Ont., who did his work with dispatch and satisfaction.

COTSWOLDS.

The exhibitors of this breed were the following: Messrs. F. W. & J. W. Brown, Portage la Prairie; M. Oughton, Middlechurch; A. B. Smith, Moosomin, and Ernest F. W. Hysop, Killarney. The breed was well represented by sheep of good type, but motley in appearance because of a lack of uniformity in fleece in fitting. In rams, Messrs. Brown presented a strong lot, winning 1st on aged ram and 1st and 2nd on shearlings. These were all strong sheep, nicely covered and in fine vigor. A. B. Smith presented a useful aged ram, on which he won 2nd, Oughton coming third in the aged section, and Hysop on his shearing. Mr. Oughton came to the top with a well-developed ram, followed by Messrs. Brown for 2nd and 3rd. Honors were well divided in females, as Messrs. Brown won 1st and 2nd in the aged section, and 1st and 3rd on ewe lambs, while Hysop won 1st and 2nd in shearing ewes, 1st for best female and 3rd on aged ewes, Smith coming 2nd on ewe lambs and Oughton 3rd on shearlings. Messrs. Brown captured 1st on pen and on pair any age, Hysop coming 2nd on pen.

LEICESTERS.

Three flocks contested in this breed, shown by Messrs. Duncan Sinclair, Oakville; Alex. D. Gamley, Brandon, and D. F. Preston, Glen Ewen. The former two were well fitted, and shown in seasonable, well-trimmed fleeces, while the third flock had apparently been given no special preparation. Four aged and six shearlings made a strong showing of rams. Mr. Sinclair's champion male is a very fine animal, having a smooth, firm, grandly fleshed back, and bold, vigorous carriage. He won over Gamley's two good specimens, also in prime, lusty form. In shearlings the tables turned, giving 1st and 2nd to Gamley, Sinclair winning 3rd. These animals all had nice pink skins, and presented a generally vigorous appearance. Mr. Preston evidently succeeded in getting early lambs, on which he was able to land 2nd on a lusty ram and 2nd on a pair of ewes, the 1st and 3rd in rams going



THE PRIZEWINNING OXFORD DOWNS

At Winnipeg Industrial Exhibition.

OWNED BY J. B. JICKLING, CARMAN, MAN.

to Gamley, as well as 1st in ewes, Sinclair coming 3rd on a rather late but very meritorious pair of females. The aged and shearing ewe sections presented five lots, Sinclair winning on a magnificent pair of matrons, on one of which he won the female championship award. Gamley won 2nd and 3rd here, and 1st and 2nd on choice shearlings. Preston coming 3rd on a big, useful pair, with too much wool. Sinclair won 1st on pens and diploma on pair, Gamley coming 2nd and 3rd on pens.

LINCOLNS.

were represented by a well-filled class, presented by W. T. Lytle, Beaconsfield. His aged ram, a very fine sheep, was bred by Messrs. Gibson

& Walker, Denfield, Ont., and his shearing was imported from the noted English flock of Mr. Dudding. These rams, as well as the shearing ewes, one of which was a Royal winner in '98, were in nice show form, while the others were in fine breeding condition. The Royal winning shearing ewe was bred in the English flock of Mr. Wright, of Nocton, and came latterly from the flock of J. H. & E. Patrick, Ilderton, Ont.

SHROPSHIRE.

While D. Fraser & Sons, Emerson; W. L. Trann, Crystal City; D. T. Corbett, Swan Lake; Hon. Thos. Greenway, Crystal City; John Oughton, Middlechurch, and R. S. Preston, Pilot Mound, exhibited in this class, the competition lay between the flocks of Messrs. Greenway and Corbett, the lion's share of the victories falling to the creditable entries of Mr. Corbett, who has a 1 sheep, which were well brought out as by an attentive and capable shepherd. Hon. Mr. Greenway's exhibit contained many typical animals, but in only nice field condition. The remainder of this breed shown were in small lots and some of them indifferent in quality and form. In aged rams, Mr. Corbett won 1st and 3rd, Greenway's entry coming between. The 1st-prize sheep was a strong and useful son of the famed Newton Lord that did valued service in the flock of Mr. John Campbell, Woodville, Ont. Mr. Corbett's shearing winner was also bred by Mr. Campbell. Messrs. Fraser won 2nd on a useful shearing. In ram lambs, Corbett won 1st and 2nd on sons of the Newton Lord ram, Greenway winning 3rd on a nicely topped, plump youngster, and Preston 4th in a section of five. The aged, also the shearing, ewe sections contained really high-class, well-covered, nicely colored and strong sheep. In either case, Corbett won 1st and 3rd, with Greenway between. In ewe lambs, Corbett won 1st and 2nd, the third going to Oughton. No mistake would have been made by setting the third pair farther up, although they were not well mated. One of them, however, was perhaps the best female shown in the breed. Mr. Corbett won 1st and 2nd on pens, 1st on pair any age, and first on best female in the breed.

OXFORDS

were shown by Messrs. J. H. Jull, Mt. Vernon, Ont.; Jos. B. Jickling, Carman; P. B. McLaren, Clearwater; and W. M. Smith, Fairfield Plains, Ont. The chief competition lay between the entries of Messrs. Jull and Jickling, each having entries in almost every section. The only native ram was a rangy, lean sheep, owned by McLaren, who also showed a lean pair of aged ewes, on which he stood 4th. Mr. Smith's only entry was a rather creditable ram, that won 2nd premium. Messrs. Jull and Jickling furnished the remainder of the class, that would have done credit to almost any showing. The Manitoba flock was too much for the strangers in every case where they met in competition, winning not only first, but also second, leaving the 3rd awards for Mr. Jull.

SOUTHDOWNS

were exhibited by Messrs. W. M. Smith, Fairfield Plains; A. B. Smith, Mossomin; and D. Fraser & Sons, Emerson. The Ontario flock contained a number of rather typical specimens of the breed, being of good color and covering, and trim and neat in appearance, but too small to do the breed credit. The Manitoba lots were a bit plain and many of them too bare of head, and also lacked flesh, except, perhaps, Fraser's aged ram that won 1st and A. B. Smith's 1st- and 2nd-prize native ewes. A. B. Smith's 2nd-prize pair of shearing ewes were also a creditable pair. The male sweepstakes was won by W. M. Smith's shearing, and the female sweepstakes by A. B. Smith's native ewe, the pen and pair prizes going to the Ontario entries.

DORSETS.

This breed was represented by one sheep in each section, exhibited by R. H. Harding, Thornedale, Ont. They were not a highly-fitted lot, but seemed to indicate the natural appearance of the breed when in vigorous field condition.

SWINE.

The exhibit of swine was fully up to the average in numbers and quality; in fact, taken all through, it might fairly be said that the hogs were rather better fitted than usual. Thomas Teasdale, the well-known Berkshire breeder, of Concord, Ont., acted as judge throughout all classes, and his decisions gave very general satisfaction, no complaints as to the placing of the awards being heard.

BERKSHIRES.

In the number of entries, the Berkshires were this time in the lead by a small majority over the Yorkshires, and these two breeds made up over half of the total entries in the swine class. From the Berkshire pens were missed the large exhibit usually made by R. McKenzie, of High Bluff. The exhibitors this year were: J. A. McGill, Neepawa; Thos. Greenway, Crystal City; Wm. Kitson, Burnside; and F. W. & J. W. Brown, Portage la Prairie; with a single entry in the yearling sow class from H. L. McDermott, Headingly. Manager Yule sent in the Prairie Home Stock Farm entries in high fit, and succeeded in capturing many of the best prizes. In the Teasdale-bred Victor (boar one year and under two), a hog with great depth of side, strong, level back, carrying his width evenly throughout, and standing well on good feet and legs, with a clean, strong head, Mr. Greenway won 1st prize in a strong class and diploma for best boar any age.

and also the boar special given by the Dominion Swine Breeders' Association. In the aged sow class, a remarkably strong one, Mr. Greenway won 2nd and 3rd on Daisy and Harmony. In sow one year and under two, Mr. Greenway led with a magnificent sow, Exhibition Beauty, bred by T. A. Cox. This sow is almost faultless; well developed, deep, smooth and level, with a fine head. She was afterwards given the sweepstakes for the best sow any age, and also the Dominion Swine Breeders' special for best sow. Greenway also won 2nd in this class on Brant Maid, and 3rd on Brant Queen, full sisters, bred by T. A. Cox. In sows over six months and under one year, the Prairie Home entries, Crystal Jewel and Crystal Jean, won 1st and 2nd, and the diploma for herd of four sows any age was also captured by Mr. Greenway with Exhibition Beauty, Brant Maid, and the 1st and 2nd prize sows under a year, making up a very handsome quartette.

J. A. McGill came forward with a good strong showing, all his entries in the younger class being bred by himself. He won 2nd on aged boar with General Booth, bred by himself; 2nd on boar under two with Honest Tom, a Fitz-Lee boar bred by J. G. Snell; 1st on boar under a year with Duke of Clifford, sired by his own General Booth; 1st on boar under six months with Comet; 1st on two-year-old sow with Charmer, bred by J. G. Snell, sired by Baron Lee; and also 4th in this class with Norah, by J. G. Snell's Star One. For sow under two, McGill again won with Nacomis, by Fitz-Lee. In the class for sows under six months, he won 1st with Cupid, of his own breeding, sired by General Booth. To his entry, Daisy, also went the 1st prize for sow and litter of pigs.

F. W. & J. W. Brown won 1st on aged boar with Highclere King, bred by George Green; 3rd on boar under one year with Manor Hero, by Western Boy; 3rd with Gallant King in the class for boars under one year; 2nd on boars under six months with Highclere Tom; 3rd on sow under one year with Jenny Lind, sired by their aged boar; and 3rd in the same class with Jenny Lass. In sows under six months, 2nd prize went to Brown's Fanny 2nd, and for the home-bred herd (boar and three females any age), 1st prize went to Brown's entries.

William Kitson had not given his hogs the fitting that some of his rivals had. His Teasdale boar, Western Boy, was placed 3rd in two-year-olds. In boars under one year, he won 2nd and 4th on pigs of his own breeding. On boar under six months, he won 3rd and 4th, and also 3rd and 4th for sows under six months, and a 3rd prize on sow and litter with a Cox-bred sow, Burnside Lass. Third prize for the home-bred boar and three females also went to Mr. Kitson's entry.

YORKSHIRES.

In this class, competition was very keen in nearly all the sections, and some animals of great merit were shown. In the aged boar class, W. B. Cockburn, Souris, won with a Flatt sow, Potter winning 2nd on a boar also bred by Flatt. In the class for boars six months and under a year, Brethour & Saunders, of Buford, Ontario, had the winning entry in Oak Lodge Don, 2nd going to Bray's Oak Lodge General Bobs, of his own breeding; 3rd to John Oughton, Middlechurch; and 4th to A. B. Potter, Montgomery, Assa., on Mike, bred by himself. In boars under six months, Potter won 1st and 2nd with a pair of very typical youngsters of his own breeding; 3rd and 4th going to Bray on pigs bred by himself. In aged sows, Brethour & Saunders again topped the list with a very handsome entry in Oak Lodge Minnie, Bray winning 2nd and 4th, and Greenway 3rd. This was a strong class, a number of real good entries being left unplaced. In sow under two, Brethour & Saunders again won the red ticket, Greenway winning 2nd, 3rd and 4th. In sows under a year, Greenway had an outstanding 1st in Oak Lodge Julia 9th, bred by Brethour. This sow was afterwards made female champion of the breed. She has great length, depth and evenness, standing well on her feet, and with a beautiful head. To the Crystal City pens went 2nd prize on Eva of Prairie Home. Third and 4th went to Bray on good entries of his own breeding. In sows under six months, Greenway was 1st and 2nd on pigs of his own breeding, Bray 3rd, and Potter 4th. Cockburn's 1st prize aged boar was awarded the diploma. The class for sow and litter was headed by Mr. Greenway's Oak Lodge Mighty with nine very even sow pigs, she having had eleven in the very even sow pigs, she having had eleven in the litter. The 2nd prize went to Potter, and 3rd to Greenway. In the herd (boar and three females), Bray won with entries of his own breeding, Greenway 2nd, and Potter 3rd. Bray also won in the herd (four sows any age) with entries of his own breeding.

CHESTER WHITES.

There were about twenty-five entries in this class, nearly all of which were made by Wm. McBride, Portage la Prairie, who brought out his pigs in very good shape, and a very typical, useful lot they were. To his entries went nearly all the prizes; W. L. Trann, Crystal City, winning a few prizes in this class.

TAMWORTHS.

Four breeders competed in this class, but in no section was the number of entries very large. The exhibitors were: L. A. Bradley, Portage la Prairie; W. M. Smith, Fairfield Plains, Ont.; W. Baldwin & Son, Manitou; and W. E. Baldwin, Manitou; with a few entries from J. B. Jickling, Carman, and R. S. Preston, Pilot Mound. Bradley had the only

entry of aged boars. In class for boar, under two years, W. M. Smith was 1st. W. Baldwin & Son, with British Champion, last year's sweepstakes hog, was 2nd. He is a boar of excellent breed type, smooth and level, but he had gone a trifle off on his hind ankles. Third went to Bradley. Boar under a year, W. E. Baldwin won 1st on British Prince, a very smooth, even hog that was considered good enough to win the diploma and special by the Dominion Swine Breeders' Association for the best boar any age. Second in this class went to J. B. Jickling, and 3rd to L. A. Bradley. Boars under six months were a fairly good class, the Ontario entries winning 1st and 2nd; W. E. Baldwin, 3rd and 4th. In sows over two years old, Bradley's six-year-old Maggie again won the red ticket, the same exhibitor's Grace Darling winning 2nd, Wm. Baldwin & Son 3rd, and W. E. Baldwin 4th. In sows under two years, Smith was 1st, W. E. Baldwin 2nd, and Bradley 3rd. Sow under a year, W. E. Baldwin won on Lady Elgin, a choice entry, long, deep-sided, smooth and level, and extra good in the hams; with Bradley 2nd and 3rd. Sows under six months, the prizes went to the Ontario exhibitor. Bradley's aged sow, Maggie, won the female sweepstakes and the Dominion Swine Breeders' special. W. E. Baldwin's young boar, British Prince, won the male championship. In the class for sow and litter, Bradley won 1st with Grace Darling, W. E. Baldwin 2nd with Pearl of Springbank, and Wm. Baldwin & Son 3rd with Rosebank Belle. The herd prizes, for boar and three females any age, were placed in the same order, and in the section for herd of four sows, L. A. Bradley won 1st.

POLAND-CHINAS.

In this class, W. L. Trann, Crystal City; M. Oughton, Middlechurch, and W. M. Smith, of Fairfield Plains, Ont., were the only exhibitors; Trann winning in the boar sections, and the sweepstakes boar, with Manitoba Chip. The female championship went to the Ontario entry, as did also the 1st-prize sow and litter and herd of four sows.

DUROC-JERSEYS.

W. M. Smith, Fairfield Plains, Ont., was the principal exhibitor throughout the various sections of this class, the only Manitoban exhibiting being John Oughton, Middlechurch, who won 1st on boar under 1 year, 2nd on sow over a year, and 2nd on sow and litter.

BACON HOGS.

Sections were added to the prize list this year for bacon hogs, in place of the old-fashioned class for fat hogs. In the pen of three pure-breds, A. B. Potter, of Montgomery, Assa., won with three well-matched, typical Yorkshires, a trifle lean, maybe, but not very many points out. L. A. Bradley won 2nd with a trio of Tamworths. In the grade pen, J. A. McGill won with a very even, well-fitted trio of pure white hogs, crosses between Berkshires and Chester Whites.

Our Scottish Letter.

THE HIGHLAND SOCIETY'S SHOW.

We have had a most successful show of all classes of stock at Stirling in connection with the Highland and Agricultural Society, and on all hands breeders are congratulating themselves, as they very well may. The weather has been unusually fine and the attendance of the public greater than has generally been seen at shows held in Stirling. The Highland and Agricultural Society was for long in somewhat doubtful odor amongst Scottish farmers, but a great change has taken place since Mr. James Macdonald became secretary in 1892. The shows of each year since have been increasingly successful, and the Society is in close touch with its members. The great majority of country people are in one way or another connected with it, and they attach no little importance to its successive events. It periodically visits each district of the country, beginning with Edinburgh and then taking in succession Aberdeen, Dumfries, Perth, Glasgow, Kelso, Stirling and Inverness. This circuit is, however, subject to slight modifications to meet local exigencies, but in the main it is pretty faithfully adhered to. Great numbers of people, in general, attend these shows. For example, to take the drawings on the third day (Thursday) during a circuit we have these results: At Edinburgh in 1893, £2,086; at Aberdeen in 1894, £2,241; at Dumfries in 1895, £1,381; at Perth in 1896, £2,363 7s. 6d.; at Glasgow in 1897, £1,908; at Kelso in 1898, £833; at Stirling this year, £2,078 5s. 2d. The year 1899 was an abnormal one, when H. R. H. the Prince of Wales attended, and the drawings on the third day were £5,033. The last visit paid to Inverness was in 1892, when the drawings on the Thursday amounted to £901. Next year, the first of the new century, we again visit the Highland capital, and if the reputation of the past circuit is maintained, there should be more money taken.

The President for this year is Lord Balfour, of Burleigh, who is also Secretary of State for Scotland, and a level-headed business man in every way as well as a man of splendid presence and physique. He knows what he is doing and does it. The leading winner amongst the Shorthorns was Her Majesty the Queen, who won the breed championship with her unbeaten bull, Royal Duke 75509, which has now won supreme honors at the national shows of Ireland (Royal, Dublin), England (Royal, York), and Scotland (Highland, at Stirling). This bull, like all the Queen's exhibits, is home-bred and of Scottish descent. His marvellous levelness of flesh



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and gaiety are outstanding characteristics, and he goes round the ring very pleasantly, being a capital walker. Her Majesty also won the female championship with the two-year-old heifer, Rose of Sharon, which stood first in her class at the Royal. This heifer is a little rough at the tail-root, but otherwise it takes an unusually good one to beat her. She was got by the same sire, Prince Victor 73320, as the Royal Duke. The reserve champion female was also the Queen's, namely, the yearling white heifer Maritana, by Liberator 64260, out of a Dauntless cow. This was a phenomenal performance from one herd, and three cheers given for Her Majesty when all was over were liberally responded to. The reserve champion among the bulls was owned by Mr. C. Horne Graham-Stirling, of Strowan, Crief. He is named Stirling, and was bred by Sir John Gilmour, of Montrave, Bart. He was first in the aged class, and is a nice level animal, with excellent cover of flesh. The Queen's Short-horns are kept at the Prince Consort's Shaw Farm, Windsor, but at Abergeldie Mains, Ballatin, Her Majesty keeps a herd of Aberdeen-Angus cattle, and one of these, Princess Irene 6th, 22586, by Eulenberg, was first as a breeding cow and gained the Ballindalloch Challenge Cup. This is a serviceable, useful cow, but she is relatively not as good an animal as the champions in the Shorthorn class. The champion of the A.-A. breed was Mr. W. S. Adamson's bull, Diaz 14272, from Careston Castle, Brechin. He was also champion at the Royal, and is a great, massive, fleshy bull, bred at Aldbar by Mr. Patrick Chalmers. His own brother, Delamere, which made 185 gs. at the Perth bull sale when a calf, has been purchased for herd sire at Ballindalloch. The yearling heifers in this section were of superb quality, and the Earl of Strathmore, Glamis Castle, Forfar, was first, second and third in the class with heifers of his own breeding. He has been first in this class for six years in succession, and the Glamis herd occupies a front place in the A.-A. breed.

Galloways are not now in the hands of one breeder only, as to a large extent they once were. The breed was very largely represented at Stirling, and the outstanding quality of the females was undeniable, while the bulls of all ages were meritorious. The best bull was declared to be Messrs. W. & R. Clark's Culmain, Crockettford, Dalbeattie, a lengthy, stylish bull, carrying himself with much gaiety. The breed champion came from the same herd as that of last year—that of Sir Robert Jardine, of Castlemilk, Bart., Lockerbie. Her name is Nancy Lee 3rd of Castlemilk 15019, and she is a sister of last year's victor. The reserve for breed championship was the unbeaten two-year-old heifer, Bell 13th of Drumhughry 15540. She is owned by her breeder, Mr. Robert T. Scott, Drumhughry, Corsock, and as a yearling and two-year-old has had an unbroken career of victory. The uniformity and quality of this heifer can hardly be surpassed. These hardy black cattle are more than holding their own in the battle of the breeds, and their merits are being increasingly recognized far and near. Many hundreds of them go to England for grazing purposes, and there's a deal of money in them, as the butchers love them.

Highlanders are always a noble display at the Highland Society's show, but this year the exhibition was somewhat discounted by the splendid appearance which the breed made at the Royal. H. R. H. the Prince of Wales is a great admirer of the breed, and the exhibition at York was chiefly due to his suggestion. His representative gave £50 at Stirling show for a pair of bullock stirks, one of which, at least, will make a Smithfield winner. The absence of the Southesk cattle, which did grandly at York, robbed the Stirling gathering of much of its interest, the best bull of the breed, Lavich, which championed the breed at York, being absent with the rest. The best bull at the show, and, as it turned out, the best animal of the breed also, was the Duke of Atholl's two-year-old Calum Buidhe of Atholl, a short-legged, yellow fellow, with a deal of the right kind of character. The reserve was a superb heifer, Sgiathach XXIV., a black one, bred and owned by Mr. Valentine Smith, of Ardtornish, Morvern, and of the same kind of breeding to some extent as the Atholl bull, whose sire was also bred at Ardtornish. He has been a great acquisition to that herd.

Ayrshires are the rent-payers of Scotland, but the middle of July is hardly the right time at which to show them to advantage. The display of these world-famed dairy cattle was on the whole fair, and the winners, both male and female, left nothing to be desired. The best bull was adjudged to be Mr. Andrew Mitchell's Commander 3762, a good sort, which has been winning this year all round. His owner, whose address is Barcheskie, Kirkcudbright, does a big trade and keeps a good herd of superior animals. But the breed champion here again was the female, Mr. Wm. Howie's four-year-old cow, White Rose 2nd 12052, which won in her class for cows in milk, and was shown in excellent form. This cow was first in the Glasgow and Ayr Derby last year, and her sire was Sloth Boy 3806. Burnhouses, Galston, is one of the historic farms of the breed; and many a good one has been bred there.

Clydesdales have seldom been a stronger show than they were this year. The classes were well filled in respect of numbers and quality, and the general tendency was to give a good many points for weight and substance. The champion stallion was Messrs. A. & W. Montgomery's handsome big,

powerful horse, Prince Thomas 10262, bred by the Marquis of Londonderry, K. G., and purchased by his present owners last year at public auction for 900 gs. This is a horse of great weight and substance, and he is every inch a cart stallion as well as a right good doer. He has already been hired for service in 1901, by the Strathbogie district Society, who had him hired during the present season. The second aged horse, Lord Fauntleroy 10370, was at one time owned by Messrs. Montgomery, and is now owned by Mr. Herbert Webster, Morton House, Fence Houses, Co. Durham, at whose sale the Montgomerys bought Prince Thomas. An exceptional good horse named Drumflower 10537 won in the three-year-old class. He is owned by Mr. Thomas Smith, Blacon Point, Chester, and was also purchased from the Messrs. Montgomery. This horse is a son of Macgregor 1487, and is a great solid, massive horse, with plenty of bone and substance. He is a cart horse and has been first at the Highland both this year and last. The two-year-old class was led by a splendid horse named Baron's Crown 10679, owned by Mr. Herbert Webster, and got by Baron's Pride 9122, which great horse was sire of the third and fifth aged horses; the second, fifth, sixth and seventh three-year-olds; and first, second, fourth and sixth two-year-olds; and the first, third and fifth yearling colts. This is surely a great record, and it is gratifying to find that the later progeny of this horse are in the main stronger and more powerful, with greater substance, than those which appeared earlier. The female championship went to Mr. Herbert Webster for the fine mare, Lady Lothian 13319, an unbeaten daughter of the fine breeding horse, Lord Lothian 5998, and a winner of the same trophy in 1896. She is wearing well and has never been beaten. Brood mares were led by the noted Lady Raffen 13933, by Sir Everard, a noted prizewinner at these shows, where she has been often first. Several mares descended from Sir Everard were prizewinners in this class, and the produce of his son, Baron's Pride, again did first-rate in the younger classes. The yield mares were a very strong lot, of choice quality, and Balmedie Queen Mab 13513 again led them. In the three younger classes daughters of Baron's Pride were first, the unbeaten Janie Deans leading the three-year-olds, Mr. Guild's Topsy Pride the two-year-olds, and the Earl of Roseberry's Pomona, the champion at Edinburgh, and reserve female champion here, the yearlings. Some idea of the absolute supremacy of this horse as a sire is seen in the fact that his stock were, in addition, fourth and sixth amongst the three-year-olds; second, third, fourth, fifth and seventh amongst the two-year-olds; and third, fourth, sixth and seventh amongst the yearlings. It will thus be seen that he did not leave much for any other sire.

"SCOTLAND YET."

A Setback for the Tuberculin Test.

The issue for July 21st, of the *Scottish Farmer*, which has during the past few years devoted much effort in promoting the propaganda against bovine tuberculosis, contains the following: "The tuberculin test movement has lately had a considerable setback, or, rather, will have, as soon as facts become more widely known. Some time ago a gentleman resident in the Argentine imported five high-class pedigree Shorthorn bulls, for all of which he received certificates signed by English veterinary surgeons, purporting that they had been tested with tuberculin and found to be free from tuberculosis. On arrival at the Argentine port they were examined by the Government vet., and two of them failed to pass the tuberculin test. The result was that he was ordered either to destroy them within a given time or return them to England. He decided to do the latter, and instructed his agent to sell them to the butcher, and at the same time to employ a qualified vet. to examine the carcasses, and to report if they were really suffering from tuberculosis. This was done, and after very careful examination they were pronounced perfectly free from disease."

War with the Tuberculin Test.

A regulation of the Illinois State Board of Live Stock Commissioners prohibits cattle being brought into the State for breeding or dairy purposes unless they have been tested by tuberculin. The board prosecuted several dairymen in Northern Illinois for a violation of the quarantine regulations, and the court—Judge Pond, of De Kalb County—discharged the defendants, declaring that the Commissioners have no legal right to test cattle brought into Illinois for tuberculosis, and no authority to make regulations regarding tuberculin tests. The court sustained the defendants' contention that the Board's quarantine regulation is an unjust discrimination against the dairy interests of the State. This decision has been the cause of great satisfaction among stockmen.

The Commissioners will carry the case to a higher court, in view of the fact that recently Judge Southworth, of Kane County, rendered a contrary decision, confirming the right of the Board to test and condemn cattle. It is most desirable that a final decision be shortly arrived at so that stockmen may know to what lengths they will be compelled to go in order to stop the slaughter of cattle under cover of the law.

English Notes.

THE GREAT YORKSHIRE SHOW.

The present week, July 16th to 20th, has been a very busy week for the showyard exhibitor, the most important English show being the Great Yorkshire, though, of course, the Highland is more important still. This will, no doubt, be fully dealt with by your Scotch representative, my sphere of action being confined to England.

The great feature of this northern county show is the grand classes of Hunters and Hackneys; in fact, the latter form the more important feature of the show. The winners included many of the best of the breed, and amongst the owners we notice Sir Walter Gilbey, T. W. Buttle, Lord Middleton, Henry Moore, H. Livesey, S. Day, T. Hull, etc. Lovers of horseflesh and all who desire to see one of the best arranged and managed shows in England should visit the annual meeting of this society, whose first show took place in 1838, with an entry of 68 cattle, 90 sheep, 38 pigs, and 105 horses, a total of 301, and these have risen to 243 cattle, 161 sheep, and 539 horses, or a total of 943 head at Doncaster this year, from which, however, pigs were excluded by order of the Board of Agriculture. Had these been present, the entries would have been well over the thousand. Mr. Henry Dudding's noted Shorthorn herd was well to the fore, and amongst the other winning owners we noticed Capt. Duncombe, Victor C. W. Cavendish, M. P., C. W. Brierly, J. Deane Willis, R. Stratton, etc. Aberdeen-Angus cattle were also exhibited in small and select numbers, as were also Jersey cattle.

The Hunter section was a grand one. "All Yorkshiremen love a good horse" is a saying one often hears in the south, and an inspection of the entries made at this particular show clearly demonstrates the truth of this saying. Shire horses, the weighty dray horse so much in demand at the present time, were equally prominent for their quality and merit; whilst in the sheep section we have a grand entry of Lincolns, wherein Mr. Henry Dudding again lead the way in the single yearling ram class, and also for yearling ewes. Mr. Tom Casswell, having sold his winning two-shear ram to Messrs. Patrick, of Canada, was an absentee, whilst Messrs. Wright, J. Pears, J. E. Casswell, and J. H. Smith, Jr., made first-class entries, and all shared in the money allotted to these classes, Mr. H. Smith, Jr., winning the champion prize for best three uncolored yearling rams. Messrs. G. Harrison and E. T. Jordan took the more prominent places in the Leicester classes, and Mr. J. Roder and the executors of Mr. Willis in the Wensleydales were equally successful.

Lincolnshire County Show.

On one of the best-arranged show grounds we have seen this year this Society opened its thirty-first annual show, there being a capital entry in all departments, but as many were local, their interest is not of so much importance to Canadian readers as some other shows. The herd and stud of H. R. H. the Prince of Wales were successful, the former being represented by the grand young bull, Pride of Collynie, born in Feb. '98, who took first in his class and the championship of the bull section, and the latter by the young Shire stallion, Benedict, two years old, who easily received first honors in a strong class. Mr. Henry Dudding, whose herd of Shorthorns is one of the largest, if not the largest, in the county, came in for a very large share of the prizes with a grand selection of bulls and heifers, his bull Martian being reserve number to that from the Prince of Wales' herd for the champion prize. The total winnings of this fine herd were as follows: three firsts, three seconds and a third prize, besides minor honors. Messrs. J. E. Casswell and S. E. Dean were also amongst the winners.

Sheep.—The sheep section was a very strong one, and from the fact that there are very strong indications that the demand for Lincoln longwool sheep both in your country and the United States will be very much larger in the future than in the past, we have given a better notice than usual of the classes, for although the Royal Show ranks higher than the county show, there is no place where we can see so large entries or a better or more typical display of the breed than one does at the Lincoln County show. Mr. Henry Dudding, whose grand and typical shearlings have not known defeat this season, again led the way in the yearling ram class with as grand a ram as one could desire. Your countryman, Mr. Brooks, Messrs. Patrick's manager, will tell you on his return the kind of ram this one is. Next him came a fully typical one from Messrs. Wright's flock, followed by a second one of Mr. Dudding's breeding, who in turn had as his neighbor one from the old Laughton flock of Mr. J. E. Casswell, who had a second one of which came in number six, the second one of Messrs. Wright's being placed number five, several others being also noticed by the judges. The two-shear ram class was not a very large one, but of rare good merit, its winner from Mr. Tom Casswell's flock at Pointon being as near perfection as can be got. He was just as easily first in his class here to-day as he was at the Royal, and as he will be at Toronto, London, and Chicago next fall, if all goes well with him in his voyage to your country, for Messrs. Patrick's representative was successful in inducing his owner to part with him at a very high figure. This is one of the best and most typical rams of this breed that your country has im-

ported for many a day, and one which will show to the thousands that see him what a first-class Lincoln ram at maturity should be. Messrs. S. E. Dean & Sons came in second and reserve honors, the former ram being one bred by Mr. J. E. Casswell, which was fully typical of the high quality and merit of that first-class flock.

The yearling ewe class found Mr. Henry Dudding not only first, but second also, with two pens of three ewes which would be very hard to beat. The first pen were third at the Royal and the second pen were first there. The latter are coming over to Messrs. Patrick, in charge of Mr. Brooks, and will need a lot of beating when they arrive. They have not known what this is at home, save at the hands of their flock mates. Messrs. Wright were third, and a capital pen of Messrs. S. E. Dean & Son's highly commended. The class for five yearling ewes in full fleece—i. e., those which have never been shorn—was a sight to see. Few men who have never seen this class can realize how grand a sight it is. The great length of the fleece and bulky appearance of the animals would be hard to do justice to in any written notice. Here, as in the other ewe class, Mr. Henry Dudding was easily first with as grandly matched a quintette as could be desired. They also took the challenge cup as best pen of ewes in the show.

In both ram lamb and ewe lamb classes, where Mr. Dudding was not competing, Messrs. Wright won first with grand pens of three, the winning ram lamb being by a Dudding ram, and two of them are coming over to Messrs. Patrick, as are also the three winning ewe lambs, both of these pens having been first at the Royal, there being also a probability that a lamb from Messrs. S. E. Dean & Son's second-prize pen of ewe lambs may also come to Messrs. Patrick, as their man Brooks was very sweet upon her. We may note here that the Lincoln importation Messrs. Patrick are making this year will be found on arrival second to none in respect to both merit and quality.

In the wool class Mr. Henry Dudding was easily first with three fleeces of that type and character which has made his flock so famous all the world over. In the class of five rams not exhibited before, the winning pens came from the flocks of Messrs. J. E. Casswell, T. Casswell, and J. Pears.

W. W. C.

Brandon Fair.

Another most gratifying success has been achieved by the Western Agriculture and Arts Association. Year by year the "Big Western Fair" grows in popular favor, and the fair of 1900, held July 31st and August 1st, 2nd and 3rd, was, both in the number and character of exhibits and in attendance, the greatest success yet recorded. The stock barns were overcrowded, most of the exhibits present having come on from the Industrial. Before the grand stand a creditable programme of attractions and races was worked off each day, to the entertainment of thousands of visitors. The poultry, dog and dairy buildings had been increased in size, and in each department most excellent exhibits were made. A large addition had been added to the main building, thus affording much needed room. In the center the Experimental Farm had erected a very handsome pyramid of sheaf grains, which was greatly admired. The Brandon merchants had not, however, taken the pains to make such displays in this building as we would expect. The agricultural implement firms were conspicuous by their absence, as at the Winnipeg fair. The Brandon Machine Works, the Sawyer-Massey Threshing Machine Co., the Armstrong Carriage Co., and a few others, made interesting displays that helped to fill the space usually devoted to machinery.

HORSES.

From the standpoint of numbers, the horse exhibit at Brandon was considerably below that of the Winnipeg Industrial, but since the prizewinners at each fair were in many cases identical, the quality of those shown at the Western was of the higher average. A few fresh individuals and teams came in here, defeating victors of the previous week, and some of those not placed at Winnipeg rose over horses that received money awards at the last meeting.

Heavy Breeds.—The chief exhibitors of Clydesdales were Messrs. J. A. S. Macmillan, J. E. Smith, C. Calquhoun, J. B. Thompson, W. M. Black, T. Elder, and W. J. Williamson. The only aged stallions shown were Erskine Lad, owned by Colquhoun, and Pilgrim, owned by Macmillan. At Winnipeg the latter horse received the first award, but the former was not placed, although it was pretty generally considered he should have been. At Brandon the tables turned and Erskine Lad was the victor. The judge, Mr. Ferguson, of Smith's Falls, Ont., took considerable time in examining them closely, as he considered either a good animal, each excelling the other in some points. Erskine Lad, by Erskine, is of the round-ribbed, hardy sort, with well-set limbs of excellent quality; while Pilgrim is of much the same useful Scotch type. The judge preferred the former, largely from the setting on of the fore legs, which is a bit closer in Erskine Lad. John E. Smith's Prince Charles was alone in three-year-olds, and J. B. Thompson had just one entry against him in yearlings, that of T. Elder's, and a good colt. Thompson's Lord Roseburn was the victor in this latter contest, and he later proved himself the

champion stallion bred in Manitoba, a feat he had accomplished the previous week. The mare sections were led off with J. E. Smith's strong string of five brood mares with foals at side. The honors in the filly sections were divided between Thompson, Macmillan, Williamson, Black, and Elder. A notable victory was that for foals, won by Macmillan in a very keen contest.

The Shire stallion, Indiana, owned by H. Byres, was the only male of this breed shown, while the only mares out were Frank Stott's brood mare, her two-year-old daughter and foal. They were a creditable, representative lot.

The heavy draft, agricultural and general purpose classes contained many meritorious entries, both in harness and on the line. They ranged from high-class dray pairs to smart, compact and active farm horses, adhering in type to the Clydesdale pattern. In the first class Messrs. Hughes and Law defeated John Stott in pairs, the latter showing the same span on which he won 2nd in Winnipeg. N. F. Rodgers won on brood mare and on foal, and A. Struthers and W. J. Williamson on fillies or geldings. Mr. D. T. Wilson was the chief winner in the agricultural class with his well-fitted, good string that he showed so successfully in Winnipeg. A notable pair shown in this class was the 1st and 2nd prize yearlings exhibited by Mr. Williamson, while A. D. McPhail's brood mare and foal deserve mention. The general purpose team contest was keen, there being four creditable entries. A. B. Magee's Winnipeg victors won over W. Elder's last year's 1st prize pair. The brood mare and foal section was keenly contested, but the entries in the younger sections were light.

Light Breeds.—Apart from a few good stallions, these classes were not particularly strong, although a number of creditable entries were contained in several of the sections. The coach stallions, Pasha and Ryshawk, the first and second winners at Winnipeg, were alone in their section, and retained their former positions. There were no young stallions shown, and the filly or gelding sections were light. Four creditable, upstanding pairs contested, the red ticket going to a well-mated pair of bays with considerable style and quality and good road action. They were owned by Thos. Scott, Atwell. The seven single entries were a mixed lot, but the winning horses were well worthy of the awards. Of the five Thoroughbred stallions shown, Dermot, owned by F. Thompson, and Rumpus, owned by R. S. Fulton, were the only ones not showing more or less lameness. These are good horses, and won 1st and 2nd at Winnipeg, as they did on this occasion. Mr. F. W. Shaw, Carberry, showed a breezy two-year-old stallion, and Alf. Yeandle, Birtle, a racy pair of three-year-old fillies.

In Standard-breds, Dr. Henderson's big pacing stallion, John Henry, won over Dr. Kelly's black trotting Mitchell Boy, a thick, useful horse, and M. R. Stewart's Bob Kirk, a racy brown, with considerable speed. J. F. Kelly showed the only young stallion in a promising bay three-year-old. The remaining sections were lightly filled. There was a good turnout of Roadsters in the several sections, including brood mares and foals, young stock, harnessed single and double, as well as those shown under saddle. Of this latter sort there was a particularly strong lot, considerably better than the corresponding class at Winnipeg show. There were eight entries, mostly of strong Thoroughbred type and of substantial size. Wm. MacMillan won 1st and H. Hole 2nd award. There were no Hackneys shown, but the exhibit of ponies was creditable.

CATTLE.

As in other departments of the Brandon Fair, the entries in the cattle classes were more numerous and of better quality than at any previous fair held by the society. The cattle barn was not able to accommodate all the stock, many of the old sheds having to be utilized.

Prof. Thos. Shaw, of the Minnesota Agricultural College, judged all the cattle, giving very general satisfaction and getting through his work expeditiously. Nearly all the animals shown had been at the Winnipeg Industrial the week previous. A few individuals were entered in some of the classes by local breeders.

SHORTHORNS.

This breed was divided into two separate classes, one class open, the other open only to animals bred in Manitoba and the Territories, and the \$250 cash grant from the Dominion Shorthorn Breeders' Association was equally divided between them. Hon. Thos. Greenway was the largest exhibitor, having forward a strong selection from his Industrial exhibit. Andrew Graham, Pomeroy, who had also come on from Winnipeg, made a good showing.

In the home-bred class, Jas. Henderson, Brandon, showed the two-year-old bull, Aberdeen 7th, bred by Wm. Chalmers and got by his Aberdeen 2nd. He is a thick-fleshed, tidy bull, and won 1st over S. S. Simpson's entry. In yearlings, Graham's red Simpson's Favorite was without competition. In Pomeroy Favorite was Greenway's Grandeur, a red son of the calf class, Greenway's Robbie O'Day calf, Judge, won out over Graham's white Donald Dinnie, Bobs, and Wm. Chalmer's white Donald Dinnie. Graham's Pomeroy Favorite won the male champion-ship. In the aged cow class, the Greenway entries, Crystal Beauty and Duchess of Rosedale, were placed 1st and 2nd respectively, with Dixon's Pipestone Beauty in 3rd place. Graham's Crimson Rose was the only three-year-old. The competition in the next section lay between the magnificent red

heifers, Golden Belle and Ninga Jubilee Queen, from the Graham and Greenway herds, respectively, the judge placing the awards in the order named. In the yearling heifers the judge preferred a type different from that which guided the judge at the Industrial. At the latter, Graham's smooth, finely-turned red Princess, got into the money prizes, while her stall mates, the more growthy, though less smooth, roan Eveline and Necklace of Pomeroy, were not placed. Prof. Shaw, however, favored the two last named in the order given. Greenway won in the calf class, with Beauty of Prairie Home, by Judge, out of the first-prize cow in this class; Graham coming in for second and third prizes on Lily O'Day and Rose of Autumn. Graham won the herd prize.

In the open class, Graham's Robbie O'Day won over Greenway's Judge, his bold, dashing carriage and style giving him the place. Cockburn's George Bruce, Greenway's Imp, Jubilee, and the Industrial sweepstakes yearling, Sittyton Hero 7th, stood alone in their respective sections, the sweepstakes going again to the yearling. Graham's Knuckle Duster calf, Veracity, was first again in the calf class over Cockburn's entry. In the female sections the Prairie Home contingent had full swing. In the aged class, Roan Mary, Clara 33rd and Begonia stood in the order named, while Crimson Cloud was first, with Matchless 19th second in the three-year-old class. In two-year-olds, Matchless 25th was first, and sweepstakes female Minnie Bud second, and Marina third. Village Princess and Roan Girl were the honor recipients in the yearling class. Little fault would be found with the placing of Graham's beautifully finished roan, Ury Girl 5th, over her successful opponent, Greenway's Regalia, at the Industrial, as in calves of equally high merit there is easily room for difference of opinion, but when the judge sandwiched in between these calves Cockburn's roan entry, lacking in hind quarter and unplaced at the Industrial in this class, exception might well be taken.

Greenway got the herd prize.

POLLED ANGUS.

There was a good showing in this class, the herds of A. Cuming, Lone Tree, and C. W. Speers, Griswold, having come on from the Industrial, and in addition several entries were here made by Hon. Walter Clifford, Austin. The Austin entries were good cattle and presented in very creditable condition. Cuming won first and sweepstakes on aged bull, first on yearling, first on bull calf, first on aged cow, and first on herd. Speers won on bull 3 years and heifer 2 years. Clifford won on 3-year-old cow, yearling heifer, and heifer calves.

HEREFORDS.

J. E. Marples, of Deleau, and J. Chapman, Beresford, were the only exhibitors of "whitefaces." Marples won on aged bull with Spotless of Ingleside, in all the female sections except aged cow, and the herd prize. Chapman won first and sweepstakes on the yearling bull, Lord Ingleside 6th, the sweepstakes bull at the Industrial; first on bull calf, and on aged cow with Fairy 5th.

GRADES.

In the beef grades, Henry Nichol and J. Birchell were the principal exhibitors. Joe Donaldson showed some meritorious fat cattle, and Manager Yule entered from the Prairie Home barns the 1st- and 2nd-prize fat cows, and the 1st-prize 3-year-old heifer in Belle Stanley. She was afterwards sold to Benelick & La France, the Winnipeg wholesale butchers, who propose making an exhibit at the Chicago Fat Stock Show.

JERSEYS.

As at the Industrial, W. V. Edwards, Souris, and H. Byres, McGregor, were the principal exhibitors of Jerseys. A few entries were made by local men. Edwards again won male sweepstakes on the 1st-prize bull calf, Artisan of Brampton. He also won in the 3-year-old, 2-year-old and heifer calf sections. In aged cows, Mr. Beaubear had in Rhoda Pogis a typical Jersey of extra smooth conformation, with size and constitution. Fine, well-balanced milk vessel, prominent veins, and extra quality of skin, her right to first place was only disputed on account of her certificate of registration being in the American Jersey Herd Book, instead of the A. J. C. C., as called for by the rules. Edwards' cows followed her. Byres won first place on aged bull, with W. Curtis second. He also won first on yearling bull, first on 2-year-old heifer, and first on herds.

AYRSHIRES.

Throughout this class the Crystal City herd had no competition, the entries were all of the highest merit and brought out in high fit; some of them with perhaps a trifle too much flesh to show their dairy form to best advantage. All prizes competed for went to Mr. Greenway's entries. Andrew Mutter, Brandon, showed a growthy 2-year-old bull of good dairy form. This exhibitor also showed two splendid specimens of the general purpose cow in the grade dairy class; they showed Shorthorn and Ayrshire blood.

HOLSTEINS.

Jas. Glennie, Longburn, and A. B. Potter, Montgomery, were the principal exhibitors in this class. Glennie won first and sweepstakes on his 3-year-old bull, Tempest 3rd's Clothilde; a bull of good open dairy form, fine shoulders, great depth, and fine mellow skin, showing rich coloring. The same exhibitor won first on yearling bull, first on bull

calf with Chief Mercedes De Kol, first and second on aged cows with Daisy Teake's Queen and Sadie Teake's Beauty, first on 3-year-old with Flosetta Teake, first and second on yearling heifers, and the herd prize. Potter won on 2-year-old bull and heifer calf, and several seconds. Wm. Ranson, Carberry, was alone in the aged bull class with Hayfield Prince Clothilde.

SHEEP

The sheep exhibit at Brandon was largely a repetition of that made at Winnipeg the previous week, and Mr. Teasdale's decisions were remarkably closely followed by Mr. John McQueen, Carievale, Man. There were some changes, however, in the personnel of the contestants and some slight variation in the awards. In Southdowns, the Ontario exhibit of Mr. W. M. Smith was alone, as was also the Dorset exhibit of R. H. Harding, but since the latter breed was classed with the Lincolns, the prizes were alternately awarded to W. T. Lytle and Mr. Harding, respectively, the former showing the only flock of Lincolns. In Shropshires, the flocks of Messrs. Corbitt and Greenway contested, the former winning all the firsts on his well-fitted flocks. Messrs. Jickling and Jull faced each other in Oxfords, as they had done in Winnipeg, but as each flock was strong and well brought out, there were some changes in the awards, favoring the Ontario entries. Mr. T. Jasper, Bradwardine, a new exhibitor, had a few creditable entries here. The Leicester exhibit at Brandon, as at Winnipeg, was particularly admired because of the excellence and finish of Mr. Gamley's flock. His only competitor was Mr. Thos. Jasper, who showed a strong, useful ram and pair of ewes, on which he won second awards. It was Mr. Gamley's Leicesters that defeated all other breeds in the open flock contest.

SWINE

This year's exhibit of swine at the Brandon Fair was in every respect the largest and best in the history of the fair. Mr. Sharpe Butterfield, of London, Ont., acted as judge. His decisions generally gave satisfaction, but his leanings were rather to the smoother and finer sorts than to the long, deep-sided type now in demand, consequently some of the awards as placed by Thos. Teasdale at the Industrial were overturned.

BERKSHIRES

The herds of the Hon. Thos. Greenway and J. A. McGill, of Neepawa, had come on from Winnipeg and made up the exhibit of this always popular breed. The yearling boar, Victor, from the Prairie Home pens, was first and sweepstakes. McGill's entries in under a year and under six months won as at Winnipeg. A turnover was made in the aged sows when Greenway's Daisy was placed ahead of McGill's Charmer, and in sows under two years Greenway's Industrial sweepstakes sow, Exhibition Beauty, of Cox breeding, was turned down in favor of Crystal City Maid, from the same pens. In sows under a year, Greenway's Cox-bred entries won in the same order as at Winnipeg. McGill won in sows under six months, and also in sow and litter. The female sweepstakes went to the winning yearling Crystal City Maid.

YORKSHIRES

In this breed a good showing was made by Messrs. Greenway and Potter, and Brethour & Saunders, of Burford, Ont. Greenway won in yearling boars with the Flatt-bred boar shown at the Industrial by Cockburn. This boar also won sweepstakes, Potter's Summer Hill Sampson coming second. The Ontario exhibitors won in boars under a year with Oak Lodge Don, Potter's Mike winning second. Potter won in boars under six months. In both yearling and aged sows the Ontario entries won, with Greenway second in both sections, while Greenway won both first and second in sows under a year and under six months, Potter winning the sow and litter prize. The female championship went to Brethour & Saunders.

TAMWORTHS

L. A. Bradley, Portage la Prairie, made a very creditable exhibit in this class, winning all the firsts, including male and female championship, with the following exceptions: First for boar under a year was won by J. B. Jickling, Carman, and W. M. Smith, Fairfield Plains, Ont., had forward the winning pigs under six months.

The Brandon prize list recognizes the three principal breeds of bacon-type hogs, and bunches all others in a class for "any other variety of pure-bred swine. This made a somewhat motley outfit, including W. L. Trann's Poland-Chinas and Wm. Smith's Poland-Chinas, Chester Whites and Duroc Jerseys. Trann captured the male and female championships and several firsts and seconds.

The bacon classes were not strongly contested. Potter won in the pure-bred pen with a trio of real good Yorkshires, Bradley's Tamworths getting second. In the grade pen, J. A. McGill, Neepawa, won without competition.

Proposed Buffalo Dairy Test Declared Off.

TO THE EDITOR FARMER'S ADVOCATE:
MY DEAR SIR,—By the authority of Mr. Buchanan, Director-General, permit me to inform you that the proposed dairy test at the Pan-American Exposition will not be held as was contemplated. The action of the various dairy associations made it practically impossible to hold this test under the rules and regulations adopted by the Exposition authorities. Very truly yours,
F. A. CONVERSE,
Supt. Live Stock.

Buffalo Aug. 1st, 1900.
735 Ellicott Square.

Flatt's Great Sale of Shorthorns.

The faith of the friends of the Shorthorns that they would break the public sale record of prices for the year in America to date was splendidly realized at Mr. W. D. Flatt's great disposal of cattle at Chicago on the 7th inst., when 56 animals brought the substantial average price of \$836.30. The great gathering of earnest and intelligent breeders and stockmen from many States and most of the provinces of Canada assembled in the rotunda of the magnificent sale pavilion in Dexter Park was in itself an inspiration of confidence in the business and the breed, while the character and quality of the stock exposed augmented the feeling of safety in buying at any reasonable price. By common consent, they were conceded to be a capital class of cattle, and considering the comparatively short time for preparation since the holding of a summer sale was decided upon, and the facts that most of the animals had but recently passed through the trying ordeals of an ocean voyage, a ninety days' quarantine, a pair of tuberculin tests, two or three long railway shipments, a fight with the plague of flies, and the fiery trial of a week in Chicago in the dog days with the mercury mercilessly lingering around the mark of 95° to 100° in the shade, the condition of the cattle when led into the ring was a credit to the judgment and skill of Mr. Flatt and Manager Smith, and to the industry and care of the capable staff of herdsmen in charge. Too much praise cannot be accorded Mr. W. E. Skinner, the genial, courteous and resourceful Live Stock Agent of the Union Stock Yards & Transit Co., and Superintendent of the Dexter Park stables and pavilion, in which is to be held the great International Live Stock Show in the first week of December next, for the untiring interest taken by him in the success of the sale, the comfort of the animals, and the entertainment of the visitors. If the cattle and the risk had been his own he could hardly have given closer attention or evinced a more genuine interest in the outcome. The great auctioneer, Col. F. M. Woods, of Lincoln, Nebraska, a born orator, in his best form, divested of coat and waistcoat, with the eye of an eagle and a voice like a trumpet, in his splendid opening address paid an eloquent tribute to the cow and the prominent part she plays as a factor in the economy of civilization. The shirt waist was the prevailing costume for men as well as women, and Col. Woods kept the company in the best of humor throughout the sale, despite the sweltering heat, which was exceedingly oppressive. For many of the best animals the starting bid was \$500, and the advances were by \$100 bids till near the closing of the contest in each case, when they dropped to \$25, and it was only in a few instances that bids came as low as \$5. Yet there was no excitement, and no sensational prices were made, as men were evidently looking for bargains and getting them.

The Dominion was well represented by enterprising breeders, who did some plucky bidding, but the Western men were too many for them, and seemed determined to verify the saying that it is westward the Shorthorn star as well as the star of the empire takes its way. Only four out of the fifty-nine animals sold fell to the bids of Canadian breeders, but they were good ones and good bargains at the prices paid. Among the Canadian contingent present we noticed the following: Hon. John Dryden, Minister of Agriculture for Ontario; W. A. Dryden, Brooklin; H. Cargill, M. P.; W. D. Cargill, Cargill, Ont.; Capt. T. E. Robson, M. P. P.; Eugene Patrick, Ilderton, Ont.; W. G. Pettit, W. H. Easterbrook, Freeman; L. Cameron, Winnipeg; James Yule, Crystal City, Manitoba; W. B. Watt, Salem; John Isaac, Markham; J. M. Guardhouse, Highfield; J. W. Barnett, Rockland; R. Gibson, Delaware; Harry Smith, Hay; Henry Wade, Toronto; Robert Miller, Stouffville; John Miller, Brougham; T. C. Gundry, Goderich; J. Ira Flatt, Hamilton; D. C. Flatt, Jacob Flatt, Millgrove; J. C. Snell, John Weld, J. B. Spencer, London.

The red imported two-year-old heifer, Mayflower 5th, was the first animal offered, and brought the highest price in the sale, falling to the bid of Col. Casey, of Sawnee Mound, Mo., at \$2,600. She was one of the very best individuals, and being within a month of calving, was doubtless one of the best bargains of the day. Mayflower 4th, a roan four-year-old cow with a heifer calf at her side, sold for \$2,050 to E. W. Bowen, of Delphi, Ind. Roan Bess, a three-year-old cow and her bull calf brought \$2,150. The yearling heifer, Queen of the Louans, winner of first prize as a calf at Toronto last year in the herd of Capt. Robson, was a prime favorite and brought \$1,800, being bought by E. S. Kelly, of cycle tire fame, of Springfield, Ohio. The Canadian cow, Mildred 6th, bred by J. & W. B. Watt, of Salem, Ont., was secured by the same buyer at \$1,325, and the two-year-old Canadian-bred bull, Royal Banner, bred by the same firm, brought \$1,505, the second highest price made for a bull, the highest price, \$1,510, being paid for Orange Chief, a roan two-year-old bull imported last year by Messrs. H. Cargill & Son, of Cargill, Ont. The seven-months bull calf, Royal Archer, brought \$1,000; the nine-months bull calf, Magenta, \$1,100, and the ten-months bull calf, J. I. Marengo, \$1,025. These figures clearly indicate that good bulls are wanted, and that if good enough the price is only a secondary consideration, as it should be. The sale, considering the combination of adverse circumstances we have enumerated, may well be noted a grand success, and Mr. Flatt is entitled to congratulations, as are Shorthorn breeders generally,

on the pre-eminence of the breed as pronounced by the public, who on this occasion have backed their opinion with their money.

The average of \$836 is made by coupling with their dams three calves catalogued with them, though sold separately.

Following is the list of animals sold, with address of purchasers, and price:

COWS AND HEIFERS.	
Amaranthist (imp.), 1 year; E. E. Souers, Warren, Ind.	480.
Belle of the Archers (imp.), 1 year; F. F. Failor, Newton, Iowa	430
Cerney Gazelle 3d (imp.), 6 years; T. J. Wornall, Mosby, Mo.	425
Collynie Missie (imp.), 1 year; Geo. E. Ward, Hawarden, Iowa	750
Cornelia (imp.), 2 years, and h. c.; C. L. Gerlaugh, Osborn, Ohio	1,275
Coronet (imp.), 1 year; W. J. Landon, Winona, Minn.	500
Craibstone Shepherdess, 2 years; F. F. Failor, Newton, Iowa	675
Dalmeny Nonpareil 5th (imp.), 2 years, and h. c.; E. S. Kelly, Springfield, Ohio	750
Dora Stamford, 4 years; Geo. Harding & Son, Waukesha, Wis.	825.
Fair Duchess (imp.), 2 years; F. A. Edwards, Webster City, Iowa	1,550
Gladys (imp.), 4 years; Geo. B. Cary, St. Johnsbury, Vt.	725
Golden Fame's Heires, 1 year; A. N. Schloeman, Norway, Iowa	500
Isabel (imp.), 3 years; A. N. Schloeman, Webster City, Iowa	550
Lady Percy (imp.), 2 years; F. A. Edwards, Webster City, Iowa	1,000
Lily of the Valley 17th (imp.), 2 years; H. F. Brown, Minneapolis, Iowa	900
Mary (imp.), 4 years, and h. c.; George E. Ward, Hawarden, Iowa	775
Matchless 18th, 4 years; Geo. E. Ward	850
Mayflower 4th (imp.), 4 years; E. W. Bowen, Delphi, Ind.	2,050
Mayflower 5th (imp.), 2 years; G. M. Casey, Shawnee Mound, Mo.	2,600
May Queen (imp.), 2 years; John Isaac, Markham, Ont.	605
Meadow Beauty 6th (imp.), 4 years; E. W. Bowen	975
Mildred 6th, 4 years; E. S. Kelly	1,325
Milkmaid (imp.), 3 years; F. F. Failor	850
Minnie Benson 3d, 2 years; E. S. Donehay, Kellogg, Iowa	475
Missie of Neidpath 10th, 8 years; Robt. Miller, Stouffville, Ont.	575
Naomi's Ruth (imp.), 3 years, and h. c.; M. A. Lowe, Topeka, Kan.	700
Naomi's Sister (imp.), 1 year; Thos. F. Cook, Algona, Iowa	575
Nonpareil 35th (imp.), 2 years; M. A. Lowe	650
Our Queen (imp.), 3 years; F. F. Failor	400
Pure Cream (imp.), 2 years; C. C. Norton, Corning, Iowa	375
Queen Mary (imp.), 3 years, and b. c.; Wm. H. Caldwell, Paris, Ill.	825
Queen of the Louans, 1 year; E. S. Kelly	1,800
Red Ruth (imp.), 8 years; M. C. Vansell, Muscoda, Kan.	650
Roan Bess (imp.), 3 years; E. S. Donehay	1,050
Rosalind (imp.), 3 years; E. S. Donehay	750
Ruby of Dungleass (imp.), 5 years; Martin Flynn, Des Moines, Iowa	350
Ruby Lass (imp.), 3 years; W. R. Arnell, Horton, Kan.	775
San Martin (imp.), 3 years; Kauffman Bros., German Valley, Ill.	700
Scotia 2nd (imp.), 2 years; E. S. Donahay	405
Sensation (imp.), 3 years, and b. c.; H. Smith, Hay, Ont.	700
Snowflake, 5 years; Wm. T. Nolan, Milford, Ill.	365
Starlight 2d, 2 years; J. G. Withers, Milford, Ill.	500
Star Princess (imp.), 4 years; Capt. T. E. Robson, Ilderton, Ont.	425
Ury, 2 years; H. F. Brown	775
BULLS.	
Our King (imp.), 9 months; A. M. Schloeman, Norway, Iowa	425
Magenta (imp.), 9 months; Ryan Bros., Leavenworth, Kan.	1,100
Royal Archer (imp.), 7 months; Ward Wilson, Traer, Iowa	1,000
British Prince (imp.), 7 months; Jesse Hagler, Washington, C. H., Ohio	415
Cambridge Premium Duke 8th (imp.), 1 year; E. H. Brice, Port Huron, Mich.	335
Golden Fame (imp.), 3 years; E. S. Donehay, Kellogg, Iowa	1,450
Golden Fame's Marengo, 9 months; David Warnock, Orion, Ill.	325
Hiawatha Chief, 9 months; R. F. Constant, Buffalo Hart, Ill.	275
Holywell Victor (imp.), 1 year; E. N. Grimes, Newton, Iowa	300
J. I. Marengo (imp.), 10 months; F. P. Helmick, Webster City, Iowa	1,025
Orange Chief (imp.), 2 years; E. W. Bowen, Delphi, Ind.	1,510
Primate of Dalmeny (imp.), 1 year; J. F. Finley, Breckinridge, Mo.	1,075
Royal Banner, 2 years; H. F. Brown, Minneapolis	1,505
Royal Standard, 2 years; H. Wehmuth, Burlington, Wis.	625
Sharon Duke 10th (imp.), 10 months; W. D. Nolan, Milford, Ill.	325

FARM.

Growing Forty Bushels of Wheat per Acre.

To the Editor FARMER'S ADVOCATE:
SIR,—I had a very nice crop of fall wheat this year, in all about 43 or 44 acres. Very little—probably less than one acre—was killed with the ice. It was a thick, even crop and well headed.

I threshed 38 acres out of the field. The sample is good and the yield will be fully forty bushels to the acre. Variety—Dawson's Golden Chaff. On one field of ten acres I plowed in a crop of green peas, then cultivated it and rolled at intervals during July and August. This field had 33 loads wheat. Nine acres was pea stubble, cultivated. Nineteen acres was hay stubble, plowed early, then cultivated and rolled. The wheat was sown between Sept. 7th and 15th, and the manure was top-dressed after sowing over about three-parts of the land. Half the soil is sharp and gravelly, the balance clay loam.

Halton Co., Ont.
P. S.—From my experience, peas is the best green crop to plow in, with the exception of clover. Farmers should pay more attention to this matter of returning something to the land in the way either of manure or green crop. Too many keep cropping till the land gives out, then they begin to wonder what is the matter. Old lands will not produce crops without having something in return, and the sooner our farmers make up their minds to this the better for themselves.—R. N.

Different Varieties of Wheat.

To the Editor FARMER'S ADVOCATE:

Sir, There seems to me to be a large amount of deception in the different varieties of fall wheat. For instance, some ten years ago a gentleman at the Toronto Exhibition gave me five grains of a fall wheat called the Zerena, which, I think, he told me was brought from Germany or some European country by a commercial traveller. I started with that small amount, and in a few years soon had enough to supply my neighbors, and this year there will be thousands of bushels of Zerena wheat threshed in this part of York County. Last fall there was a new variety of wheat introduced, called the Satisfaction. I sowed a half pound on one rod square to test it, and I find that there is no difference whatever between the old Zerena wheat and the Satisfaction. I also sowed a half pound of wheat on one rod square, called the Banner, and it so happened that I had a plot of the Dawson's Golden Chaff wheat growing next to the Banner, and I cannot tell any difference between the Banner and the Dawson's Golden Chaff. Both look exactly the same in the head, and both look the same in the grain and height of straw, and both test exactly the same in weight per bushel.

There has been a variety of fall wheat called the Plymouth Rock grown in the State of Michigan for a number of years back. I procured some in the fall of 1896, and have been growing a small quantity of it ever since.

In the fall of 1898 I sowed a new variety called the Gold Coin, and I cannot tell any difference between the Gold Coin and the old Plymouth Rock wheat.

This year I had twenty-three different varieties of fall wheat growing side by side in plots of one rod square, and I have got about one-half of them threshed, and they yield all the way from 35 to 48 bushels to the acre. The Dawson's Golden Chaff yielded with me 47 bushels and 20 pounds to the acre. I have two other varieties of wheat that are my own hybridizing: one yielded 48 bushels 40 pounds to the acre and the other 48 bushels 10 pounds.

I might say here that in growing plots of wheat on one rod square and threshing that rod of wheat by itself and weighing the amount of grain, to find out how much one rod will yield in pounds, multiply the number of pounds of wheat by 160, which is the number of rods in one acre, and you have the amount of pounds of wheat that rod tested to the acre. Divide by 60, and you have the amount of bushels that rod of wheat tested to the acre. By growing different varieties in that way you soon find out which is the wheat that yields the most to the acre.

The hardest wheat to stand the winter with me is the Plymouth Rock and the Stewart's Champion. The Plymouth Rock is not a heavy yielding wheat with me. This year it tested on one rod square 41 bushels 20 pounds to the acre. The Dawson's Golden Chaff with me has the most smut in it of any wheat that I have. It is a good wheat where it can be grown without smut. The Genesee Giant will do the best on light or sandy land. It does not do well with me on heavy clay land. It grows too short in the head, and will not do well, but on light land does splendidly. I grew it for five years, but only had one good yielding crop. There is another new variety called the Cap Sheaf, which has done well with me. It is a Cap Sheaf, brown-chaff white wheat.

There is some discussion in the FARMER'S ADVOCATE of August 1st with regard to a fall wheat called the Turkey Red, which some of the millers are requesting the farmers to grow.

I see by the Toronto market that white fall wheat is worth from one to three cents per bushel more than red wheat. If the white wheat that is grown in Ontario is not a good milling wheat, why do the millers give more for it? When doctors disagree, who is to decide?

When the Turkey Red wheat yields from five to ten bushels per acre less than some of the white wheats, it should be sold for about ten cents per bushel more than white wheat, in order to encourage the farmers to grow it; because the farmers will most decidedly grow the wheat that they can make the most money out of. R. T. WOOD. York County, Ont.

Fall Wheat Growing.

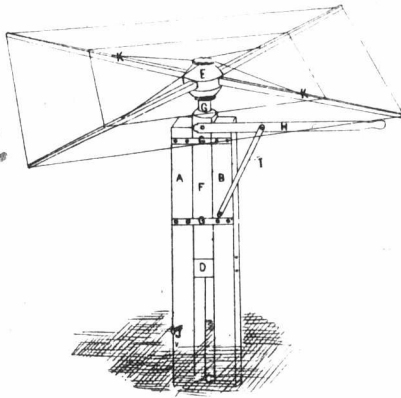
To the Editor FARMER'S ADVOCATE:

We have a wheat farm. It is clay loam. We used to summer-fallow, but gave it up, as our land is strong and rich. We sow on sward, pea or barley ground, manure for roots or corn, then follow with barley, fall wheat and seed down. After cutting second hay crop, plow ground as soon as possible and cultivate for seed-bed.

We use the one-horse seeder manufactured by the Mann Man'g Co., sow 1 1/2 bushels per acre, use disk harrow to prepare ground, use diamond harrow after sowing, leave land rough, roll in spring first thing. Manchester and Dawson's Golden Chaff are the varieties we sow. We try to sow first week in September, never sow in August; we think the late sowing more likely to escape the fly. I think the rolling in the spring tends to check the fly. R. WATSON. Middlesex Co., Ont.

A Homemade Clothes Reel.

It costs quite a sum to buy a good clothes reel, and many people still use the straight line, while a cheap and durable reel may be made in a few hours. Dig a hole 1 1/2 feet in diameter, and 2 1/2 feet deep. Get two scantling (A and B) 1 1/2 inches square and 7 feet long; nail a slat across their bottoms to keep them 4 inches apart; also spike a 4-inch cube (D) between them and 3 feet from the top; then place these in the hole and fill it with earth. Hunt up the arm, axle and wheel of some old wagon; take off the wheel, knock all the spokes out of the hub (E), saw off the other axle, hew the arm (F) down until 4 inches square, and nail 2-inch plank on the bottom of the arm until 3 feet long; bore a 3/4-inch hole in the arm just below the axle (G); place the arm and axle upon the 4-inch cube, and hold by four pieces of wide band iron (gg), each 1 foot long, two pieces to a side. The two upper bands should be nailed to the scantling 2 inches from the top, and the second two should be nailed 1 foot 10 inches from the first. Bore a 3/4-inch hole in scantling (B), just above the lower band (g); also another, 6 inches above ground, in scantling (A). In this put a wooden pin (J), and let it project about 6 inches. Get a piece of 1 1/2-inch board, 5 feet long and 2 1/2 inches wide, for the lever (H). Bore a 3/4-inch hole 2 inches from one end, and 1 foot from the first bore a 3/4-inch hole. Buy a piece of iron 2 feet long, 1 inch wide and 1/2 inch thick. Get the blacksmith to put a 3/4-inch hole in each end; also get two square-headed 6-inch screw bolts, made of 3/4-inch iron, and one bolt and burr about 3 inches long, and of same material. Take one of the 6-inch bolts, put it through the 3/4-inch hole in the end of the lever, then screw it into the hole in the arm. Put the other 6-inch bolt through one end of the iron, and screw it into the hole in the scantling. Put the 3-inch bolt through the other end of the iron and screw it into the second hole in the lever, and put the burr on well. Procure 4 pieces of 1 1/2-inch boards, 6 feet long, 2 1/2 inches wide, and fit each into the hub at equal distances. Holes should be drilled at equal distances in the rim of the hub, and through these wires are put, which fasten to the arm pieces (K K) 2 feet from the hub. These wires serve as braces. Clothes-line wire is placed in three rows, each row being 2 feet from the next. Grease the axle well and put on the reel. Now your clothes reel is complete, except the painting, which may be any desirable color. F. H. ORRIS. Elgin Co., Ont.



CLOTHES REEL COMPLETE.

Winter Wheat for Nebraska. SIR, - In the fall of 1896 thirty-seven varieties of winter wheat were sown on the Station farm. Of these, all but three varieties killed out so badly that it was not considered worth while to harvest them. The three varieties that lived through were Turkey Red, Big Frame, and Currell. In the fall of 1898 there were sown more than a hundred varieties, and only five came through the winter in good condition. Those just mentioned were three of the five. Last fall forty-two varieties were sown, of which seven did not germinate and nineteen winter-killed. The same three varieties were among the best, but the yields have not yet been ascertained. In order to test the relative merits of the seed thus selected and that of the same varieties from some other sections of the country, seed of the Turkey Red variety was brought from the Ohio and Iowa Experiment Stations and of the Turkey from Kansas. The latter is very similar to the Turkey Red grown here. Seed of the Currell variety was also obtained from the Maryland Experiment Station. None of these did so well as the Nebraska varieties, with the possible exception of the Kansas Turkey. Contrary to expectations this wheat matured earlier than the Nebraska Turkey Red. It did not lodge and was not badly infected with rust. In these respects it was as good as the Nebraska grown wheat. Both the Ohio and the Iowa Turkey Red lodged and rusted badly and matured later than the Nebraska Turkey Red. The Currell from Maryland, but lodged and rusted badly. It is the aim of the Experiment Station to extend the area of winter wheat culture over as large a portion of the State as possible. To this end a very large number of varieties of winter wheat have been tested by the Station during a period of several years. Those strains of Turkey Red and Big Frame varieties that have been grown on the Station farm for several years have proven themselves very hardy. Seed wheat of either one of these varieties will be sent out on application, free of cost except transportation charges, as long as the supply lasts, to parties living north of the Platte River and also to those west of the 100th meridian. Nebraska Experiment Station T. L. LYON.

Improving Cereals.

Quite appropriately, the Minnesota Agricultural Experimental Farm devotes especial attention to the improvement of wheat and other cereals, for which that State is famous. Prof. Hayes has for years carried on a class of scientific work not undertaken to any extent by other similar institutions. The effort and object is not only to increase the producing power of the best-known varieties of the various farm crops, but also to improve by hybridization, selection and otherwise, the milling, harvesting and other desirable qualities of these crops. Besides the production of new varieties by mechanical cross-fertilization, a more extensive work is carried on along the line of repeated selections, conducted somewhat as follows:

Commencing with selected seeds of tested varieties of proved value, or well-established, promising hybrids, from 1,000 to 2,000 selected seeds are planted four inches apart each way. When these are ripe, 100 of the best plants are selected and each harvested separately in envelopes. When the grain has become firm and dry, the envelopes, each of which contain the produce of one plant, are weighed and the ten heaviest are selected from these and planted four inches apart, and from these the ten best plants are chosen, and harvested separately, and from them the best heads and grains for planting. This is carried on year after year until the superior qualities of the plant are so firmly established that an increase of seed can now be commenced. By carefully husbanding the increase year by year, enough grain for distribution in small quantities is soon produced and placed in the hands of careful, clean farmers, who in many cases become seed-grain growers and distributors. Were this latter branch of the work to be neglected, much of the work of the Station in these lines would be lost, but Prof. Hayes has ably guarded against this by a well-planned system, worked out by himself, in which he is able to co-operate with leading farmers in almost every county of the State. When a variety has proved its superiority, and enough for the first distribution has been produced, known seed-growing farmers are allowed a start at \$1.25 per bushel, and an agreement entered into that all of the crop will be sold for seed. Prof. Hayes assists the growers to find purchasers by issuing circulars from the Station referring to the excellent qualities of the grain, so that in a very few years these improved varieties are being generally grown over the State, with the result that the yield throughout the State might easily be expected to increase from one to three bushels per acre of the best quality of grain.

Our time with Prof. Hayes was very brief and spent amid the wheat plots then in course of harvesting. Similar work is carried on with oats, barley, corn, flax, Bromus inermis, etc.; and such crops as clover, beans, peas, pumpkins, etc., are being improved along similar scientific lines. There is also being conducted pasture experiments, as well as tests in cultivation, rotation and the like, so that it would seem, from a visitor's point of view, that the expenditure in Prof Hayes' department must bring a valuable return to the agriculturists, not only of the State of Minnesota, but also of many other States, as well as Canada.

Fall Cultivation.

The greatest change in the method of cultivating the soil in recent years in this locality is the almost complete abandonment of the summer-fallow, and many farmers are yet in doubt as to whether it is not necessary to summer-fallow occasionally, though they do lose a year's crop in so doing. It is a fact that, as a rule, the largest crop of wheat, and after it clover, is usually on land which has undergone such treatment. Many of the best results of summer-fallow can be obtained, and all our best farmers resort to skim-plowing and harrowing for the double purpose of killing weeds and thistles and providing a mulch for the conservation of moisture in the soil. When this is done thoroughly and the fall plowing done not too late in the season, the land is found to be much more open in the spring, as well as being moist to a greater depth, furnishing a sufficient supply to start the young plants. The lack of moisture on clay soils the last two springs. In plowing clover down in the fall, it is well not to plow it too early for grain, though for corn, when it is intended to be worked up in spring, it would be well to plow earlier. Some get good results from plowing the sod in fall, top-dress it during the winter, then plow again in spring for corn and roots.

We have had little experience with sowing millet or buckwheat. We have tried rye and rape for green manure, sometimes pasturing them in the fall. But it seems difficult some summers to get a catch of rape, which we think is the best.

The practice of patching or harrowing in grass seed in fall is a good one. If it can possibly be avoided, stock should not be allowed to pasture this year's seeding, as any growth which it makes is necessary for protection, and the stock pull many of the tender plants out by the root.

Perth Co., Ont. JOSEPH MOUNTAIN. P. S. - Is sowing clover seed in fall practiced much, and what are the results? - J. M.

[Will readers, who can, please answer this question? - Ed. F. A.]

Soil Treatment After Harvest.

1. Clover or other sod land should be plowed as early as possible in the fall for either a corn crop or grain crop. The reason for early plowing is to give the old sod a chance to rot partly before the ground is frozen. If manure or other fertilizers be put on before plowing, I think it would be better than to wait until the next spring.

The Importation of Turkey Red Wheat for Seed.

To the Editor FARMER'S ADVOCATE: SIR.—All you have printed on the questions of seed wheat and wheat-growing are timely and interesting.

To get a refund of the duty from the Government it will be necessary to take a certificate from each purchaser, and on presentation of these certificates the duty will be refunded through the Millers' Association, on whose urgent application the Government made this concession.

THE GOLDIE MILLING CO., LIMITED. AVE. Ont., Aug. 4th, 1900.

Tent of Live Stock Associations and Farmers' Institutes at Toronto.

A tent for the accommodation of members of the Live Stock Associations and Farmers' Institutes will be located, as usual, near the cattle ring on the grounds of the Toronto Industrial Exhibition, August 28th to September 7th.

The tent will be provided with seating accommodation, and will be at the disposal of the agriculture and live stock associations for the purpose of meetings.

Milling Qualities of Winter Wheat Overlooked.

To the Editor FARMER'S ADVOCATE: SIR.—Re the need of a new and better milling variety of winter wheat, I have read with interest the letters in your issue of 1st August on this subject, and I think they are much to the point.

The two principal varieties grown here are Dawson's Golden Chaff and Red Clawson, and of the two I find Golden Chaff preferable.

for some years, and proved to be one the best milling wheats I have ever used. Only a few continue to grow it. I send you a sample.

Kansas Winter Wheat at the Ontario Agricultural College.

In 1893 the Ontario Agricultural College imported eleven varieties of winter wheat from Kansas, four from Indiana, one from Iowa, six from Ohio, etc. The Turkish, or Turkey Red, regarding which we are hearing so much at the present time, was one of the varieties imported that year, and has therefore been grown at the College in each of the past seven years.

The following are the average results of the field tests for six years with both the Turkey Red and the Dawson's Golden Chaff:—

Table comparing Turkey Red and Dawson's Golden Chaff across various metrics: Relative hardness, Strength of straw, Height of crop, etc.

The College Report for 1898 states that the grain of the Turkey Red was harder than that of any other variety in the crop of 1896, and that the grain of the Turkey Red and the Pride of Genesee was the hardest of the varieties mentioned for 1898.

Men of long experience in handling wheat differ greatly in their judgment of the value of the Dawson's Golden Chaff variety. Within the past week the writer invited leading millers of Guelph, Galt, Preston, Berlin and Bridgeport to pass judgment upon the comparative value of two varieties of winter wheat for milling purposes.

In the autumn of 1898, Mr. Peter Shirke, of

Waterloo County, imported a carload of seed of the Turkey Red variety of winter wheat from the State of Kansas, but as the wheat did not reach Ontario until very late, only a small amount was sown that autumn.

- Peter Shirke.—Four acres very rich land; crop badly lodged; 25 bushels per acre; about 64 lbs. per measured bushel. Richard Quickfall.—Four acres; killed out badly in spots last winter; very bad straw, resembling barley straw; estimated yield 12 or 13 bushels per acre.

It will be seen from the foregoing reports that the results obtained from growing the Turkey Red variety of wheat in Waterloo County and at the Agricultural College are very similar.

We have found that our experimental work with winter wheat from very frequently the season has a much greater influence than the variety in determining the quality of the grain.

Within the past ten years a good many varieties of winter wheat have been distributed to farmers throughout Ontario who applied for them for testing upon their own farms.

Each person wishing one of these sets should apply as early as possible, mentioning which set he desires, and the grain, with instructions for testing, and the blank form on which to report will be furnished free of cost to his address, until the supply of grain for distribution is exhausted.

Much additional information regarding the value of the Turkey Red winter wheat for Ontario will undoubtedly be secured this year. Not only will it be tested in the co-operative experiments throughout the Province, but as several millers are importing seed from Kansas, an opportunity will be afforded the farmers of Western Ontario to grow it in large quantities, and the millers can then grind the variety by itself and thus be better enabled to determine its value for both the home and the foreign trade.

Agricultural College, Guelph, Ont., Aug. 10, 1900.

Kansas Will Spread Itself.

Kansas, in celebration of the fiftieth anniversary of her admission into the Union as a territory, proposes to hold in 1901, at Topeka, her capital city, an interstate exposition, to which the world will be invited.

Science

It is in rules to be able. Un the same practical difficulties. Much h well as the good qua while the thy of con vision the divers pr painstaking edge or ca care. As the care a by the va There tario, the cream. is supererons of hand sepa quality milk and sweet. T material this imp equal fo In loca tion, and the roads ed, a com ably give It is m milk to b reject all the butte should e give info the evil paying fo fat conta ing to th tards pr of milk a testing, tween th gested th vices of to be s there is ples sho the win weather. Them During t in a tem the fall, tenacious Heating separat whether the speci stituent served in the temp give the 95 and 10 perature between labor to churning skim m thorough months greens, a making may be heat the it. The pasteuriz butter th a tende cream b butter o dency to practice perience the gett clean so lactic ac if not f made w form an year. there is teurizat entirely position A g ture of

DAIRY.

Science and Practice of Creamery Buttermaking.

(Compiled from first-prize essay, given by Dairymen's Association of Western Ontario.)

BY J. M. LIVINGSTON, B. S. A., LAMBTON CO., ONT.

It is impossible to lay down any hard and fast rules to be followed, as circumstances are so variable. Under normal conditions the process is much the same from day to day, but the inborn skill of practical experience is necessary to cope with the difficulties that beset the path of the buttermaker.

Much has been done to educate the patron as well as the maker, but as the foundation for the good qualities of the butter is made or marred while the milk is in his hands, his actions are worthy of consideration. Under the patron's supervision the process is liable to be carried on under diverse principles. Some are conscientious and painstaking. Others, either from lack of knowledge or carelessness, do not give the milk the proper care. As there is no dearth of information on the care and production of milk, the patron should be given such or referred to works issued by the various experimental stations.

There are two systems of buttermaking in Ontario, the "cream gathering" and the "separating cream." The latter system is more modern and is superseding the former. It would pay the patrons of cream-gathering creameries to invest in hand separators, as the cream would be of better quality and less would be left in the skim milk and the skim milk would be fresh and sweet. There is much less expense in hauling raw material in the cream-gathering system, and as this improves the system, it will be on a more equal footing with the separator creamery.

In localities where there is a thick cow population, and good roads, with outlying districts where the roads are bad or the cow population is scattered, a combination of the two systems would probably give good results.

RECEIVING THE MILK.

It is necessary for the man who weighs-in the milk to have an acute taste and smell, that he may reject all milk that is liable to injure the quality of the butter. If a patron's milk is rejected, the maker should explain the circumstances, and if possible give information that will lead to the removal of the evil source. The most reasonable method of paying for the milk is according to the per cent. of fat contained in it. The method of paying according to the weight of milk is based on a fallacy. It retards progress in breeding dairy cows for richness of milk and encourages dishonesty. In regard to testing, strict business principles must exist between the maker and the patron. It has been suggested that a number of creameries secure the services of an expert to do the testing. This appears to be a step in the right direction, as at present there is a great dissatisfaction. Composite samples should be taken and tested monthly during the winter and bi-monthly during the warmer weather.

PASTEURIZATION.

The milk should be strained into the receiving vat. During the summer it is advisable to heat the milk in a tempering pan to about 82 degrees; but during the fall, winter and early spring the milk is more tenacious of its fat and must be heated higher. Heating decreases this tenacity and gives a better separation. At present it is a disputed point as to whether heating increases the difference between the specific gravity of the fat and the other constituents of the milk. The main points to be observed in separating milk are the rate of inflow and the temperature of the machine. Some machines give the best results by heating the milk between 85 and 100 degrees; others at a much higher temperature. It is best to skim the cream containing between 30 and 35 per cent. butter, as it takes less labor to handle rich cream, and it also allows a low churning and ripening temperature. Samples of skim milk should be tested to determine the thoroughness of the work. During the summer months it pays to heat the skim milk to 160 degrees, as it increases its keeping qualities, thus making it better food for calves. The whole milk may be pasteurized, but it is more economical to heat the skim milk by passing steam directly into it. There is a diversity of opinion as to whether pasteurized cream or milk gives a better quality of butter than the unpasteurized. Pasteurization has a tendency to destroy the fine aroma of the raw cream better and gives very mild uniform flavored butter of increased keeping quality. It has a tendency to free the milk of bad flavors, and may be practiced to advantage where any difficulty is experienced with bad flavors. It also greatly reduces the germ contents of the milk, thus leaving it as a clean seed-bed ready for pure seed, which is the lactic acid germ. I think that for some markets, if not for all, a better quality of butter could be made without pasteurization, if we could get a uniform and good quality of milk at all times of the year. But as a whole, considering the difficulty there is in securing the best quality of milk, pasteurization is beneficial. The Danes have almost entirely adopted this method, and their enviable position on the British market speaks well for it.

USING A STARTER.

A good starter is indispensable in the manufacture of butter. This may be made by pasteurizing

a quantity of the skim milk and adding about one-fourth of pure, fresh water. Ripen in a pure atmosphere by adding a little of the previous day's starter if it is good flavored. Good results have been obtained by securing a pure culture of the lactic acid germs as a mother starter. In the course of time the starter is liable to go off in flavor. In such cases a new culture should be secured. Some have secured good results by ripening different samples of milk in sterilized sealers and selecting the best as a mother starter. The best method is to get a pure culture from a bacteriological laboratory. A good starter has a pleasant, sharp acid taste and smell, and should be firmly coagulated.

COOLING THE CREAM.

The cream should be cooled to the ripening temperature, which is between 60 and 75 degrees. A low ripening temperature gives a better body and texture to the butter, but, as this means a long ripening period, a deterioration in flavor is liable to take place, as the cream is subjected to contaminating influences for a longer period. The utility of a good starter comes in here, as by means of it we can ripen the cream in a comparatively short period at a low temperature, and the flavor of the starter will generally predominate in the butter. The amount of starter used varies according to the length of time in which the cream is to be ripened. About 10 per cent. under normal conditions gives good results. When the cream has developed sufficient acidity it must be cooled quickly to the churning temperature, and held at that temperature for at least 5 or 6 hours before churning. When cream is ripened sufficiently it has a smooth, thick, glossy appearance, and a sharp acid taste and smell. The alkali test is the most accurate method of determining the acidity. The acidity at which the cream is to be churned should vary universally with the richness and directly with the demands of the market for which the butter is intended. Prof. Spillman, of Washington Exp. Station, claims that for every 5 per cent. increase of butter-fat in the cream there should be a decrease of .04 of 1 per cent. in the development of acid. I think most of our buttermakers develop too much acid in their cream to suit the British market. The Dane, churn their own cream with very little acid in it and some of our best creameries are adopting this method. The buttermaker should aim to have the cream of uniform quality from day to day. The cream must be stirred occasionally during the ripening process to secure uniform temperature and ripening, and again just before straining into the churn. Coloring should then be added if the market requires it.

CHURNING.

The object of churning and separating is to reduce the butter-fat from a solution to a solid. In churning, the temperature, amount, richness and acidity of the cream should be such as to bring the butter in from 45 to 60 minutes. Too high or too low a churning will cause a deterioration in body and texture; if too low the mass will be raised by friction to the temperature at which the fat globules will adhere to each other, and if too high it has a tendency to make the globules break up into oil. Under ordinary circumstances a temperature from 48 to 52 degrees in summer and 52 to 56 degrees in winter gives good results. When the butter begins to break, cold weak brine should be added, as it gives a better separation of the buttermilk and has a tendency to retard the gathering, thus giving a most exhaustive churning. Stop the churn when the granules of butter are as large as wheat grains, or slightly larger, and draw off the buttermilk.

WASHING THE BUTTER.

Have the washing water a few degrees colder than the butter, instead of washing the butter twice. It is good practice to leave the faucet of the churn open and distribute water over the surface of the butter until it runs away fairly clear. Then close the faucet and add as much water as there was cream. Give the churn 8 or 9 revolutions and draw off the waste water.

SALTING.

The butter may be salted in the churn, or after it has been placed in the worker. If salted in the churn, add about one-eighth of an ounce extra salt per pound of butter. Distribute a portion of the salt evenly over the butter, and then give the churn a quarter turn and add the remainder or another portion, and finally the remainder. After giving the churn a quarter turn, the butter may then be gathered by giving the churn three or four revolutions. There is less danger of mottles in the butter and it requires less working when salted in the churn. The amount of salt varies with the moisture of the butter and the market for which it is produced. After salting, the butter should be left in the churn until the salt has dissolved. The excess of moisture is extracted from the butter and the salt evenly incorporated by working.

PACKING AND STORING.

An article which has been done up in a neat and attractive form will generally find a ready sale, other qualities being equal, and in packing and finishing our butter it is well to bear this in mind. For export, pack in 56-lb. boxes or 112-lb. barrels which have been well paraffined and lined with heavy parchment paper which has been soaked in brine. Pack the butter solidly and have no air spaces. Pack from the center towards the outside, as in this way you expel the air and leave no holes. About a pound extra for each box is sufficient for shrinkage. Level the top of the butter, being careful not to make it

greasy, cover with a piece of parchment paper and put on a thin layer of salt paste to exclude the air and prevent moulding. If the butter is not intended for immediate consumption, put it in cold storage, as no matter how perfect it is when made, it soon deteriorates if left in a warm atmosphere. Hence it is necessary that every creamery have a cold storage which may be kept as low as 40 degrees. The air of the cold storage must be pure and sweet, as butter is very susceptible to bad odors.

MUTUAL SYMPATHY.

For any degree of success it is necessary that the patron and manufacturer work together, as neither can produce a superior article independently. There should be a mutual good-will and understanding between them. It is evident that neither can shirk, but success depends equally on both. If we can run our creameries up to their full capacities it will cheapen the cost of production and will be more profitable both for the producer and manufacturer. Both must be alert, as these are days of strong competition. A course at a dairy school is to be highly recommended, as it gives a broader and more intelligent knowledge of dairying.

Pasteurization of Milk in Bulk.

It is now probably about eighteen months since the inhabitants of Winnipeg were considerably stirred up over the question of tuberculosis. Dairymen's cows were tested with tuberculin, and many reacted, in some cases in a wholesale manner. The result was, if I am not very much mistaken, that there was a good deal of heartburning and dissatisfaction among those supplying the city with milk. In this country it is universally conceded that compulsory slaughter of tuberculous cows and compensation for them from the public purse is impracticable owing to the enormous expenditure it would involve. My sympathy, I must confess, has always inclined to those who suffered pecuniary loss through the drastic measures employed by veterinary inspectors. On the other hand, it is impossible to ignore the fact that thousands of persons, a very large proportion of them children, are daily exposed to the menace of a terrible disease, and any steps taken to avert this danger should be gladly welcomed, alike by producers and consumers.

Through the kindness of Mr. James Stirling, secretary and manager of the Glasgow Dairy Company, I recently had the privilege of going through the Company's premises, and of witnessing the actual process of pasteurizing the milk supplied to their patrons. After being strained, in order to eliminate any mechanical impurities, the milk is poured into a large elevated receiver, capable of holding 30 gallons. From thence it rapidly passes, by force of gravitation, to a steam jacketed heater, where it is suddenly raised to a temperature of 160 degrees. This heater is cylindrical in form, and is furnished with a rapidly-revolving turbine, to prevent the deposit of milk on its hot inner surface. The milk is then passed into a hundred-gallon vat, where its temperature is maintained at 150 degrees for 20 minutes, which, scientific authorities are unanimous in agreeing, is sufficient to kill any tubercular bacilli. The next step is to cool the milk. This is accomplished with almost incredible rapidity by passing it over a cooler, which consists of a system of pipes through which cold water is continually flowing, and in less than a minute the milk is reduced to a temperature of 50 degrees, and is ready to be delivered to the consumer. The great advantage of this process lies in the fact that the character of the milk is in no way altered, as is the case when boiling is resorted to as a germ-destroying method. Boiled milk may of course be drunk with impunity, but its flavor is often nauseating to many palates. The Glasgow Dairy Company's premises are a model of cleanliness. All vessels and cans of whatever kind for the delivery of milk are thoroughly sterilized by means of superheated steam. The walls of the building are covered with white enamelled tiling, the floors are of cement, and the whole arrangements are such as the most fastidious person could not take exception to. In connection with the dairy a bakery is carried on, in which the surplus milk and cream of any one day is utilized. Thus no leavings are offered to the public on any occasion. In conclusion, I have only to say that the process of pasteurization is so simple and so effective that it is easily within the reach of any community desiring it.

FRANCIS J. B. DOUGLAS,
(Late Wakopa, Man.) Scotland.

Dual Equipment of Factories.

With the inception of what is called the "winter dairying" movement in Canada the equipment of cheese factories with a plant for making butter in winter became a matter of practical importance, owing to the extra outlay and the larger qualification required on the part of the makers. We notice that the *New York Produce Review* has been interviewing a large number of American dairymen on the converse question, "Should creameries as a rule be fitted for cheesemaking also?" The result of the enquiry is summarized as follows: "An examination of these answers shows that while a majority of our correspondents consider it best to confine the operations of the factories to the manufacture of one product or the other, a considerable minority regard it as an advantage to equip for both, and several consider this advisable under certain circumstances."

The latter view seems to us to be the nearest right, but we cannot agree with Mr. Englemann's

idea that the reasons for equipping factories to make both products would apply to small plants rather than large ones. It seems probable that in small plants the advantage gained by the ability to turn the milk to one product or the other would be more than offset by the expense of maintaining two sets of apparatus, the necessity of having a maker skilled in both butter and cheese making, and the interruption of outlet arising from the shift to one or the other product, especially, as Mr. Child suggests, where a factory has built up a special outlet for its goods.

We are inclined to believe that the best work can be done where a maker devotes himself exclusively to a specialty, and that equipment for both butter and cheese should be instituted only in plants large enough to employ a maker for each department, and where the milk receipts are large enough to vary the proportion used in each department according to market conditions, without entirely suspending the manufacture of either product.

The consumption of cheese in various parts of the country varies greatly, according to the quality and character of the goods generally obtainable. In New York State, where cheesemaking has been an important industry, the makers are obtaining a constantly-widening consumptive outlet for special makes of cream and other fancy cheese, to the manufacture of which many have given increased attention; and the increased use of a product of this kind is naturally greatest in the sections where manufacture is carried on. We have little doubt that in those sections of the West in which the dairy interests are given over almost exclusively to butter production, cheesemaking might be taken up in the larger plants with an excellent prospect of increasing the profits of the factory, except in sections where the value of skim milk for feeding purposes is so great as to prove a fatal objection."

The Creaming of Milk.

In considering the various methods of separating cream from milk, it is well to bear in mind the composition of normal milk. We speak of it as being composed of water, fat, and solids not fat. Cream consists of the fat globules mechanically mixed with more or less milk. Skim milk, if the separation has been complete, consists of the water of the milk and the solids not fat. Butter-fat is lighter than the solids-not-fat of milk, and this explains why there is a more or less complete separation of the fat from the milk in the form of cream when milk is allowed to stand for any length of time, while the heavier portion, or skim milk, settles to the bottom. Butter-fat exists in the milk in the form of tiny fat globules, varying in size from one thirty-thousandth to one ten-thousandth of an inch in diameter. The smaller the fat globules, the larger the relative amount of surface when compared with the volume, and the greater the resistance offered by the milk in comparison with their buoyancy. Other things being equal, the heavier the liquid in which these fat globules float, the more rapidly and more completely will the separation take place. In the case of milk, however, those conditions which make the skim milk heavier, make it at the same time a thicker and more viscous fluid, so that with the increase of specific gravity, tending to aid the separation, there seems to be an increased thickness of the fluid, tending to retard it. And thus we see how the composition of milk comes to have such a practical bearing upon the problems of creaming.

The method of creaming milk which is still most practised is probably the old "shallow-pan" system, where milk is set in shallow pans or earthen vessels and allowed to stand at the temperature of the room until, by the action of gravity, the lighter portions of the milk find their way to the top of the vessel in the form of cream, and the heavier parts, or skim milk, sink towards the bottom. True it is that very good butter can be made from this system of creaming, but it has its serious disadvantages. On account of the large space required for setting the milk, it is difficult to find a place where suitable conditions may be maintained. In any case, it is clear that the milk should be set in a room where the atmosphere can be kept perfectly pure and the temperature under control. See to it that no direct currents of air or draught be allowed to strike the surface of the milk, as it will cause evaporation and leave the cream in a thick, leathery, lumpy condition, and if not broken up well, by pouring through a fine strainer, will cause white specks in the butter, from the fact that the lumps of hard cream will not take coloring matter as readily as the rest of the cream.

On many farms we find that too often the milk is set in a part of the kitchen, pantry or cellar, for lack of a suitable milk room, and the use of these rooms for the cooking of food or the storage of food, fruit and vegetables, renders them wholly unfit for the keeping of milk. A clean, sweet, well-ventilated cellar makes an excellent place for setting milk, but care should be taken not to allow contamination from food that may be stored there. The temperature of such milk room should be maintained at about 58° to 60° Fahr., if possible, as it has been found by experiment that this is the temperature at which the most efficient skimming is obtained. Shallow pans should be allowed to stand 24 hours in summer and 36 hours in winter before skimming. Even with the most favorable conditions for the shallow-pan method, the loss of fat in the skim milk is excessive, especially in the fall of the year, when many of the cows in the herd are "strippers." The

average per cent. of butter-fat in the skim milk from shallow pans was found by the Michigan State Agricultural College to be a trifle under 1% (.98%). In a test from 17 farms, in seven cases it was above this figure, averaging 1.5%, while in the ten cases where the loss was less than 1%, the average was .63%.

By the cold, deep-setting method, we mean the system now very commonly used where milk is allowed to stand in some form of deep can of small diameter, set or submerged in cold water. This system takes up less room, less surface exposed to the atmosphere, less liable to contamination from foul odors, and gives a sweet cream; but if not very carefully carried out and well managed, the loss in the skim milk is excessive. The difference between the specific gravity of the cream and that of the milk is made greater by cooling. The lower the temperature to which the milk is cooled, and the more rapidly it is cooled to that temperature, the more readily does the separation of the milk and cream take place. Where a low temperature has been maintained, it is not necessary for the milk to stand longer than 24 hours, and both cream and milk may easily be kept sweet until time of skimming. The ripening of the cream can then be controlled and the skim milk fed to calves or pigs while still sweet. If properly handled, there is less loss of fat in the skim milk than with the shallow pans. It is essential to have the milk set at a temperature of at least 45° Fahr., and preferably 40° Fahr. If not kept at this low temperature, the loss of fat may be very great. A case came to the writer's notice recently, when a farmer brought a sample of skim milk to be tested, which showed 2.4% of fat, according to the Babcock test. This is about two-thirds of the total fat contents of average quality milk. When asked where he set the milk, he explained that he set it in shotgun cans in cold water, and changed the water once or twice during the 24 hours. The weather being quite hot, the water soon became warm and lost its effect, with the above result; whereas, if he had maintained a temperature of 40 to 45° Fahr., the loss would probably not have exceeded two-tenths of 1%.

The apparatus used in the deep-setting method need not be expensive, and may consist simply of shotgun cans set in a coal-oil barrel sawed off to the proper depth. The water should always be kept cold, at a temperature below 45°. If water at this temperature cannot be had, ice must be used. It is important that the milk should be cooled as rapidly as possible; therefore, the colder the water surrounding the cans the better.

Recently-made trials at the Michigan State Agricultural College, in which the milk of a herd, divided into separate lots and set in deep cans with the water at different temperatures, gave the following results:

	Temperature, Degrees Fahr.	Average per cent. fat in skim milk.
Milk set in water at.....	32-36	.19
Milk set in water at.....	40	.36
Milk set in water at.....	50	.84
Milk set in water at.....	58-60	.84
Milk set in running water at.....	58-60	.84
Milk set in open air at.....	62	1.40

These results go to prove the statement above—the colder the water the better. From this, too, it seems to be safe to conclude that unless the water used be cold, the shallow pans furnish a more efficient method of creaming than the deep setting. Furthermore, best results are obtained by setting milk as soon after milking as possible, but the loss due to a slight delay in setting is not excessive if the water is at a low temperature when the milk is set. A certain amount of milk was divided, at the Agricultural College mentioned above, into three equal lots, one of which was set immediately, one a half hour later, and the third, half an hour later still, the water in all cases being at the same temperature, and the milk never above 36° Fahr. The following are the results:

	Average per cent. fat in skim milk.
Milk set immediately after milking.....	.216
Setting delayed half an hour.....	.25
Setting delayed one hour.....	.26

Setting the milk in water above 50° Fahr., and afterwards cooling the water down to 40° or below, will not prevent the loss. It is absolutely necessary that the water be cold at the beginning.

For any farmer who has a herd of from six to eight cows and upwards, the cream separator furnishes the most satisfactory method of getting cream from milk. The machine consists of a very rapidly revolving bowl, into which a continuous stream of whole milk runs, and out of which continuous streams of cream and skim milk come. The centrifugal force generated by the rapid whirling of the bowl causes the skim milk, or heavier part of the milk, to travel outwards, or away from the center, and the cream, being lighter, is forced or travels toward the center of the bowl, each being delivered into its respective receiver placed over the top of the bowl. The operation is purely mechanical. The main objection to the separator is its first cost, but it is evident to all that the increased yield of butter will soon pay for the machine. Some of the advantages of the separator over the shallow-pan and cold deep-setting methods of creaming are: (1) loss of fat in skim milk is reduced to a minimum (usually from .05 to .1 per cent.); (2) produces a better and more uniform quality of cream, (3) insures purity of product, (4) removes disease germs and enhances the keeping quality of the butter, (5) saves the cost of utensils and the space required for their accommodation, (6)

saves the cost and handling of ice needed to keep the milk sweet, (7) skim milk is in good condition for feeding purposes.

In the use of a separator, three points should be carefully watched and regulated, viz., the speed of the bowl, temperature of the milk, and the feed of the milk to the machine. With the same machine, and all other conditions the same, a greater loss of butter-fat must be expected when the separator is not run up to speed, when the milk is below a certain temperature, or when more than a certain amount of milk is run through in a given length of time.

In conclusion, a few hints about setting up and operating a cream separator may not be out of place. To give a separator the necessary stability, it should be fastened to a solid floor. The top of the machine should stand level in all directions, and the frame should be screwed or bolted firmly to the floor. Before starting the separator, all parts should be thoroughly clean, and all bearings well oiled, and oil cups free and in working condition. Special attention should be given to the oil that is used. With each machine that is sent out by the makers is sent a can of oil of a quality that has been found by experience to best answer the purpose. Such can be obtained from the selling agents of the machine. No other should be used. After separating is completed, flush out the bowl with a small quantity of pure warm water or a little skim milk, remove power and allow the speed to run down of its own accord. Never attempt to stop the bowl by applying any kind of brake, as it soon injures the bearings. Wash all parts of the separator thoroughly first in lukewarm water and afterwards scald in boiling water or with steam, and place in a clean, dry atmosphere. T. A. WIANCKO, Buttermaker, Churchbridge, Assa.

POULTRY.

Experiments in Poultry Feeding Under the Auspices of the Poultry Association of Ontario and the Farmers' Institutes.

A series of experiments, with the object of ascertaining the respective gains made by fattening poultry for market in different ways, will be commenced about the middle of this month under the above auspices. The experiments will be placed in charge of Mr. Richard Oke, London, Ont.; and Mr. D. Drummond, Myrtle, Ont.

There will be four lots of birds in each experiment, sixteen birds in each lot. If possible, they will be selected from the Plymouth Rocks, but if it is not found practicable to obtain the number required from that breed, birds of similar type of the Wyandotte, Brahma or other suitable breeds will be selected. The birds will weigh from three to three and a half pounds each.

FATTENING POULTRY LOOSE AND CONFINED.

One lot will be fed and handled exactly as the ordinary fowls on the farm are treated. They will be allowed to run about freely and get all the exercise they wish. The second lot will be fed in a box stall or shed, well ventilated, but will not be permitted to run outside. The third lot will be fed in crates, such as those recommended by Prof. Robertson last year, and will have four compartments, each holding four birds. Lot number four will be fed in a similar crate, but for the last ten days of the experiment will be fed by means of the cramming machine.

THE FOOD GIVEN.

As regards the feed, each lot will be fed alike, except the fourth lot, which, as mentioned above, will be fed with the crammer during the last ten days. The feed will be one-half corn meal and one-half ground oats and barley in equal proportions. During the last ten days fallow will be given to the birds, in the proportion of one and a half pounds to sixty birds, the fallow to be rendered and mixed with the food. The food for the crammer will be oats ground to a powder and mixed with skimmed milk.

SOME CONDITIONS OF THE TESTS.

Careful account will be kept of (1) the cost of the chickens when bought, (2) the time spent on each lot each week, (3) the weight of food and cost of same for each lot each week, (4) the weight of each lot when purchased and their weight at the end of each week.

As soon as the birds are ready for market they will be dressed and sold to dealers, who will report on the quality of each lot, and they will be marked in such a manner that each lot can be easily distinguished when killed and dressed.

A SERIES OF TESTS.

As soon as one set of experiments has been concluded, a similar lot of fowls will be purchased, and further experiments carried on under the same conditions. The last set will be started at such a period preceding the Provincial Winter Fair as will allow of the birds being ready for killing during the progress of the fair, when prizes will be given for killing, plucking and dressing the fowls for the British markets. Each competitor will be given five birds to kill and dress. The results cannot fail to be most instructive and educational. At present it has been decided to sell the fowls tested in these experiments in the local markets, but later on other lots may be placed on the foreign markets.

WHAT IS THE FARMER'S PROFIT UNDER ORDINARY CONDITIONS.

One result of these experiments will be to determine whether the farmer in fattening his poultry by the ordinary methods in vogue on the farm is making money or not, and if he is making some money, whether he could not do better by employing different methods. The results will be looked forward to with much interest.

Fecundity and Fertility.

SELECTING AND FEEDING TO PRODUCE PULLETS THAT WILL LAY AS EARLY IN THE SEASON AS THE BREEDER MAY DESIRE.

Every breeder of the larger breeds of fowl is anxious to get chicks off as early in the season as possible, and this refers both to the man who wants early pullets for winter egg production and early birds of both sexes for the early fall and winter shows. The principal reason why every breeder cannot gratify his desires in this respect is the lack of fertility which characterizes the eggs laid in the winter months. To overcome this feature most breeders rely on different methods of feeding, and in a measure succeed in getting eggs a fair proportion of which will hatch.

It is just possible, however, that poultrymen can afford to take a lesson from the cattle breeders, who have learned that the saying, "Like produces like," applies to fecundity quite as much as any other proclivity. Not only the cattle breeders, but the sheep breeders as well have been experimenting in this line and have also reached the conclusion that the proclivity to breed early can be strengthened by wise selection of management of the breeding stock. By following out these ideas the sheep breeders have developed the celebrated Dorset Horned sheep, which are noted not only for producing a large proportion of twins and triplets, but which also breed twice a year. A ewe, to raise two or three lambs, must be a remarkable milker, and it has been demonstrated both by sheep and cattle breeders that there is a distinct connection between fecundity and heavy milking propensity.

It is in this connection that the conclusions of the sheep and cattle breeders become of direct interest to poultrymen. If the cows which come into breeding earliest and continue to breed with the most regularity prove to be the heaviest milkers, does it not follow that the early maturing and prolific laying pullet is the one to look to for eggs that will prove the most fertile? It is right here, too, that the conclusions of the cattle-men conflict with the theories advanced by many poultrymen, for they now assert that the cows which prove to be the heaviest milkers and the most prolific breeders are those which are allowed to follow the dictates of nature and begin breeding at two years of age instead of being kept from breeding until a year later. If this early bearing on the part of cows results so well, is it not possible that poultrymen are wrong when they claim that eggs from pullets are not as good as those from hens for hatching purposes? My own experience leads me to believe that pullets are just as valuable in the breeding yard as hens, provided they have been reasonably well kept from chickenhood up to the time of breeding.

The question of keep undoubtedly has a great deal to do with the early maturing propensity, and in this respect one is liable to err in either direction. A pullet stunted in growth during the first months of her life would not be liable to be noted for either fecundity or fertility. On the other hand, too high feeding will result just as disastrously, and among cattle breeders it is generally recognized that a continued course of high feeding made the celebrated Bates herd of Shorthorns so sterile that at one time it was feared that the family would become extinct through barrenness.

The earliest maturing and most prolific laying pullet in my yards last year was mated separately and her eggs set by themselves during the entire hatching season, which with me lasted from early in March until the latter part of June. She began laying early in December, but none of the eggs were set until March, when ten eggs laid in February were set along with three laid in March. Eleven good strong chicks resulted, all of which lived to maturity. In March she laid twenty-one eggs, in April twenty-four, in May she went broody, but was easily broken up, and laid eighteen, and in June she laid twenty-two, all of which were set and a remarkably large proportion of them hatched. The eggs laid in June were fully as fertile as those laid earlier in the season, and the chicks, in point of size, were fully up to the standard of those hatched from eggs laid by yearling and two-year-old hens. Two of her pullets scored 96 and 94, respectively in December, and as they inherited the early and prolific laying qualities of their mother, they are being experimented with in the breeding pen this season.

It is true that "one swallow does not make a summer," but I believe that by a process of selection and careful attention to feeding a breeder will be enabled to develop fecundity in his flock to such an extent that from his earliest and best laying pullets he may secure fertile eggs as early in the season as he may desire them.

I have said nothing about the part the male bird is expected to play in the production of fertile eggs, but I believe in going farther than the selection of a merely vigorous male, and getting one bred with the same purpose in view that has led to

the selection of the pullets. This is following the example of the flockmasters who seek assiduously after twin-born rams to head their flocks, and they offer figures to prove that by taking such a course the production of twins and triplets is greatly increased in their ewes.

It is possible that the conclusions I have formed are not correct, but so far as I have carried my experiments they have been borne out.—Henry L. Allen, in *Reliable Poultry Journal*.

Opportunities to Make Money--Are Our Farmers Ready to Take Advantage of Them?

BY A. G. GILBERT, MANAGER POULTRY DEPT., EXP. FARM, OTTAWA.

HOW CERTAIN CONDITIONS MAY BE FILLED.

I have received the following card from the Canadian Produce Co., of Toronto, dated 21st July, 1900: "Dear Sir,—We are ready to buy 5,000 live young chickens at ten and a half cents (10½) per pound, delivered f. o. b., until July 28th inst., crates supplied; old hens 35 cents per pair. What can you offer us?"

A short time ago, Mr. A. W. Grindley, Agent of our Department of Agriculture in London, England, sent me some extracts from trade journals of that city. Among the clippings was one stating that last December a parcel of Canadian chickens arrived in such fine condition that they were immediately sold "at a price fully equal, if not superior, to that paid for the best English poultry of same age. The weights of the chickens were from three and a half pounds to five pounds."

Let our farmers take into consideration the above two facts and seriously ask themselves what are they going to do in the matter?

CONDITIONS NOT HARD TO FILL.

As to three and a half pound and five pound birds, it is in the power of every farmer to have them in time for early shipment to England. The more important conditions are:

1. The proper breeds—Barred or White Plymouth Rocks or White Wyandottes. They are easily procured, and make rapid growth.
2. Proper care and feeding of the chicks from time of leaving nest or incubator until they are ready to be killed. First food for chicks should be stale bread crumbs for a few hours, then stale bread soaked in milk and squeezed dry. Next day granulated oatmeal, and after a week or ten days, mash of stale bread, corn meal, finely-ground oatmeal. A little crushed corn or wheat may now be given. After twelve days, a cheaper mash may be given and whole wheat. The meat and vegetable scraps of the table can be used to advantage. Feed a little and often at first, reducing to three feeds per day as chicks attain to five or six weeks.
3. Keep young birds free from lice. If hens are used, see that they are also kept free from vermin.
4. May-hatched chicks do best. They grow with the grass. Late June and July chicks require much more care, and, notwithstanding, do not make as rapid progress. If late chicks are unavoidable, give shade.

It may be said that it is not always possible to get chicks out early in May. If the farmer's hens laid in winter—as they should do—there would certainly be no difficulty in getting early sitters. Again, incubators and brooders are now made that are both simple and certain in results. Many farmers are using them, with great success. If instances are wanted, I can give them.

AN OLD STORY.

It may be said that the foregoing is an old story, and so it is. It is a pity that it has to be so often repeated. Certain it is, that if our farmers conform with the conditions as given, they will have their Plymouth Rocks, Wyandottes, or other heavy breed chicks, weigh eight or eight and a half pounds the pair in four, four and a half, and five months. Every farmer who raises heavy breed chicks knows that our farmers can easily and successfully cater to the demands of the English or home markets, provided he keeps the proper breeding stock.

THE TORONTO DEMAND.

The early May chicks should now weigh about two and a half pounds, perhaps a fraction of a pound more or less. Chicks which have been incubator hatched and brooder raised, if not disposed of as broilers, should weigh more than figures named. Ten and a half cents per pound for live chicks from a Toronto firm offers another opportunity to our farmers. At Farmers' Institute and other meetings I have repeatedly stated that the demand for the superior quality would surely and soon come. It has come from both home and abroad. Again I ask, what are our farmers going to do about it? Ottawa, July 21st, 1900.

As Poultry Feeding Stations are Conducted.

To the Editor FARMER'S ADVOCATE:

SIR,—Mr. F. C. Hare, of Ottawa, has been here during the past week, in the interests of the Government, and established a poultry-fattening station under the management of Mr. Thos. Sainsbury, of Chatham. The firm having the contract for supplying the coops expect to have them ready by the 9th inst., when operations are to begin at once.

The birds are to be bought in the surrounding country. Rocks or Wyandottes are preferred, but

any of the larger breeds will do so long as they have not black legs, which are entirely barred. The price to be paid is from 6 cents to 6½ cents per pound, according to quality. Two hundred are wanted for the first shipment, and this number will be increased if the returns prove satisfactory. The birds are placed in the coops and are so confined during the fattening process, which covers a period of four weeks. The coops are 6½ feet long by 16 inches square; each coop is divided into three compartments, and each compartment contains from four to five chickens; V-shaped troughs are fastened around the sides of the coops, in which the food is placed. The food, which consists of oatmeal ground exceedingly fine, is mixed with milk, preferably sour, and boiled until it reaches the consistency of porridge. The chicks are fed on this three times a day for the first two weeks, twice a day for the third week, and the fourth week they are fed by means of the crammer: with this machine the operator can feed from two hundred to two hundred and fifty per hour.

At the end of four weeks they should be fit for market. They are killed by wringing the neck, plucked while warm, pressed into shape, and placed in cold storage, which should enable us to place them before our British buyers in the very best possible condition. It is to be hoped that the venture will prove a success, as it will help to relieve a glutted local market and also place the poultry business upon a better paying basis. W. A. McGEACHY, Kent Co., Ont.

VETERINARY.

Parturient Apoplexy (MILK FEVER).

To the Editor FARMER'S ADVOCATE:

I have noticed lately in your journal several articles re treatment of parturient apoplexy (commonly called milk fever) in cows. Some of these articles are, to a person conversant with the disease, amusing, and cause him to wonder how the cow could possibly survive such treatment. As stated on different occasions by yourself, very early in the disease the animal loses, to a greater or less extent, the power of swallowing, and by the time she becomes unable to rise, and in a partial or complete state of coma, this is entirely gone, and any liquids poured into the mouth will simply gravitate downwards, a greater or less portion passing down the trachea into the bronchial tubes. If the quantity thus entering the trachea be great, death will result in a few minutes, sometimes almost immediately. If the quantity be less, inflammation of the bronchial tubes and lungs will result, and this often is the cause of death, even after the symptoms of the original disease have disappeared. Any person who has had considerable experience in the treatment of this disease, when liquids were administered in the ordinary way, can call to mind many cases in which the cow became much worse immediately after the administration of a dose of medicine, respiration became more labored, fluids of a frothy nature escaped from mouth and nostrils, and death soon took place. There is no doubt whatever that the very large percentage of fatal cases of this disease is caused, not by the medicines given, or for want of the proper medicines, but from the manner in which they are given. And there is no doubt in my mind that many apparently severe cases would recover if no treatment whatever, except keeping the animal as comfortable as possible, were adopted. I do not mean by this that it is not well to treat, for no doubt a much larger percentage of cures can be effected by treatment than by non-treatment, but I mean to say that it is much better to give no medicine than to give it in the ordinary manner, viz., by drenching.

The Schmidt treatment has been and is highly lauded by many, and I would say to those who have had good success from this treatment to stay with it. To some the theory advanced by Schmidt, viz., that the disease is due to a toxic material in the udder, and by destroying this with a solution of potassium iodide you remove the cause and effect a cure, appears irrational. The disease is wrongly called "milk fever." There is no fever, and we would naturally look for fever in a disease caused this way. The normal temperature of a cow for a few days following parturition ranges from 102° to 104°, while the temperature of a cow affected with parturient apoplexy (before it becomes complicated with bronchial, lung or other trouble) is in most cases below 100°, and I have never met with a case in which it reached 102°. This shows that the temperature in all cases is below normal. However, I am not going to take issue on the nature and pathology of the disease. Veterinary literature from the earliest period teems with opinions as to the causes and cures, and as yet opinions differ materially. Putting aside all discussions as to causes, etc., after all the most important point is the treatment. I remember some years ago being called to attend a cow, that while still on her feet and able to walk, showed unmistakable symptoms of parturient apoplexy about 8 hours after parturition. I extracted 2 gallons of blood from the jugular vein (in advanced stages of the disease I have been unable to draw more than an ounce or two of blood) and administered a purgative of Epsom salts in the usual manner. She stood and was fairly strong on her feet during this, and appeared to be swallowing fairly well, but almost immediately after the dose was given she fell, frothy fluid es-

caped from mouth and nostrils, respiration became very labored, and she died in less than 10 minutes. This caused me to do a great deal of thinking. I knew that the disease was not the cause of death, and I could arrive at no conclusion but that I had killed her by pouring liquid down the trachea. This was hard on the owner, as she was a valuable cow, but I could not go to him and state that I had killed her (she would probably have died anyway under the most improved methods of treatment known then) and give him her price. I have treated several cases for the same party since and all made perfect recoveries. Since that day I have never drenched a cow even in the very early stages of this disease, and I have had at least 90% of recoveries. I have also given up the practice of blood-letting, although I do not consider that bad practice in the early stages.

My method of treatment is as follows: We all know that there always is a great tendency to constipation, and this should be counteracted by a moderate dose of physic. I take about 1 to 1½ lbs. Epsom salts and 1 oz. of ginger, and dissolve them in about 1½ qts. warm water. I also dissolve 2 ozs. each potassium bromide and chloral hydrate in a little warm water. Now, whether she be standing or lying, whether comatose or not, I get an assistant to catch her horns, if she have any; if not, her ears, and hold her nose out. I put the ordinary gag in her mouth as if going to pass a probang. I have about 6 feet of rubber hose especially adapted for the purpose, with rounded and smooth ends, but the same length of ordinary ½-inch garden hose answers the purpose just as well; this I pass through the hole in the gag over the root of the tongue into the gullet right down until it enters the stomach. I insert, into the exposed end of the hose, a funnel, have the assistant hold her with the head as nearly in a straight line with the gullet as possible, the nose well elevated, and pour the liquids into the funnel and it gravitates downwards and reaches the stomach without any danger of any of it passing to the lungs. I then draw a little milk out of each teat. The secretion of milk, I find, is almost suspended without the pot. iod. Remove the contents of the rectum (which is usually dry and dark) with the hand, and give an injection of warm water and a little soap. If she has been down any considerable time, I draw the urine off with a catheter; pad her up with straw as well as possible, clothe her well with blankets—heavily if in cold weather, and exclude drafts. I endeavor, if possible, to get the body to perspire, and put pounded ice to the head just behind the horns. In about an hour after the first dose I repeat the potassium and chloral in 2-oz. doses (of course if she be a very small cow give less doses), and about every 3 or 4 hours afterwards I give ½-oz. doses of each until she regains her feet. In the meantime, should she be slow to regain consciousness, I give injections per rectum and pass the catheter about every 6 to 8 hours, also draw off a little milk if it be secreted. They usually regain their feet in from 12 to 24 hours, but sometimes it is as long as 48 hours, or in rare cases longer. She should also be turned from side to side about every 8 hours, and a careful attendant should remain constantly with her to prevent her injuring herself in her unconscious or semi-unconscious struggles. If after becoming conscious she appears weak and unable to rise, stimulants as 4 to 6 ozs. whisky, diluted, should be given every 2 hours. All medicines to be given by means of the tube. Students of materia medica may ask why I give such large doses of bromide and chloral. I might answer because I have had such good results. In one sense this answer might be satisfactory, in another it is not. Bromide is an excellent nerve sedative, and I give it for that purpose. Chloral hydrate is an excellent antispasmodic and hypnotic; it relieves distress and appears to hasten the comatose state (which usually results in all cases) and keeps the animal quiet until the symptoms of the disease, from whatever cause, pass off. I don't claim this treatment as a specific. I believe there are other drugs of like nature, that if given in the same manner might give equally good results. My opinion of treatment should have the following objects in view: Keep her as quiet and comfortable as possible, and get the bowels acting freely as soon as possible, prevent her from injuring herself, draw the urine off, and keep the body warm and head cool. Many will say that purgatives are useless unless the coma has passed, that there is no digestion during this stage, but experience teaches differently: intestinal murmurs can be heard during this stage in most cases, and where this is not the case, of course no digestion is taking place and we will have bloating, and my experience has been that where digestion ceases, bloating will take place and in all probability the case will end fatally. All who have treated these cases will acknowledge that in a few hours after cleaning out the rectum by hand and injections, it again becomes filled with feces. This proves that there is a backwards movement of inješta, which will not take place when digestion is suspended. On this account I consider it well to give a moderate dose of purgative medicine at once, as absorption, while certainly not as active as in health, at the same time is not entirely suspended, even during the comatose state. After gaining her feet she must be carefully excluded from drafts, and warm food and water given for a day or two, in order to avoid complications. I have already stated that for a number of years I have had over 90% of recoveries by this mode of treatment, and I

don't think any treatment will give better results.

Even though careful treatment will give good results, I consider preventive better than curative treatment. If proper preventive treatment be adopted very few cases of the disease will occur. This consists in reducing the cow's rations for 4 or 5 weeks before parturition is expected and 2 or 3 days after it occurs. For that length of time before parturition she should be fed a limited quantity of dry food, food that is not calculated to produce plethora; then about a week before parturition she should be given a brisk purgative, say 2 lbs. Epsom salts and 1 oz. ginger. Immediately after parturition repeat the purgation and take good care of her. Three or four days after calving the danger is practically past and she can be fed to produce a large flow of milk. Sometimes a cow will calve before she is expected, and in that case the first purgative will not have been given, but there is no excuse for neglecting to give one immediately after. Even after all the possible precautions have been taken, we may have the disease, but it rarely occurs, and when it does treatment is much easier.

J. H. REED.
Guelph, Ont.

QUESTIONS AND ANSWERS.

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

Veterinary.

LAME STALLION.

"PRESCOTT":—"I have a valuable Hackney stallion, imported from England last fall; he was nine years old about nine weeks ago. He got lame on left front foot or shoulder; he was lame for about three weeks; got all right, but is now lame again. I think it is in shoulder, as he does not lift that foot as high as the other. I was speeding him and noticed that he stepped in a hole in the road about four inches deep. I thought he hurt himself then. I do not know any other cause. From the symptoms given, could you tell me what is wrong and how I could cure him? As the fairs will soon be coming off, I would like to have him better."

[It is impossible, from the indefinite symptoms given, to say with any degree of certainty where your stallion is lame. Probably you are right in thinking your horse is lame in the shoulder, as a horse going at full speed and stepping into a hole is likely to lunge forward, throwing the weight of his body on the leg, and is liable to sprain a muscle (the flexor brachii) that passes over the shoulder joint, just at the point of the shoulder. This muscle is principally tendinous, and little swelling will result from a sprain, but there will be soreness on manipulation, and the horse will evince pain by rearing off the other foot if the lame leg be lifted and forcibly drawn backwards. If you are satisfied as to the muscle or tendon that is sprained, treat as follows: Give complete rest; good practice to give slight purgative, say 6 to 7 drs. aloes and 2 drs. ginger; feed lightly; bathe the parts well, frequently with warm water, and after bathing apply with good friction a little of the following liniment: Take oil of turpentine and liquor ammonia Fortier, of each ½ oz.; gum camphor, 6 drs.; alcohol, 8 ozs.; water to make 1 pint; shake well before using. It may be he is lame in the foot; the reappearance of former lameness tends to this suspicion. If you are unable to locate the lameness, you had better call in a veterinarian, as unless the trouble be located treatment will be merely guesswork—shooting in the dark, you might say. You may hit the target, but are more likely to miss. I may say that in many cases of slight lameness, especially in a nervous, irritable horse, and in some cases of acute lameness, it is difficult even for a professional man to locate it.]

PECULIAR AILMENT OF YOUNG PIGS.

A. R., Chateaugay Co., Que.:—"As I have been having a great deal of trouble with my little pigs, I thought perhaps you could give me a cure. I lost seven in April, and two more are taking it now. In the spring when they were about two weeks old I noticed some of them were sick, swelling up on the flesh of the lower jaw, forming a scab on the outside, but would keep decaying away until I could see nearly to the roots of their teeth. Some would see nearly to the upper jaw. They would live quite a while, but never do any good. Two or three of them appeared to be choking all the time. I called a vet. in, who said he had never seen the like before. I broke out all their black teeth. I was feeding the old ones on skim milk and ground oats, peas and barley. I have the same sow with another litter of eight, now about a week old. I notice two of them are beginning to swell and decay like the ones in the spring. I feed them scalded ground grain (oats and barley meal) and whey—not a great deal of barley. I am throwing them in green oats as well. They are half Berkshire and half Chester White, in good order, but not very fat. Don't you think it would be best to buy fresh sows for another year and dispose of these?"

[The trouble described of those pigs in which the flesh of the jaw sloughed off, exposing the roots of the teeth, is very peculiar. I have never seen cases similar. Cases such as you describe, in which there appears to be a swelling of the throat (without eruption) and difficult breathing, soon followed

by death, are not uncommon in young pigs whose dam is confined in small quarters, and green food, or substitutes, such as roots, are allowed only in limited quantities. In cases of this kind the trouble appears to be due to digestive derangements, and can be avoided by allowing the sow plenty of exercise and easily-digested food, with plenty of green food, both during pregnancy and delivery. It may be that the former cases are other forms of the latter, and can be avoided in the same way, or it may be that it is some peculiar disease, due either to the peculiar surroundings or a scrofulous deathesis inherited from the dam, although she does not exhibit any symptoms herself. A cure of diseases of this nature is very hard to effect. I would advise a sufficient quantity of raw linseed oil or Epsom salts given to each of the young pigs to cause a free action of the bowels, and if the sow shows any symptoms of constipation, she should receive the same treatment. Allow plenty of exercise and green food, and I would not feed any whey. Give the sow, in each meal, a tablespoonful of a mixture of equal parts Epsom salts, sulphur and powdered charcoal, and as soon as the young pigs will eat slops give them a little of the same. Be sure and give sufficient laxatives to keep the bowels working freely. In addition to the above treatment, to those whose jaws are sloughing, wash the raw surfaces twice daily with warm water and apply a lotion of 1 part corrosive sublimate to 700 of water. It is doubtful if a cure can be effected in those that are showing symptoms, but the disease may be averted in the others. I think it would be advisable to do as you suggest—that is, procure fresh sows for breeding, and be careful to observe the preventive treatment mentioned. It is well, especially in cold weather, when pigs are necessarily confined to small quarters, to give regularly in their food a sufficient quantity of the mixture mentioned, viz., Epsom salts, sulphur and charcoal, to keep the bowels working freely.]

J. H. REED.

INFECTIOUS OPHTHALMIA IN CATTLE.

J. D., Quebec:—"In my herd of cattle this year two of my cows have gone blind; first few days water runs freely from eye, then it is all covered over with white skum; at the end of six days a hole appears, size of pea, right near eyesight; seems to effect right eye each time and gives great pain. Cow keeps shaking head continually. Could you let me know what can be done, or any treatment that would be advisable?"

[Your cattle are affected with infectious ophthalmia, a disease of the eye that has been prevalent in various sections of Ontario for some years. Isolate all affected animals in a comfortable and partially darkened stable, give each a slight purgative of from ½ to 1½ lbs. Epsom salts, according to size and age; feed lightly. Drop a few drops of the following lotion into each eye three times daily: Sulphate of zinc, 12 grains; fluid extract belladonna, 15 drops; distilled water to make 2 ounces. If the eyes be much swollen and very painful, bathe well with warm water before applying the lotion. If ulcers form, touch carefully once daily with a stick of lunar caustic. Have patience and continue treatment, and you will be surprised in some cases at the eye regaining its normal condition, even in cases which rupture.]

J. H. REED, V. S.]

Miscellaneous.

GOOD MICROSCOPE WANTED.

GEO. G., Wellington Co., Ont.:—"I have been for some time past trying to get a microscope for the purpose of watching insect life on trees and plants, but have been unable to get anything but single-lens glasses, which were worthless for the purpose. If not too much trouble, would you be so kind as to let me know where they may be obtained, and prices, or could I obtain them through the ADVOCATE?"

[What you require is probably what is known as the Coddington lens, one of German make, which sells at \$1.00, and can be ordered from W. E. Saunders & Co., London, Ont. There is a much finer lens of English make, costing about \$6.00, information regarding which you could probably obtain by writing Prof. Jas. Fletcher, Experimental Farm, Ottawa, who, we understand, obtained one of that sort some few years ago.]

THE BUFF ORPINGTON FOWL.

ENQUIRER:—"Kindly inform me through the ADVOCATE what is the difference between Lincolnshire Buff and Buff Orpington fowls, and also the chief points of each?"

[It is believed that the Lincolnshire Buff and Buff Orpington fowls are practically the same. Birds of the former type have been bred for a long time in Lincolnshire, but without any uniformity, while Buff Orpingtons are bred to a distinct type and selected with greater care than the Lincolnshire Buffs. Consequently, the various points are more clearly defined in the one breed than in the other. The chief points to be looked for are: First, white flesh and legs; second, clean legs—that is, no feathers; third, single comb; fourth, shape rather of the Asiatic type of fowls; and fifth, color of plumage buff throughout. The birds are large, upstanding, and good layers of tinted shelled eggs. There is in England a Buff Orpington Club. They are an excellent breed to keep, and up to the present have proved successful as a practical fowl.]

PRICKLY ASH.

W. J. SHANNON, Addington Co., Ont.:—"When is the best time to destroy what is called in this section prickly ash? We have about ten acres partly overrun with it. Last year I cut part of it with a brush hook, about middle of July or August 1st, but it is growing up thick again from the old stubs. It is a great nuisance, tearing the cows' teats fearfully when the flies are bad. The horses also get torn badly walking through or by it."

[Prickly ash (Xanthoxylum Americanum) is a prickly shrub with running root-stocks. There is no way of getting rid of this plant without grubbing out the roots or breaking up your pasture. The best way would be to cut it down this month in hot weather, and as soon as dry enough, burn the stems over the roots. As a rule prickly ash grows in clumps, and although your ten acres are "partly overgrown," it is probably only in clumps. Can you not break the whole pasture now and re-seed with a good pasture mixture about 1st September. In this way you would get two good cuts of hay next year, and it might then go back to pasture. A good mixture is timothy, 6 lbs.; meadow fescue, 4 lbs.; orchard grass, 2 lbs.; Kentucky blue, 1 lb. Clovers—Common red, 4 lbs.; Alsike, 2 lbs.; white, 2 lbs. Next spring, if you find that the clovers have killed out, you can broadcast more seed over the field to make up the deficiency, and run a roller over the land as soon as you can get onto it. This mixture will do much to crowd out the prickly ash, if any remains after the plowing.]

J. FLETCHER, Entomologist and Botanist. Central Experimental Farm.]

MOLD IN THE SILO.

MISSIS MCD., Wellington Co., Ont.:—"1. Will the inside wood of the silo being moldy cause the silage to mold?"

"2. What would be the best way to prevent mold on the wood inside? The first year there was no mold on the silage. Last year the inside of the silo was moldy and the silage was green in spots all through. The corn was frozen before it was put in."

[Mold is a fungous plant that propagates itself under favorable conditions, requiring organic matter, warmth, moisture, and absence of bright light. Without mold spores, mold cannot be produced, so that it may be taken that a moldy silo would cause moldy ensilage near the walls.]

2. A thorough spraying with strong Bordeaux mixture should cleanse the inside of the silo of the fungus. We judge that the silo has become more or less open in the walls since the first year it was used, admitting air. The probabilities are, the corn was put in last year in an over-dry condition, so that it did not pack thoroughly. In that case, it should be sprinkled with water while being filled. Moldy ensilage is generally the result of too dry fodder.]

HOG PEN FLOORS AND HOG FEEDING.

"BRUCE."—"Please give me through your question department: (1) Your opinion regarding concrete or asphalt floors for a pigpen and for cow stable. (2) Do you advocate boiling feed for pigs in winter? (3) What is the relative value of potatoes, turnips and mangels for pig feed? (4) What is the best way to use alfalfa clover for pig feed? (5) By seeding with alfalfa in the spring, could I cut a crop off it in the fall of same year? (6) How many years will alfalfa hold in the ground without re-seeding?"

[1. We have never used nor seen asphalt used for floors, but if good Trinidad asphalt were properly laid, it would make a smooth surface, but no better, if as good, as cement concrete, and it would probably cost much more. For a cow stable, there is nothing equal to a good cement floor, being durable, easily kept clean, and it saves all the liquid manure. For young pigs especially, and others as well, it is considered better to floor a corner over the cement with rough plank for the animals to sleep on. The way to construct these floors has so often and fully been described in the FARMER'S ADVOCATE that we need not repeat it.]

2. In feeding potatoes to pigs at any time it is necessary to boil them, and the heating of other foods by steaming, in frosty weather, thus increasing their palatability and promoting digestion, is decidedly advantageous as compared with giving the animals cold or half-frozen mixtures. The experiments of the Stations indicate, however, that cooking food for stock does not pay. Prof. Henry reports in his book, "Feeds and Feeding," that in three experiments in pig feeding, four pounds of boiled potatoes were equal to one pound of grain. Repeated tests, comparing mangels with grain, indicated that it required eight pounds of mangels to equal one pound of grain in pig feeding. The mangels were fed raw, which has been proved the better way. Turnips and mangels have about equal value as hog food.]

4. A very satisfactory way to use alfalfa as a pig feed is to let the animals run on the plot as it grows, and while young and tender. Mr. E. D. Tillson has for years favored soiling the pigs, which are allowed the runs of roomy plots or are confined in pens. The alfalfa is prepared when just shooting into head or approaching that stage. Western hog feeders claim extraordinary results in feeding hogs on alfalfa hay.]

5. Some of our staff have secured a good cutting or two of alfalfa the same season, but it was seeded on well-prepared land and without any other crop.]

6. On rich, warm, clean, well-drained lands with open subsoil alfalfa will yield bountiful crops (several cuttings per season) for many years.]

HAY CAPS.

D. E. C., P. E. I.:—"Where can hay caps be procured cheaply, say per 100, so as to come within reach of farmers with limited means? We noticed them advertised, but so far away that freight and other expenses would prove a barrier."

"If homemade, what material and cost, and usual size of each to a cock or coil of hay, or usual quantity of hay in each? A reply in first issue ensuing will be appreciated, as haying will soon be over with us."

[The above query, dated July 25th, did not reach us in time for our August 1st issue, and as the writer did not give his P. O. and the envelope bore no local P. O. stamp, we could not communicate with him directly. If there be any firm making hay caps, they are standing in their own light by not making it known through the FARMER'S ADVOCATE. We understand they have been sold at about 30 cents each, which prevents their general use. T. B. Terry, a well-known American agricultural writer, states that he would make the caps out of heavy cotton cloth six feet square, and put hay up in large cocks and high, some 150 or 200 lbs. in each. String with a loop should be tied to corners of caps, and pins made of strips of shingles 1 1/2 inches wide used to stick through loops into bottom of cocks to hold caps down tightly. Mr. Walter Simpson, of Queen's Co., P. E. I., writing in the FARMER'S ADVOCATE, June 15th, 1898, said on that Island hay caps would sometimes pay for themselves in one season. They could be cheaply made of a square of cotton 40 inches wide, well oiled, and a stone tied to each corner or pegs to stick into the bottom of the cock through the corners, will serve to keep them in place.]

MARKETS.

FARM GOSSIP.

Manitoulin Island, Ont.

Manitoulin reports hay crop 80% of full crop. Fall wheat poor—50%. Spring wheat, peas and oats 25% above average. All spring crops are grand. E. B. July 27th.

Perth County, Ont.

The crops in this section of country are good. The fall wheat was up to the average, with samples hard to be beaten. Oats on the whole are a little shorter than usual, but very heavy laden with grain. Peas and barley are exceptionally good. Mixed farming is what is mostly followed here, dairying being a prominent feature. A considerable number of horses have been bought up in this section within the last few months at very good figures. J. O'D.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:—

Table with columns: prices, Extreme prices now, Two weeks ago, 1899, 1898. Rows include Beef cattle (1500 lbs. up, 1350 to 1500 lbs., 1200 to 1350 lbs., 1050 to 1200 lbs., 900 to 1050 lbs., Fed Westerns, Stillers), Hogs (Mixed, Heavy, Light, Pigs), Sheep (Natives, Western, Texas, Yearlings, Native lambs, Western lambs, Feeders).

Cattle reached \$6.00 Aug. 2, the highest in over three months. The first three weeks of last August best heaves jumped from \$5.85 to \$6.00. Last September they reached \$6.90, in November sold at \$7.15, and last December two loads sold at \$8.25, with three head at \$8.50. Some of the wise heads are predicting \$6.50 before the end of this month.

Last week Chicago received 5,600 grass Western cattle, against 2,000 the previous week. Thus far this season 7,800 were received from the ranges of Montana and Dakota. A year ago the first rangers arrived August 7, or nearly three weeks later than the opening this season.

Hogs reached \$5.50 again last week, being within 3c. of the top for 1900. Tuesday, August 15, 1899, they reached \$5.00, the highest price last year. The first week of last December top hogs sold at \$3.90, but nine weeks later they reached \$5.00, and have continued high since.

Western cattle from the ranges are coming to market quite freely, but they are not good in quality; but prices are satisfactory, all things considered.

Hog supplies keep remarkably small. Dealers do not look for big runs of hogs for the next two months. Sheep have sold better recently, owing to smaller offerings. Lambs, on the other hand, have declined 50c. to 75c. from a week ago.

The trend of the fat cattle trade has been upward for some time. Since two weeks ago good to choice have advanced 25c. to 40c. The demand was exceptionally good from exporters.

The decision of Governor Tanner to suspend the quarantine law on milkers, springers and breeding cattle is received with much favor by those doing business in such cattle here at the yards. In pursuance of this decision, General Manager Leonard has taken away all restrictions for removing such cattle from the yards, and the situation is precisely as it was before the law went into effect a year ago last June.

The W. D. Platt sale of cattle sold for an average price of \$893.30. It was the highest average for any pure-bred cattle at public sale since 1881, and a record-breaker for blood cattle at public sale in the States was as follows: Iowa, 24; Chicago. The dispersion by States was as follows: Iowa, 24; Illinois, 6; Ohio, 5; Kansas, 5; Minnesota, 4; Indiana, 4; Ontario, 4; Wisconsin, 2; Missouri, 2; Michigan, 1; Nebraska, 1; and Vermont 1. The purchasers represented 12 States and Canada.

Toronto Markets.

Export Cattle.—Drovers are advised to keep their cattle until the market improves. The prospects are bad for the next few weeks, and until things mend drovers should exercise extreme caution in purchasing. Prices were much lower; demand not good, especially on the poor quality. Lack of pasture was given as the cause of the unfinished class of cattle offered. Choice lots of export cattle sold at \$1.90, very choice at \$5.10. Light export sold slow, at declining prices, \$4.40 to \$4.50. Mr. A. Ironsides bought eight carloads of export cattle at \$5 per cwt. About 1,000 cattle on offer.

Butchers' Cattle.—Choice picked lots of butchers' cattle, equal in some measure to export, have been offered on this market, and sold at \$4.45, \$4.50 to \$4.75 per cwt.; average weights, 1,000 to 1,150 lbs. Loads of good butchers' sold at \$4.20 to \$4.40 per cwt. Mr. W. Dunn bought the pick of the market, at \$3.75 per cwt.; mixed loads at \$3.85 to \$4.10 per cwt. Mr. John Henderson bought one load of mixed butchers' cattle at \$3.35 per cwt.

Bulls.—Heavy export bulls sold at \$4.35 per cwt.; light sold at \$3.40 to \$3.65 per cwt. Mr. S. Levack bought seven export bulls, 1,700 lbs. average, at \$4.50 per cwt.

Feeders.—Well-bred steers are worth \$4 to \$4.50 per cwt. Very few on offer. Desirable weights are from 1,150 to 1,200 lbs. average. Light feeders weighing from 700 to 900 lbs. are worth \$3.40 to \$3.60 per cwt.

Stockers.—Yearling steers, from 500 lbs. to 600 lbs. average, sold at \$3 to \$3.25 per cwt.; heifers, black and white, sold at from \$2.25 to \$2.50 per cwt.

Sheep.—Prices unchanged or steady at the decline, at from \$3.60 to \$3.90 per cwt. for ewes; bucks at from \$2.75 to \$3 per cwt. Mr. E. Kilworthy, of Collingwood, sold one choice load of export sheep at \$3.85 per cwt. for ewes and \$3 for bucks, the best quotation for the day. About 700 sheep on offer.

Lambs.—Spring lambs sold at from \$2.50 to \$3.50 per head. Prices ranging from \$2 to \$3 per head.

Milk Cows.—Good milk cows and springers wanted; only six on offer, and sold at \$30 to \$45 per head.

Hogs.—Deliveries are light and prices steady. Select bacon hogs are scarce. Off cars, unfed or watered, quoted at \$6.25 for choice singers; thick fat and light, \$5.50; light, thin hogs, at \$5.25; sows, at 3c.; stags, at 2c. We must again call the attention of farmers to the necessity of keeping their thin hogs until fat. The price is always against them if hogs are too thin. Packers say it costs as much to kill and dress thin hogs, and the loss is greater on the sale of the bacon. It cannot be exported, and is sold for local use at bargain prices; and, on the contrary, some are too good, over 200 lbs. About 1,000 on offer.

Comparative prices to-day and two weeks ago:

Table with columns: Aug. 10, 1900, Top price to-day, July 27, 1900, Top price 2 weeks ago. Rows include Export cattle, Butchers' cattle, Feeders, Stockers, Sheep, Hogs, Lambs, Milk cows.

Grain Market.—Receipts of farm produce were light. Wheat.—One hundred bushels of new red wheat sold at 72c. per bushel; one load of Goose sold at 60c. per bushel.

Hay.—Very little on the market; about four to six loads each market day, and sold at \$11 to \$13 per ton.

Straw.—Two loads of straw sold at \$10 per ton.

Clover Seed.—Alsike clover seed has yielded in the Scarborough district from last year is small. A few lots offered on this market sold at prices ranging from \$6 to \$6.50 per bushel.

Dressed Hogs.—Deliveries very light, and prices firm, at from \$7.75 to \$8 per cwt.

Market Notes.—Mr. Lonley Lee, who returned on the SS. Montbert, tells some thrilling experiences with the Austrian Jews on the voyage home. The only persons that seemed to have any control of these miscreants was the red-hot poker brigade. The stokers, armed with hot poker, rakes, etc., were able to keep over four hundred at bay. This withdrawal of men from the fires caused the vessel to slow down, and the time to be extended to 16 days' passage.

Fairs of 1900.

CANADA.

Table listing fairs in Canada with dates. Locations include Stanstead, Que., Toronto, Morrisburg, Sherbrooke, Que., London, Kingston, St. John's, N. B., Wexley, Brome Corner, Que., Vankleek Hill, Owen Sound, Richmond, Halifax, N. S., Newville, Ottawa, Brantford, Whitby, Strathroy, Perth, Lanark, Goderich, Walkerton, Peterborough, Guelph, Aylmer, Collingwood, Prescott, Newmarket, Charlottetown, P. E. I., Almonte, Cayuga, Paris, Forestburg, Metcalfe, Pictou, Warton, Kamloops, B. C., Woodstock, Renfrew, New Westminster, B. C., Brampton, Carp, Stratford, Tara, Markham, Beachburg, Chatham, Rockton, Stayner, Fergus, Sutton, Caledonia, Simcoe, Norfolk, Woodbridge, Bradford, Provincial Winter Fair, Guelph.

UNITED STATES.

Table listing fairs in the United States with dates. Locations include Des Moines, Iowa, Syracuse, New York, Indianapolis, Ind., Springfield, Ill., Grand Rapids, Mich., Chicago International.



THE RETURN.

There was a peevish clattering from the direction of the chicken coop, and a sleepy, grumbling "quack" from a duck. Hearing the sounds, Mr. Brady half rose from the chair where he sat in front of the house. Then he leaned back again, tilting it against the wall, and closed his teeth firmly over his pipe. "I'll not do it," he announced after a few puffs. "I said I'd not do it—an' I won't." "Kate," I says to her—always callin' her Kate when I'm lettin' her see who's master here—Kate, I says, "make up yer mind to this: if ye go, I'll not feed thim, not once!" "Aye, I says that to her—an'—" Mr. Brady paused, took a few more puffs at his pipe, and then concluded—"an' she went."

A few years ago the Brady cabin stood in the wilderness. The city, with its noises and its lights, lay far to the south, and there were few streets near the rocky hill where the Brady pigs cackled and the Brady children played. But the city had crept insidiously nearer until its lights flashed at the base of the hill and its noises beat about it. As Dan Brady smoked his pipe and listened to the drowsy complainings from his chicken yard, he looked far down upon long alleys hung with gold and silver blooms of light, upon tall houses, their straight sides checkered with sheets of brightness. So much glitter hurt Mr. Brady's eyes. He passed the back of his hand across his face, knocked the ashes from his pipe, restored his tilted chair to a level, and went into the house.

It was the house he and Kate—she had been "Kitty" then—entered together twenty-seven years before. There had been a lean-to kitchen added since, and the ladder by which the loft attic. That had been done when the girls were half grown and Dan's wages were raised. He scowled at the stairs now and stumped over to the little walnut shelf where a clock, a blue cup and saucer, a vase, and a crucifix kept rather incongruous company.

Dan started to wind the clock. Then he stopped, stared at the shelf, and uttered one profane ejaculation. The photograph of Loretta was gone—red plush cover and all.

"I didn't think that of Kate," remarked Kate's husband. "I'll advertise her: left me bed an' board—not responsible for anny debts of her conthractin'—only she niver conthraacts anny. An' Loretta was her daughter, too—the child!"

Dan stared at the emptiness where Loretta's picture had been. Then he struggled with himself.

"I'll not let this upset me," he announced to the clock. "For twenty-seven years I've told Kate that I'd have none of her brother's family enter me house; an' for twenty-seven years they've come when they pleased—which was whiniver they was out of a job or a drawin' of tay or a pair of shoes or a house to live in. An' for twenty-seven years we've—well, we've had words over it. If it weren't for the children," she said time an' time again. "I'd leave yer house meself, for a cold-hearted brute ye are, an' me brother Ned's little finger's worth the whole of ye; an' if 'twere not for the children, I'd answer her. I'd put ye out to go an' see how ye'd like livin' with yer precious brother Ned." An' now, all the childer bein' married—or dead—he looked towards the empty space on the mantel—"we—had words again."

He wound the clock very slowly and his mind went on and on.

"Go," says I to her. "Ye've had Ned Burke's wife here while I was out—there's grounds in two teacups. An' ye've lint him money again—the change is gone from the glass sugar bowl—an' ye'll either pass me yer word to have no more to do with thim or ye'll go an' stay with them." An' she—she turns on me an' "I'll go," she says; fine an' glad Ned an' his wife will be to have me—an' fine an' glad I'll be to go. "Go, then," says I, pointin' to the dure as I'd done many's the time in twenty-seven years. But this time she wint! For Theresa was married last week, an' there were no more children to stay for. An' whin she was startin', says she to me, "Dan," says she, "ye'll feed the chickens reg'lar!" An' I—niver misdoubin' but that she was goin' to stay, I says, fine an' fierce, "Kate Brady, ye'll stay an' feed yer own chickens—or they'll starve." An' she niver called a name, but "So be it, thim," she says, an' sighs an' goes off down the path.

Mr. Brady's musings had reviewed the case with tolerable accuracy. Had it not been for Kate's ne'er-do-well of a brother and his eternally needy family, she and her husband would have dwelt in remarkable amity. Used to poverty in the land of their birth, Dan's wages here spelled prosperity for them. Dan was sober, Kate was thrifty, their sons and daughters good tempered and, except Loretta, sturdy and capable.

But always Ned Burke, for whom Dan had an inborn antagonism, and for whom Kate, fiery, obstinate, and loving, had affection that throve on her husband's opposition, had been the insurmountable bar to happiness. Scarcely a week had passed without its quarrel over Ned. There were constant mutual threats—Kate would leave, Dan would turn her out, Dan would thrash Ned, Kate would have the law on her husband, and so on, wrangling forever, spoiling the peace that love made possible otherwise.

Dan finished winding the clock, and the room was still. Then a dog barked loudly in the distance. From the roost a cock crew with loud insistence upon the dawn. The face of the clock said eleven.

"I thought she'd be back before this—the foolish woman," said Dan. "I'll wait no longer for her."

The chickens, roused by the noises, stirred and grumbled. A duck uttered a harsh call in the darkness.

"She's a heartless woman," said Mr. Brady, righteously indignant, "to be lettin' the poor, dumb things starve to death."

He walked to the door to close it, but, arrived there, stood and looked out across the dark mass of the hill to the deep valleyed, glittering streets.

"A walk will do me good," he said, and took his hat from the nail behind the door.

Once outside, his steps had a definite aim. There was no loitering. He found his way swiftly along the rutted, rocky path. He was near the street when a shawled figure met him.

"Dan!" came a little call from the shawl.

"Kitty!" cried Dan. Then he drew himself up stilly.

"That is, Kate," he said, "were you comin' home?"

"I was comin' to see if ye'd fed the chickens," was the prompt, unfriendly retort. An' where were ye goin'?"

"I was comin' to bring ye home to feed the chickens," said Dan severely.

He turned and walked by her side towards the cabin standing upon the hill crest, blocked in black against the sky.

Their lips were long unaccustomed to tender speech, and they went on awkwardly. Suddenly Kate's voice broke the stillness.

"I dunno but ye're right," she said with an elaborate indifference, "about Ellen Burke. She's been a poor wife for Ned these years."

"Oh, I dunno," replied Dan, airily; "she's had not much of a chance—nor him either, what with sickness an' one thing an' another. Ye might ask them to come home to dinner with us after mass next Sunday. There's two of thim chickens'll be right for killin'."

"I'll niver kill wan of thim chickens, Dan," cried Kate with sudden fire. And slipping her hand into his, they went up the hill together. —*Anne O'Hagan.*

THE QUIET HOUR.

A Plea for Amusement.

"Am I wrong to be always so happy? This world is full of grief: Yet there is laughter of sunshine, to see the crisp green in the leaf. Daylight is ringing with song birds, and brooklets are crooning by night. And why should I make a shadow where God makes all so bright? Earth may be wicked and weary, yet cannot I help being glad. There is sunshine without and within me, and how should I mope or be sad? God would not flood me with blessings, meaning me only to pine. Amid all the bounties and beauties He pours upon me and mine: Therefore will I be grateful, and therefore will I rejoice; My heart is singing within me! Sing on, O heart and voice!"

This is a column especially devoted to religious subjects, and some of you may think the above title a little unexpected in such a connection. The old ascetic idea of making life as miserable as possible, crushing down the body in the hope that in some mysterious way the soul may be benefited, is still strong in men's minds. Our Lord has said, "Consider the lilies of the field," yet we refuse to consider the countless flowers scattered broadcast over the world, and seem to fancy that only necessary things—such as grain or potatoes—are of any real consequence. If you are talking about religion, they say, you have nothing to do with amusement. Religion may ennoble work and suffering, it may even inspire men with joy and gladness; but surely pleasure and amusement, in the ordinary sense of the words, are not religious acts. We might mix religion into a game with a sick child or into an amusing book read to an invalid; but to play baseball or tennis or lie in a hammock for an hour, reading, for our own amusement—that can hardly be done for God's glory! Can it not? Then it ought never be indulged in. Who has drawn the invisible line between things secular and things religious? If we are only religious on Sunday or when we are saying our prayers, then we are missing the best part of Christianity. It is a religion for every day and every hour. God fills all space; does He not fill all time too?

What are our orders? "Whether ye eat or drink or whatever ye do, do all to the glory of God." We might call eating and drinking secular acts, but the Bible says they, and everything else, should be religious. "Whatever ye do," must include amusement, or else if we are going to be real Christians, amusements must be shut out of our lives altogether. You who are young would surely feel this to be cruel and unjust, and even impossible. It is one great evil of modern education that it is apt to grind children down until their lives have little or no play-time in them. Does God wish or command such cruelty? See the result of such a course. Deprive a child of his birthright—a reasonable amount of play—and he becomes dull and stupid, and never entirely recovers from the loss. This fact is expressed as a truism in the saying, "All work and no play makes Jack a dull boy."

To return to the flowers. God has filled the world with beauty and joy, as well as with useful and necessary things. Even the potatoes have their blossoming time, the corn is decorated with silk tassels, and the orchards are like fairyland every spring. The snow comes down in beautiful crystals, the leaves, even in decay, are clothed in brilliant colors. The sunset sky is beyond the power of any earthly artist to copy. Dandelions and buttercups are like golden balls scattered thickly in the lovely green grass. Birds and butterflies give pleasure both to ear and eye, the changing seasons break the monotony of life and give fresh zest to existence. How tired we should get of winter if it lasted all the year, but we thoroughly enjoy the skating, sleighing or snowshoeing when it comes as a welcome change. Surely God would not have heaped the world so full of pleasant things if He had not intended His children to enjoy them. There was only one kind of fruit in the Garden of Eden which Adam and Eve were forbidden to taste.

There was surely a good reason why our Lord worked His first miracle at a feast, providing not a necessity, but a luxury; thus sanctioning innocent pleasure. Yet to make *pastime* (note the word) the *business* of our lives is a crime. To deliberately set ourselves, year after year, to "kill time" is to murder one of the greatest gifts of God. There is so much work to be done, and we are so powerless to accomplish it all, that it is no wonder conscientious people often think it a sin to relax their efforts except for needful sleep and food. But both bodies and minds are brighter, and more able to work with a will, if a reasonable amount of relaxation and pleasant amusement is taken. To work steadily on without a holiday year after year is most exhausting, and it often results in an enforced rest by the doctor's orders.

In order to devote our very best powers of mind and body to God's service, we must not strain either too far. Our Lord said to His disciples—and, remember, the command has been written down for our learning—"Come ye yourselves apart into a desert place, and rest awhile." Some kinds of amusement are more exhausting than work, and some people seem to consider that amusement is the end and aim of their lives; but an intemperate use of anything is always wrong. The abuse of pleasure does not prove that the right use of it is not valuable and necessary to the complicated

machinery of our human nature. Laughing is just as natural as crying, and far more useful and satisfactory.

One thing more: Don't be satisfied with having a good time yourself—see that other people have a chance to enjoy themselves too. Look after the elders of the family: don't let them feel that life is a treadmill, while you are doing nothing but amuse yourself. Pleasure is certainly carried too far when it is enjoyed at the expense of other people. Think how many hours of hard work are put into the doing up of your pretty summer costumes, and the preparing of your nice picnic baskets. Who does all this hot work? Does she ever have an outing or a thorough rest?

A young man told me the other day that his employer had said to him: "You look rather seedy, young fellow, so take a week's holiday, and here's the money for the week."

Do you think any employer ever lost by such thoughtful kindness? I don't. He would gain the esteem of his employees, and they would work with far more energy and goodwill, and repay him in many ways. "Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again."

Some Christians stand sternly aloof from all social amusements, but the disciple must not dare to fancy himself more holy than his Master. Christ certainly did not condemn such innocent pleasures as frivolous and unworthy of a Christian. He was a willing Guest at many a feast, and says of Himself: "The Son of Man came eating and drinking." He has held up a little child as an example for all ages, and a healthy child is brimming over with gaiety and mirth. It is said of those who serve and obey God, "They shall spend their days in prosperity and their years in pleasure."

But we should be careful never to indulge in any amusement in which we dare not lift up our eyes from time to time to our Master's face, in glad remembrance of His presence. The knowledge that He is with us should increase and deepen our joy, until it may be truly said of us:

"The men who met him rounded on their heels
And wondered after him, because his face
Shone like the countenance of a priest of old
Against the flame about a sacrifice
Kindled by fire from heaven, so glad was he."

HOPE.

Recipes.

BLACKBERRY SPONGE.

Fill an earthen bowl closely with small cubes of bread, pouring over the bread as it is fitted into place hot blackberry juice (blackberries cooked until soft, with sugar to taste, and passed through a sieve). Use all the juice the bread will absorb. Set the sponge aside in a cool place for some hours, then turn from the bowl. Serve with sugar and cream and blackberries, if liked.

PRESERVES.

Wild Plum.—Gather the plums before they are fully ripe. Parboil them in water until they begin to burst. Pour off the water (using seven pints of water to five pints of plums); cook until very tender; strain, allow a pint of sugar to a pint of juice, and boil rapidly to jelly.

Gooseberry.—Take common wild gooseberries underripe, cover with water and cook soft. Strain and observe the above directions, using "pound for pound" of sugar.

Red and Black Raspberries.—Take equal quantities of each, put a few in the bottom of kettle with a tablespoonful of water, heat, and crush, add a few more, crush, and so on until all have been used. Weigh, and allow three-quarters of a pound of sugar to each pound of fruit. If a small quantity, cook twenty-five minutes, add the sugar, and cook fifteen minutes, or until a little dropped on a plate glistens and no moisture is seen round the edge. Jam requires constant watching during the process, as it burns quickly if left without stirring.

Currant and Raspberry.—This is made like currant and gooseberry, but with no vinegar or spice, using one part currants and two parts berries.

Plums and Apples.—Plums make too rich a jam if used alone. Cook in a little water; add a like quantity of stewed sour apples; rub through a sieve; allow three-quarters of a pound of sugar to one pound of mixed fruit. Cook three-quarters of an hour over a moderate fire.

Blackberry Jam is preferred by many if half the quantity of stewed apple is added. Use two quarts of sugar to two quarts of blackberries and one quart of apple.

ELDERBERRY.

Pick the berries from the stems, bruise and beat them, and press out the juice. To every three pints add one pint of half-ripe grape juice. Boil ten minutes, add four pounds of granulated sugar, and boil briskly ten minutes. All jelly should be skimmed well before the sugar is added.

SPICED GRAPE JELLY.

Crush and strain the juice from grapes that have turned but are not ripe. Use equal quantities by measure of juice and sugar. To each quart add half a teaspoonful of ground cloves and one tablespoonful of cinnamon. Boil rapidly twenty minutes, take from fire and fill glasses.



(Address all letters to Cousin Dorothy, Box 92, Newcastle, Ont.)

DEAR CHILDREN,—

The names of new recruits to the Lookout Regiment are still coming in. The latest arrivals are: Charles Fisher, Jimmie Matchet, J. R. Kennedy, Lillie Sinclair, Colin Campbell, Frank Dawson, Annie Brown, Emily Brown, Will Thompson. One of our N.-W. T. boys writes:

DEAR GENERAL,—

I would like to enlist as a regular in the Lookout Regiment. I am thirteen, and would like to be a soldier. I have seen active service in the cavalry, and had my wrist hurt by a fall from a horse. I am sending the two one-cent stamps for the ribbon badge. I am fond of the Advocate, and always read it. I hope Private Ben will soon be able to join the fighting ranks again. Hoping to write again soon, I remain—

CORPORAL JIMMIE.

I hope you are out of hospital by this time, Jimmie, and able to mount your war-horse again. I feel sure you were an honor to the regiment in the way of cheerful obedience to orders and plucky endurance of pain. Our Lookout Regiment seems to be in a flourishing condition. If you are honestly trying to keep the two rules of looking out for opportunities of showing kindness and looking out for good qualities in others, it will certainly be a good thing both for yourselves and the people around you. But I don't want you to enlist without considering what you are doing and making up your mind to do it thoroughly.

"Whatso'er you find to do, Do it, boys, with all your might; Never be a little true, Or a little in the right. Trifles even lead to Heaven, Trifles form the life of man; So in all things, great and small things, Be as thorough as you can.

"Spotless truth and honor bright— Let no spot their surface dim. I'd not give a fig for him Who says any lie is white! He who falters, twists and alters Little items when we speak, May deceive me, but believe me, In himself he is a sneak."

A great many people are trying to show kindness to others; like our Lord Jesus Christ, they go about doing good.

I am sure you will be interested in hearing of the kindness shown to many poor little children in the great city of New York. You know it is dreadfully hot there, and the little children get weak and miserable, because they are shut up in hot, close rooms, sometimes five or six families live in one room. They can scarcely breathe, it is so hot and stuffy, and many of them have not nearly enough to eat. They have no grass to roll about on, no water that they can paddle in, nothing but hot rooms and hotter pavements.

Twenty-five years ago a kind gentleman took a lot of these boys and girls from the slums for a sail on the bay. You can just imagine how thoroughly they enjoyed it. Then different Fresh-Air Societies were started; and now, every summer, a large number of these children know what a real outing means. There are two floating hospitals, which carry as many sick children as possible right away from the hot city. The poor, tired mothers go too, and come back, after breathing the cool sea breeze for hours, feeling ever so much happier and stronger. Last summer more than sixty thousand patients were carried on these floating hospitals. About five thousand were very ill, but not one died while they were out. Another society gave outings of one day each to more than fifteen thousand women and children. You, who live in the country all the time, can hardly imagine what such an outing means. The children treasure the memory of that happy day for years, and live it over and over again in dreams.

Then there is a large farm where boys are taught to work. They are taken from miserable homes, where they have been kicked and beaten and hardly used. They are given good food and decent clothes. When they have been trained a little while, they are placed in good homes and given a chance to work their way up respectfully and happily. If they had been allowed to grow up in the slums, they would have been taught nothing but wickedness, but when given this chance many of them turn out to be very fine fellows.

Another society provides poor miserable children not only with food and clothes and teachers, but

also with swimming-pools, games and amusements of all kinds. They march to their meals like soldiers to the sound of music or the beat of a drum. The teachers are very kind to them, and the children soon learn to love them dearly.

Now, are you not glad that you too are trying to do kindnesses, helping in this good work of making the world better and happier? Some children like to think of all the kind things they would do if only they were rich. They would go to poor families and take them plenty of nice food and comfortable clothes. They would give dolls and other toys to the sick children. But, as they are not rich, they don't give anything. To give what we don't want ourselves is not the best kind of giving after all. It is more blessed to give than to receive, but those who give something they really care for themselves understand best the real happiness of giving. And, remember, the little kindnesses may count up very quickly if you are really on the lookout for them.

Greta was only six years old, and very small for her age. "I'm so little," she sighed, "and there isn't anything I can do."

"Tut!" said grandfather, who had overheard her. "Who opens my paper, and finds my spectacles, and brings my stick to me?"

"And who puts the ribbons in my cap, and gives



"AN EVENING SONG."

press his saucer of milk, and buttons my boots for me?" added grandmother.

"Who is the little girl that carries my slippers and rolls my chair up to the fire?" asked father, his eyes twinkling.

"I know somebody who can feed chickens, hunt eggs, mind baby, and run errands as nicely as anyone," said mother. Then Tom chimed in, "I know a youngster who can find my things when they get lost, and never grumble about it either."

Little Greta's eyes beamed with delight as grandfather patted her head and said: "Every little task that we do willingly and cheerfully makes the Lord Jesus glad in heaven."

I am sure you can find hundreds of such opportunities lying about the house and neighborhood. They get out of the way very quickly, though, if you don't catch them. Don't let many of them fly past you. Your loving friend,

COUSIN DOROTHY.

P. S.—Send in your letters for the prize competition before the end of August.—C. D.

Hicks There's Grility. What a pity so fine a looking fellow should be deaf and dumb.

Wicks The dumb is all right; but if he wasn't deaf, what an agreeable person he would be to converse with! Boston Transcript.

"An Evening Song."

Here is a picture which carries one into foreign climes. There is much grace in the attitude of the fair young musician, and in her face is the look of one absorbed in her art. The earnest listeners, too, are beautifully drawn, the attitude and thoughtful face of the boy with clasped hands being especially good. Those shady trees, too, and the cool-looking fountain, with its little winged cupid at the top—all lend their charm to the scene, and we can almost think we can ourselves hear that sweet evening song!

Our Library Table.

"CRANFORD." Mrs. Gaskell. — Amongst the rush of books with which the reading public is literally deluged in these rapid days, to come across a book like "Cranford" is like a refreshing rest after a long journey; the journey may have been enjoyable enough, but who does not appreciate the rest? Many, doubtless, have read "Cranford" long ago, but there are perhaps only a few of the younger readers (not meaning children exactly) who know anything of it or its gifted authoress. It deals with English country life of many, many years ago, and, in spite of this, reminds one forcibly of some old-fashioned places which, even now, keep up old customs. It is the chronicle of what we, in these days, would call a somewhat colorless—indeed humdrum—life; so quiet, that the advent of a few new residents, the opening of a new shop, the suspicion of an engagement, was sufficient to throw the whole village into a flutter of excitement. Cranford, as the opening chapter announces, was in possession of the Amazons, inasmuch as it was almost entirely composed of maiden ladies (with a few widows) who considered man as rather out of place amongst them. (One can easily fancy he would be.) Cranford was not a rich community, but even the poorest concealed their anxieties under a smiling face, and never spoke of money, considering that was not "aristocratic." To quote: "When Mrs. Forrester, for instance, gave a party in her baby-house of a dwelling, and the small serving maiden disturbed the ladies on the sofa by a request that she might get the teatray out from underneath, everyone took this proceeding as the most natural thing in the world." This was also the case when the lady pretended she didn't know what was for tea, in spite of the fact that she had herself made all the cakes, biscuits, etc. The two chief characters in this quaint and charming book are the Misses Jenkyns, daughters of Cranford's late rector; and the description of Miss Deborah, the elder and more masterful sister, with that of the gentle Miss Mattie, shows a fine discrimination. When Captain Brown and his two daughters take up their residence in this hallowed spot, there is a flutter indeed amongst all these good ladies, but at last he is accepted as a friend. The wordy war between Miss Jenkyns and Captain Brown as to the relative merits of the famous Dr. Johnson and Dickens (who in those days wrote under the name of "Boz") is one of the funniest bits in the book. Here is a specimen: "Have you seen any numbers of the Pickwick Papers . . . Capital thing?" Yes, she had seen them; indeed she might say she had read them (mark the guarded style of this reply).

"I must say I don't think they are by any means equal to Dr. Johnson; still, perhaps the author is young. Let him persevere, and who knows what he may become, if he will take the great Doctor as his model." Then the very strong-minded lady, Miss Pole, is capably described, as is also the Hon. Mrs. Jamieson (sister-in-law to an earl), who leads the society of Cranford, and is looked up to as a type. In contrast to all the stateliness and often silliness of this little old-fashioned society of worthy ladies, there is an undercurrent of truest friendship and sympathy beautifully shown. Miss Mattie Jenkyns (her sister now dead years ago) loses all her fortune (if anything so tiny can be called such), whereupon a private meeting is held by all her old friends, who then and there subscribe a certain sum which will, at least, keep her from want. With many, even a small sum meant going without something, but no one grudged this little tribute, and Miss Mattie never knew of it, for a pardonable little fiction was made up, so that she thought something had been saved out of the wreck (me thinks the Recording Angel notes not this kind of fiction). The way in which this is all told is exquisite. Space will not permit of further detail. "Cranford" is but a small book, but so fine is the delineation of each character and there are many that it is truly a *multum in parvo*, and a book to do us good, even though we cannot but smile at

the "set" ways so well described. Some authors know so well how to bring scenes and people right before us so that we feel we know them and love them. Mrs. Gaskell is one of these. Many of her other books are also well worth reading—"North and South," "Wives and Daughters," "Mary Barton," and many others. "FELIX."

The Visible a Picture of the Invisible.

If it is really true that the spiritual world is very much like the natural world, built on a similar plan and following the same general pattern, then each new scientific discovery should be a parable, opening our eyes to spiritual truth. We see things invisible reflected dimly in the mirror of the visible world.

As men learn more about creation, they ought to be drawn nearer to the Creator. Our Lord has directed attention to this fact, that the commonest matters are full of spiritual meaning. Think how, in His parables, the highest lessons are drawn from the simplest actions of everyday life. A woman setting her bread to rise is a picture of the church secretly, but surely, leavening the world. Another, sweeping her house, shows that same church diligently seeking the souls she has carelessly allowed to slip out of her hands. A farmer struggling with weeds, planting seed in good ground or in poor, thin soil, plowing a straight furrow without looking back—these, and many other things familiar to us all, He sets before us, lifting the veil which hides their spiritual meaning. Surely He intends us to seek diligently for the treasure hidden not only in the pages of the Bible, but in everything around us. The Bible is not the only Word of God. He speaks to us through every flower, every duty, every sorrow, every joy. He spoke to holy men of old, and we may fancy that He never speaks to men now, but that is a very mistaken idea. Perhaps, like Adam, we are conscious of wilful, unrepented sin, and are afraid to listen to His voice. Possibly we cannot hear it because we are living in a rush of cares and pleasures. Like Martha, we are very busy, and think it is a proof of idleness to sit quietly and listen to the Master's teaching. Like Elisha's servant, our eyes are only open to physical dangers and troubles, while the air is full of God's messengers sent for our defence.

"Earth's crammed with heaven,
And every common bush affire with God;
But only he who sees takes off his shoes,
The rest sit round it and pluck blackberries."

The Boer Delegates.

SOME OF MR. DOOLEY'S OPINIONS.

"Well, sir," said Mr. Dooley, "'tis a fine raycption th' Boer dillygates is havin' in this country."

"They'll be out here nex' week," said Mr. Hennessy.

"They will that," Mr. Dooley replied, "an' we'll show them that our interest in small raypublics fightin' fr' their liberty ain't disappeared since we became an impeeryal nation. No, sir. We have as much inthrest as iver, but we have more inthrests elsewhere."

"Oom Paul, he says to th' la-ads: 'Go,' he says, 'to me good an' great frind Mack, th' Wanst, an' lay th' case before him,' he says. 'Tell him,' he says, 'that th' situation is jus' th' same as it was durin' Wash'nton's time,' he says, 'ony' Wash'nton won an' we're rapidly losin' kopjes till we soon won't have won to strike a match on,' he says. An' off goes th' good men. Whin they started th' Boers was doin' pretty well, Hinnessy. They were fightin' Englishmen, an' that's lawn tinnis to a rale fightin' man. But afther awhile th' English Government put in a few recreent but gallant la-ads fr'm th' ol' dart—we ought to be proud iv thim—Pat O'Roberts, an' Mike McKitchener, an' Terrence O'Frinch—an' they give th' view-halloo an' wint through th' Dutch like a party iv la-ads comin' home fr'm a fifteenth iv August picnic might go through a singerbund. So be th' time th' dillygates got to Europe it was: 'James, if thim br-rave but misguided Dutch appears, squirt th' garden hose on thim. I'll see th' British Ambassadure this afternoon.' Ye, see, Hinnessy, 'twas ol' Kruger's play to keep on winnin' battles till th' dillygates had their say. Th' amount iv sympathy that goes out fr'a s'hrugglin' people is reg'lated, Hinnessy, be th' amount iv s'hrugglin' th' people can do. Th' wuruld, me la-ad, is with th' undher dog on'y as long as he has a good hold an' a chanst to tur-rn over."

All Violin Makers.

The only place in the world where violin making may be said to constitute the staple industry is Markneukirchen, in Saxony, with its numerous surrounding villages. There are altogether about 15,000 people in this district engaged exclusively in the manufacture of violins. The inhabitants, from the small boy and girl to the wrinkled, grey-headed veteran and aged grandmother, are all constantly employed making some part or other of this musical instrument.

Pretty Tough.

Aunt "You look rather delicate. Are you perfectly well?"
Little Nephew "Oh, I'm tough as a pine-knot. I can stand anything. You ought to see some of the doctor's doses I've taken and lived through."

The Wolf and the Boar.

One very cold day the wolf found it hard to get a meal. In this state he met with the fox. "Ah," said the fox, "I have good news for you. If you are as fond of pork as I am, I can tell you where an enormous pig is to be met with. He's rather more than I can manage myself, so if you like we will go shares in him." The wolf was delighted. There was nothing he liked better than pork, and many a young pig had fallen a victim to his appetite, to the great annoyance of the farmers in those parts. "He knows my voice," said the fox, "so he won't come out of his den for me; but if you will tap gently and say a friend wishes to see him, he will be out at once. Then you must pin him by the throat, and I will come up and help you. If you get a firm grasp and hold on, there will not be the slightest difficulty." "Never fear," replied the wolf; "I am a match for a pig any day; and besides, I am ravenous with hunger, and shall make an extra exertion to get such a delicious meal." "Well, good fortune to you," replied the fox, "and I hope you will rid the world of the creature, for he is quite a nuisance. Away went the wolf, and did exactly as the fox had directed, but instead of the fine, fat pig, out rushed a fierce wild boar. The wolf was so astonished that he fell back as if shot, and then, recovering himself, made the best use possible of his legs, and by good fortune arrived home in safety. When he told his mother, a wise old wolf, what had happened, she said: "My son, when a stranger tells you of something that is to be greatly to your advantage, always inform yourself that all he tells you is true. If that boar had been only a fine, fat pig, you may be sure that the fox would have told you nothing whatever about him."

Chinese Scandal-Merchants.

In China there is a profession for ladies, strange because openly and handsomely remunerated in the current coin of the realm. It is carried on by elderly ladies, who go from house to house of rich people, announcing their coming by beating a drum and offering their services to amuse the lady of the house. This offer accepted, they sit down and tell her the latest scandal and the newest stories and on-dits, and are rewarded at the rate of half a crown an hour, besides a handsome present should some portion of their gossip have proved particularly acceptable.—London Tit-Bits.

Something Unusual.

He hunted through the library,
He looked behind the door,
He searched where baby keeps his toys
Upon the nursery floor;
He asked the cook and Mary,
He called mamma to look,
He even started sister up
To leave her precious book.

He couldn't find it anywhere,
And knew some horrid tramp
Had walked in through the open gate
And stolen it, the scamp!
Perhaps the dog had taken it
And hidden it away;
Or else perhaps he chewed it up
And swallowed it in play.

And then mamma came down the stairs,
Looked through the closet door,
And there it hung upon its peg,
As it had hung before.
And Tommy's cheeks turned rosy red,
Astonished was his face,
He couldn't find his cap—because
'Twas in its proper place!

Two Scots Stories.

A Scotchman started once on a long walk, wearing a handsome pair of new boots. After quarter of a mile or so, it occurred to him that it would be as well to economize shoe leather. So he took off his boots, and, tying the laces together, slung them round his neck, and proceeded on his way. After a while he struck his great toe, and nearly broke it, against an enormous "stane" lying on the road. After the first paroxysms of pain were over, he said to himself, "What a mercy I had not those good boots on!"

Another Scotchman was waylaid by robbers, and resisted so manfully that he was laid overcomer until he had inflicted severe damage on his assailants. When secured and searched, he was found to have nothing but a crooked "sixpence" on his person. "If this had been straight," remarked one of the band, who was not lost to a sense of humor, "he would have killed us all."

Clerk—Lady been here this morning, sir, complaining about some goods we sent her.
Employer—Who was she?
Clerk—I quite forgot to ask her name, sir, but she's a little woman—with a full-sized tongue!

Punch.

An elderly gentleman was hurrying to catch a train. He was rather short of stature and stout of body; but, notwithstanding that, he was making great headway, and moved at a rare pace. A friend, happening to see him, yelled out in a good-humored way:

"Now, Mr. Green, where are you going? Are you training for a race?"
"No," shouted Mr. Green in return, "I'm racing for a train."

A Whistling Language.

It seems that there is really a whistling language. It is in the Canary Islands that people whistle instead of speaking when they hold converse with each other. The language is composed of words, as it were, like any other language, and the inhabitants attain great proficiency in it, so that they can converse on all sorts of subjects.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c.; 3rd, 50c. This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1—BEHEADMENTS.

Whole I am dashes, behead me and I mean the same, behead again and I become strokes of satire, behead again and I become remains, behead again, I become a pronoun and verb (abbr.); behead again and I become a pronoun and verb (abbr.), behead again and I will leave you at your ease. IKE ICICLE.

2—NUMERICAL.

1, 14, 2, 1, 2 is an animal.
8, 6, 17, 3 a hollow vessel.
15, 9, 7, 18 to enclose with brick.
5, 11, 16, 10 to want.
13, 4, 12, 10 standing water.

The whole names a gallant hero.

NOTA BENE.

3—TWO HALF-SQUARES.

My first is to many coin,
My second is to weary get,
My third is cunning skill,
Fourth is myself, you bet,
And my fifth is found in "pet."

My first is a water bird,
My second opposes "never,"
My third it is a color,
My fourth a conjunction ever,
My fifth a vowel never.

IKE ICICLE.

4—TRANSPOSITION.

Upon your finger I am found,
But if you'll just turn me around—
Presto! In such a little while
I've changed into a sudden smile.

F. L. S.

5—DIAMOND.

(1) A thousand, (2) part of a fish, (3) the end, (4) fractions time, (5) saltpetre, (6) perceive, (7) a letter. F. L. S.

6—CHARADE.

My first is a dishonest deed,
And we may often of it read;
My second is a tiny word,
Which, as a prefix, we do use;
And total is a little bird
You may see each spring if you choose.

NOTA BENE.

Answers to July 16th Puzzles.

- 1—Do your duty, come what will.
- 2—Pan, pen, pin, pun.
- 3—Neither a borrower nor a lender be,
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
- 4—Give me a bell, a bell of brass,
Tell Andrew he be quick,
I dare to lift the brown man's burden,
You are full of evasion, you sly old fox,
Grasshoppers seem madly to delight in jumps,
The robber tied the over-miserly Jew and then robbed him of his gold.
The master does not wish to mar your pleasure,
He showereth 'em fire on the lazy, said 'Arry 'Awkins,
I struck the dog with the fire-shovel, Lena, Bella, Ella,
Ida, Eva, Emma, Bertie, Mary, Ethel, Ellen,
The quick fox jumps over the lazy brown dog.

5—
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- 6—Paardeberg.
- 7—O-we, T-weed, t-horn, a-ward, w-ant, a-miss—Ottawa.

SOLVERS TO JULY 16TH PUZZLES.

"Diana," "Sartor," Mrs. Annie Rodd, "Grace," Sila Jackson, "Ike Icicle," McGinty, Amy, Lizzie Conner, "Eneri."

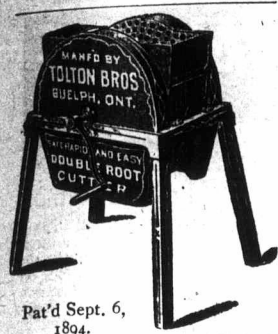
ADDITIONAL SOLVERS TO JULY 2ND PUZZLES.

Sila Jackson, "McGinty," "Ike Icicle," J. G. McLean, Ada E. Ryan, C. S. Edwards, "Amy," Lizzie Conner, "Eneri."

COUSINLY CHAT.

"Amy" and "Eneri."—Will our two new cousins kindly send their names? Both are very welcome additions to our corner.
Ada E. R.—You also are welcome, little namesake.
"Grace," "Diana," and others.—There was no mistake in puzzle referred to. It is not necessary to give every letter.
The special prize offered for solutions during May, June and July has been won by Miss Margaret Gordon ("Sartor"), Elora, Ont.
ADA ARMAND.

Tolton's No. 1 Double Root Cutter.



Pat'd Sept. 6, 1894.

- Points of Merit:**
1. To change from pulping to slicing is but the work of a moment.
 2. There are two separate wheels, one for pulping and the other for slicing.
 3. The united force of both wheels is always used in doing the work in either capacity.
 4. The hopper is between the wheels, and does not choke.

The only Double Root Cutter Manufactured.

Fitted with ROLLER BEARINGS, STEEL SHAFTING, and all that is latest and best in principle, material, and construction.

TOLTON BROS., GUELPH.

See our Exhibit at Toronto Industrial Fair.

Spavins, Ringbones, Splints, Curbs, and All Forms of Lameness Yield to



Works thousands of cures annually. Endorsed by the best breeders and horsemen everywhere. Price, \$1.50 per bottle. As a liniment for family use it has no equal.

West Loche, Ontario, Can., Dec. 14, 1898.

DR. B. J. KENDALL, CO.

Dear Sirs:—A year ago I had a valuable horse which got lame. I took him to the Veterinary Surgeon who pronounced it a splint and gave me little hope, although he applied a sharp blister. This made me only worse and the horse became so lame that it could not stand up. After trying everything in my power I went to a neighbor and told him about the case. He gave me one of your books and I studied it carefully and being resolved to do the utmost in favor of my beast, went to the nearest drug store and got a bottle of your Spavin Cure and applied it strictly according to directions. Before the first bottle was used I noticed an improvement, and when the seventh bottle was about half used, my horse was completely cured and without leaving a blemish on him. After ceasing treatment I gave the horse good care and did some light work with him, wishing to see if it had effected a cure. I then started to work the horse hard and to my entire satisfaction he never showed any more lameness through the whole summer. I can recommend Kendall's Spavin Cure not only as an excellent, but as a sure remedy, to any one that it may concern.

Yours truly,
SAMUEL TRITTEN.

Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address DR. B. J. KENDALL COMPANY, ENOSBURG FALLS, VT.

Important to Breeders and Horsemen. Eureka Veterinary CAUSTIC BALSAM.



A reliable and speedy remedy for Curbs, Splints, Spavins, Sweeney, etc., etc., in Horses, and Lump Jaw in Cattle. See pamphlet which accompanies every bottle, giving scientific treatment in the various diseases. It can be used in every case of veterinary practice where stimulating applications and blisters are prescribed. It has no superior. Every bottle sold is guaranteed to give satisfaction. Price 75c. per bottle. Sold by all druggists. Guaranteed remedy for sterility in cows, with full instructions. Price, \$2. Prepared by THE EUREKA VETERINARY MEDICINE COMPANY, London, Ont.

ST. CLAIR FARM FOR SALE.

North part 1, con. 15, township of Sombra, County of Lambton; 73 acres; best of land; newly fenced; good barn and passable house; all under cultivation; nearly square; lies wholly between railway and the St. Clair, stretching nearly half a mile along that famed river; 15 miles from Sarnia, 3 from Courtright; lies opposite midway point between St. Clair and Marine Cities, Michigan, both in plain view. Post and express offices, store and railway station at corner of farm. If no satisfactory offer to purchase is received, will rent to good tenant, term of five years, with proviso to terminate lease at end of any year if a sale is made. Open for offers till 1st Sept. Apply to A. DINGMAN, Stratford, Ont.

through the experiment stations for review. Hence, it must always be understood that the general report made by me at the close of each month invariably includes more or less records made during the previous month. During the month just closed, thirty-eight reports of tests of individual cows have reached me. The highest record is three-tenths of an ounce short of an equivalent of 23 pounds of butter of 80 per cent. fat. Summarized, the records are as follows: Seven full age cows, average 7 years 2 months 7 days old; 38 days after calving; Milk, 48.6 lbs.; butter-fat, 15.18 lbs.; equivalent to 18 lbs. 15.8 ozs. butter 80 per cent. fat, or 17 lbs. 11.5 ozs. 85.7 per cent. fat. Six cows (four-year-olds), average 4 years 5 months 13 days; 41 days after calving; Milk, 41.7 lbs.; butter-fat, 12.29 lbs.; equivalent to 15 lbs. 6 ozs. butter 80 per cent. fat, or 14 lbs. 8.8 ozs. 85.7 per cent. fat. Nine cows (three-year-olds), average 3 years 4 months 8 days; 39 days after calving; Milk, 36.0 lbs.; butter-fat, 11.37 lbs.; equivalent to 14 lbs. 3.5 ozs. butter 80 per cent. fat, or 13 lbs. 3 ozs. 85.7 per cent. fat. And sixteen cows (two-year-olds), average 2 years 2 months 1 day; 34 days after calving; Milk, 31.7 lbs.; butter-fat, 9.49 lbs.; equivalent to 11 lbs. 13.9 ozs. butter 80 per cent. fat, or 11 lbs. 1.2 ozs. 85.7 per cent. fat. Eight of the total number were also tested for net profit, the average for the full age cows being \$2.97; that of the three-year-olds, \$2.19, and that of the two-year-olds, \$1.63. The net profit of one 4-year-old thus tested was \$2.30. There is a marked increase of net profit tests, as well as of ordinary butter tests, over the same period of preceding years.

Superintendent of Advanced Registry. THE COLDSRING HERD OF TAMWORTH.

Much to be regretted, Mr. Norman M. Blain, the enterprising Tamworth breeder, near St. George, Ont., did not fit his herd for show this year, as through the death of his father last fall he found himself severely handicapped for a farm manager at a time when farming operations demanded the greatest attention. He therefore decided to allow the honors to fall where they might this year without a voice. Mr. Blain has worked constantly and faithfully with his favorite breed, and lending the requisite amount of intelligence to the business to place him in the foremost ranks, as his show-yard record goes to demonstrate. When we called late in June we found that he had allowed his best brood sows (10 in all) their liberty, and as such treatment tends to increase their prolific qualities, they had done nobly for their owner in the matter of offspring, and although a large yield came to a marketable age, the enormous demand for Tamworths snatched the major part from their home to remote portions of the Dominion, carrying their prolific inheritance with them. Among the matrons we might briefly mention a few, merely to show the family combinations which have served to win fame for the Coldspring herd: Della 720, by King George 516 and out of Nbs. 43 born 321, by Rattler 27, was bred on the farm. She is a true type of the breed, and has proven herself a sure and good matron, winning 1st for herself and family of four, by Advance, at Toronto last fall, and now having a litter by the same sire. Another sow, tracing back to the famous Middleton Minulus, is Minnie F 721, by King George and out of Trilby 580, by Amber Smith; and here again we have a producer of show-yard material, her son, General Buller, by Advance, being an excellent type and a promising sire, having a splendid top and depth of side seldom met in a yearling hog. His dam is again in pig to Advance. Beauty I Am 1190 has proven herself a sure and prolific matron, and is being bred to the young hog for fall farrowing. Another sow worthy of special mention is Oak Hill May 780, by Springbrook Hero, and out of Miriam, by Briery Banks Hugo. She has proven herself very prolific to Advance, and is now safely in pig to Buller. Among the sires which have and are being employed is the old hog, Advance 610, by Birmingham Duke (imp. in dam) 113, and out of Amber Duchess, now doing his third year's service in the herd, and to him lies the credit of siring most of the show stuff of 1899 so successfully campaigned. He is one of those useful, good animals upon which it is hard to place a proper value, uniformly being among the strong features of his progeny. His son, Buller, before mentioned, is also being bred to a few sows. More recently added is the young boar, Fine Points 1302, by Amber Luther, and out of Maud 236, which was purchased from Mr. Nichol, his breeder, and being employed on four of the sows. As his sire and dam have both been extensive winners, we cannot but predict a brilliant future for Fine Points. A few litters are also on hand by him. Several young boars and sows approaching maturity are ready for disposal. Watch Mr. Blain's offerings.

"POST" FOUNTAIN PEN

SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute to the greatest invention in fountain-pen construction of the age.

THE PRICE OF THE POST IS \$3.00. IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make



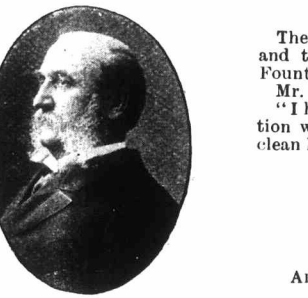
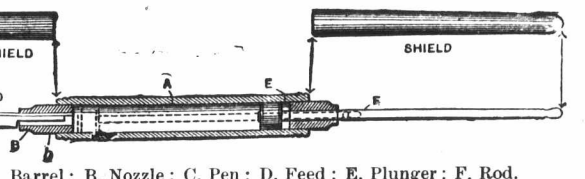
A Great Offer: We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.



General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. "I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

Lew Wallace.

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.



The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.

Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

Grant Sankey.

The William Weld Co., Ltd., London, Ont.

GOSSIP. A poultryman who understands modern poultry-keeping in all its details can secure a position at Thornhill Farm, Lancaster, Ont. See advertisement in this issue.

NOTICE. Willing to Help at the Fairs.—Exhibitors going the round of the shows with stock, and who need help, should communicate with Walter McDonald, St. Thomas, Ont., who offers his services elsewhere in this issue.

GOSSIP.

The interstate experiment station live-stock competition, in connection with the International Fat Stock Show to be held in Chicago in December, promises to be full of interest and instruction. The display to be made by the Minnesota station, under the direction of Prof. Shaw, appeared on Aug. 6th, when we called, to be full of promise. In cattle this station is handicapped, as practically no beef-breed animals are bred on the farm. Two yearling and three steer calves are, however, in course of preparation, and will, barring accidents, make a creditable exhibit. In sheep, a pair each of shearing and lamb wethers are going forward with good progress. They have been well chosen, and are the best of the breed. The exhibit will contain some rich instruction in the matter of crossing. For years Prof. Shaw has practiced and advocated crossing Tamworth and Yorkshire boars with Poland-China females. His hog exhibit at Chicago will exemplify the wisdom of these crosses in a very striking manner, as the several lots in course of preparation are making profitable gains in flesh of very desirable quality.

A NEW IMPORTATION OF HOLSTEINS.

Messrs. Henry Stevens & Sons, Brookside Farm, Lacona, N. Y., write: "Our sales of Holstein-Friesian cattle during the past six months have been very satisfactory. One of the finest lots we have sold was six head, which went to C. M. Keeler, of Lyons, Ont. They were the representatives of the best families we have not only in individual merit, but they were of the best breeding. Among this number was the cow, De Kol Manor Beets. She was officially tested in 1898 in her two-year-old form by a representative of Cornell University and made 12 lbs. 1.9 ozs. butter and 30 lbs. milk in 7 days. As this was a food test, she was not fed to her capacity, but produced butter at a cost of 8.68-100 cts. per pound. She has been very successful in the showing, and in breeding is among the best we know. Her sire is our great service bull, Manor De Kol; his dam, Netherland Hengerveld, holds the world's official butter test of 26.66 lbs. in 7 days, and his sire's dam, De Kol 2nd, has the next largest official butter record ever made. De Kol Manor Beets is a cow of the true dairy type, carries an enormous udder, very square, and strongly hung, with teats set wide apart. She is not only a great producer, but is a show cow as well. Although not fully developed, it will, in our judgment, take a great cow to beat her this fall. Mr. Keeler also selected the five-year-old cow, Pietertje Wietske. He writes she averaged over 70 lbs. per day for the month of June. She is a beautifully formed animal, and also has a very capacious udder, perfect in shape; her milk is of high quality, and she is a persistent milker. She was sired by Sir Inka Pietertje. His dam, Inka Princess, gave as a two-year-old 64 lbs. in one day, 16,032 lbs. in one year, and made 15 1/2 lbs. butter in 7 days, and is one of the largest producers we ever owned. Another of the number was a member of the Korndyke family, Lilly Korndyke Darkness. She gave with Mr. Keeler during the month of June nearly 2,000 lbs. milk, and is what we consider a good representative of one of the best families in the Brookside herd. He also took a great two-year-old heifer, Clothilde De Kol Netherland, sired by De Kol 2nd's Netherland, a son of our great cow, De Kol 2nd. This heifer had not freshened when she left here, but had every appearance of making a great dairy cow. She is large, beautifully formed, with a very yellow skin. Mr. Keeler writes us that all the animals have done splendidly; that he has just secured the great show bull, Judge Akkrum De Kol, a bull which we bred and sold to Mr. Drummond, of Kilmaurs, Ont. This bull was shown at Ottawa last fall in very poor fit. He is a bull of much substance and fine quality. Mr. Keeler writes he is going to show at Toronto and many of the leading fairs in Canada this fall; that his cattle are in fine condition, and as we know him to be an energetic, thoroughgoing man, we predict for him a very successful campaign, and we think all lovers of the black-and-whites will be interested in looking over Mr. Keeler's herd at the leading fairs in Ontario this fall."

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS FOR JULY, 1900.

The rules of the Holstein-Friesian Association allow thirty days for reports of tests to go

FOUNDED 1866.

can the same, behead n and verb (abbr.); verb (abbr.), behead IKE ICICLE.

NOTE BENE.

BOY AND GIRL NEEDS.

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The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

A Great Offer: We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.

General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. "I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

Lew Wallace.

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.

The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.

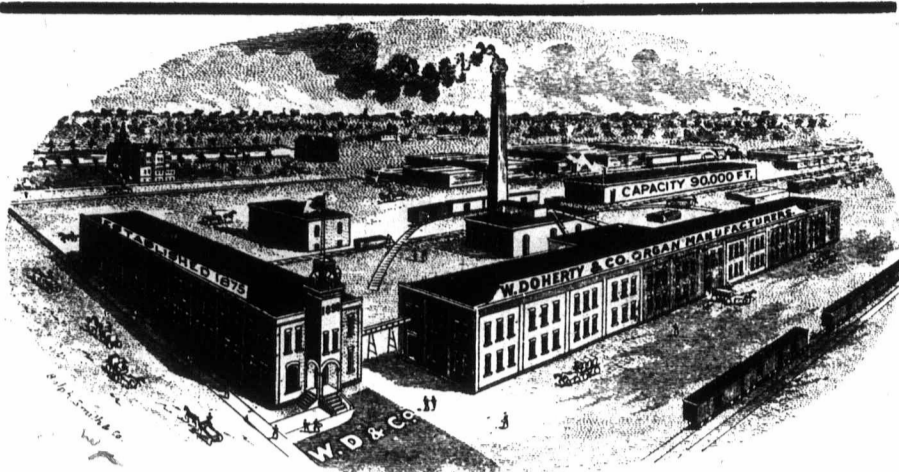
Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

Grant Sankey.

The William Weld Co., Ltd., London, Ont.

GOSSIP. A poultryman who understands modern poultry-keeping in all its details can secure a position at Thornhill Farm, Lancaster, Ont. See advertisement in this issue.

NOTICE. Willing to Help at the Fairs.—Exhibitors going the round of the shows with stock, and who need help, should communicate with Walter McDonald, St. Thomas, Ont., who offers his services elsewhere in this issue.



W. Doherty & Co. ORGAN

Clinton, Ontario, Canada.

The Largest Reed Organ
Factories in Canada.

Established 1875.

Send for Catalogue.



MANUFACTURERS.

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

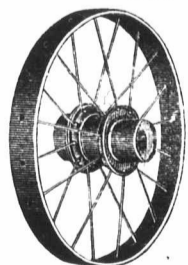
MALCOLM M'DOUGAL & SONS' SHROPSHIRE.

When in Bruce County, recently, we were directed to the hospitable home of Mr. Malcolm McDougal & Sons, near Tiverton, Ont., whose specialty in the line of stock-raising is centered in Shropshire sheep. Mr. McDougal laid a solid foundation a few years ago in the purchase of a typical selection of strong ewes descended from importations made by Messrs. Cooper and Jas. McFarlane, upon which have been employed well-developed, typical sires from the flocks of Messrs. Dryden and Campbell, which were descendants of importations made by those gentlemen. When we called we saw a very choice bunch of lambs of either sex, also a few shearing rams of uniform good quality. The firm are also ready to dispose of an aged ram and two two-year-olds that have quality sufficient to recommend them at the head of any pure-bred flock.

PETER ARKELL & SON'S OXFORDS AT TEESWATER, ONT.

The name of Arkell has been closely associated with Oxford Down sheep for many years, both in this country and in England, and their high-lying grass lands at Teeswater, in Bruce County, Ont., are peculiarly adapted to sheep production. When a representative of the FARMER'S ADVOCATE called, in May, he found Mr. Wm. Arkell busily engaged in shearing the massive fleeces peculiar to that breed, and as he had over 100 breeding ewes, and as many shearlings of either sex, the wool crop is a matter of consideration. The lamb crop was an exceptionally large one, and as some were dropped early in 1900, we were not disappointed at their development. The firm are in the market again this year with a choice lot of shearing ewes and rams (50 of each), as well as some splendid lambs. They are always ready to dispose of a few select breeding ewes, and make a specialty of preparing show flocks, which they are frequently called upon to furnish. Watch their offerings.

Low, Wide-Tire Wheels FOR WAGONS.



Made to fit your axles. Every farmer should have a set of these low, wide-tire, wrought-iron wheels for drawing hay, grain, corn, manure, stone, etc. They are lighter, stronger, and much cheaper than wooden wheels. Write for prices.

Dominion Wrought Iron Wheel Co.,
TORONTO.

PLEASE MENTION FARMER'S ADVOCATE.

CONTAGIOUS ABORTION

HAS BEEN CURED BY

WEST'S FLUID

In several of the finest herds of prize stock in the country; but as it would injure the reputation of the breeders, they will not give written testimonials. These statements are facts.

Write for circular on this disease, specially prepared by a V.S.
Headquarters for "STANDARD" Sheep Dip.
Manufacturers: **The West Chemical Company,**
Agents Wanted, in TORONTO, ONT.

FARMER'S SON—Good horseman and stockman, wants employment at fall fairs.
WALTER McDONALD,
St. Thomas, Ont.

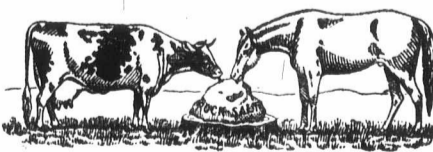
Clydesdales--Hackneys.



QUEEN.

A Few Choice Yearlings of Either Breed can be spared.

D. & O. SORBY,
GUELPH, ONT.



ROCK SALT for horses and cattle. Per 100 lbs. 70¢, or 500 lbs. \$3.00, Toronto. Cash with the order. Also in car lots.
Toronto Salt Works, Toronto.

GOSSIP.

At the show and sale of Shropshire sheep at Bingley Hall, Birmingham, July 26th, the prizes were awarded as follows:
Shearing rams: 1, M. Williams; 2, D. Gibson; 3, E. Nock; 4, R. P. Cooper. Five shearing rams: 1, R. P. Cooper; 2, M. Williams; 3, A. Bradburne; 4, M. Harter; 5, D. Gibson. Ribby shearing ewes: 1, M. Williams; 2, A. Bradburne; 3, S. Berry. At the sale, prices for rams ranged as follows: Mr. Bradburne's up to 12 gs., Mr. Nock's to 12 gs., Mr. W. Williams' to 33 gs., Mr. H. Williams' to 10 gs., Mr. Cooper's to 13 gs.

Mr. Henry Dudding's annual sale of Short-horn cattle and Lincoln sheep, held at Ribby Grove, Lincolnshire, July 24th, was a pronounced success, the average for the 55 cattle figuring out at £63 10s., and the 50 rams at £77 18s. The highest-priced animals in both cattle and sheep were bought for the Argentine Republic. The highest-priced Shorthorn was the cow, Lady 21st, which brought 360 guineas, and the second, Lady 24th (white), which made 205 guineas. The highest-priced bull was Prompter, a roan, which sold for 200 guineas to Hamilton Langley. The best yearling ram, a son of Sharpe Ribby, brought 1,000 guineas. Two sons of Dowsby Jubilee brought 200 guineas each, and two others by Langton Erran and Ribby Archbishop also made 200 guineas each. Ten others brought from 100 to 160 guineas each.

WM. STEWART & SON'S AYRSHIRES.

While in the vicinity of Menie, in Northumberland Co., in July, a representative of the FARMER'S ADVOCATE made a flying visit among the herds in that vicinity. At Messrs. Wm. Stewart & Son's we were shown over the farm, and were much taken with the appearance of prospects generally. The past was an unusually favorable season in that section for hay and pasture, with the result that the firm were probably never in better shape to appear in the show-yards. Their grand cow, Jean Armour, is in the finest of form and will take a lot of beating this time, barring accident. She has not only proven herself a strong individual, but has to her credit a long list of descendants that do credit to their owners, heading that grand combination of constitution and quality so much sought in the breed. Look out for the firm's exhibit at Toronto and elsewhere. The firm have added extensive improvements to their winter accommodation, making theirs among the best in the country, combining comfort, convenience and sanitation. The poultry are not being overlooked through it all, and we judge from appearances that the firm will guard well their enviable reputation gained.

JOHN I. BALSDEN'S COTSWOLDS.

In the township of Pickering, a short drive from Balsam, Ont., where Mr. Balsden receives his mail, may be found at his home a select flock of Cotswold sheep, where intelligence has been thrown into the production and development by the use of many good imported sires. Among Mr. Balsden's offerings are eight very choice shearing ewes that would make a good foundation or strengthen an already established flock. This season's crop of lambs are from the services of a direct descendant of imported sire and dam, a typical Cotswold sire. He is a massive, well-made fellow, with exceptional covering. Last season Mr. Balsden added a pair of superior imported ewes to his flock, and from them received a good lamb yield. A few Shorthorns are also kept on the farm, and here again Mr. Balsden is very favorably located, having easy access to some of the best sires in the breed. A choice 6-months bull calf and heifer of the same age are progressing favorably. The former will be held for sale within a few months.

ALEX. HUME'S AYRSHIRES AND YORKSHIRES.

Among our calling places in Northumberland Co., Ont., in July, we had the pleasure of being entertained at Mr. Alex. Hume's comfortable home near Menie, and there we found that marked evidence of perseverance so characteristic of Mr. Hume and his clan. Their long string of splendid Ayrshire cows are doing nobly at the pail again this summer, aided by the luxuriant pasture of a favorable season, and although the firm have had an enormous demand for stock and consider themselves sold very close, it would be hard to find a more complete herd on a farm of an equal acreage. The young imported bull has improved well since we last saw him, and although not loaded with flesh, he promises well for the coming exhibition. He has abundance of style and good dairy conformation, and should cross well on the White Chief females.
In Yorkshires, Mr. Hume always has a few select things to show a visitor. Perhaps he has them for that purpose. At any rate, he usually has them, and we know they are only the result of judicious matings and management. A few splendid youngsters were there awaiting buyers. Mr. Hume reports the trade in good Yorkshires increasing. See Mr. Hume at Toronto and leading shows.

NOTICE.

Thom's Pneumatic and Propeller Elevator.—Since the first intimation was made that the "blower" elevator for straw and ensilage cutters was coming to take the place of slatted carriers, great interest has been manifested in the subject, since it was evident that if it would work well, a great deal of trouble would be saved from the greater simplicity of the elevator part of the machine. A few seasons' experience in filling silos has proved that the pneumatic blower made by Thom's Implement Works, Watford, Ont., does its work with marked satisfaction, so that this system of elevation is no longer an experiment, and get their catalogue before investing in feed-cutting machinery.

Rosedale Stock Farm.

CLYDE AND SHIRE HORSES.
SCOTCH SHORTHORNS.
LEICESTER SHEEP.

A choice lot of Leicester ewes and rams with superior quality and as good blood as is obtainable. My motto: "The best is none too good."

J. M. GARDHOUSE, Highfield P. O.
Milton Sta., G.T.R. on Weston Sta., C.P.R.

HORSEMEN! THE ONLY GENUINE IS

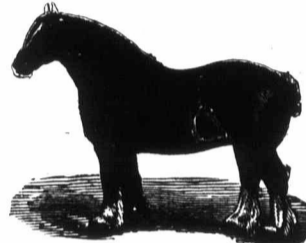
GOMBAULT'S CAUSTIC BALSAM.

Get genuine without the signature of
The Lawrence Williams Co.
Sole Importers & Proprietors for the
U.S. & CANADA. CLEVELAND, O.
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY or IRONING. Impossible to produce scurf or bluish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

THORNCLIFFE Stock Farm

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages,

"LYON MACGREGOR."



Stallions and Colts

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats.

Terms reasonable.
A visit to Thorncliffe will well repay you.
ROBT. DAVIES,
on Thorncliffe Stock Farm, TORONTO.

Good Young Bulls

Of best Scotch breeding, and a desirable lot of HEIFERS of the low-down, blocky type. Royal Prince = 31241 = (bred by J. & W. B. Watt), a worthy son of Imp. Royal Sailor = 18959 =, heads the herd.
H. K. FAIRBAIRN,
Thefted P. O. and Station, Ont.

W. R. BOWMAN,

BREEDER OF
Polled Angus Cattle, Yorkshire Swine, Suffolk Down Sheep, Shropshire Down Sheep.
Mount Forest, Ont.

H. SMITH, - Hay, Ont. Shorthorn Cattle.

Two good roan bulls and a fine bunch of heifers FOR SALE.
Exeter Station on G. T. R., half a mile from farm.

8 Scotch-topped SHORTHORN BULLS 8

And a few females, sired by Revenue and Bonnie Lad, a son of (Imp.) Blue Ribbon.
ROBT. DUFF,
G. T. R. and C. P. R. -o Myrtle, Ont.

JAS. DORRANCE,

SEAFORTH, ONTARIO,
BREEDER OF
Shorthorn Cattle and Berkshire Pigs
Young stock always for sale.

ASHTON FRONT VIEW STOCK FARM.

Four Shorthorn Bulls for sale, from 8 to 15 months old; all of choice breeding. Also Cotswolds of all ages for sale at all times. Visitors welcome.
A. J. WATSON, Castlederg, Ont. C. P. R. Station and Telegraph Office, Bolton; or G. T. R., Palgrave.

FOR 50 Shorthorns of all ages and both sexes. Founded on good Scotch-bred cows, upon **DAVID MILNE,** which have been employed **ETHEL, ONT.** Scotch bulls for 20 years.

Hillhurst Farm.

Scotch Shorthorns.

Sires in Service: Scottish Hero and Joy of Morning. Bred by W. Duthie, Collynie.

M. H. COCHRANE. Hillhurst Station, Compton Co., P. Q.

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872. Such sires as imported Royal George and imported Warfare have put us where we are.

A. & D. BROWN. ELGIN COUNTY. IONA, ONTARIO.

Bonnie Burn Stock Farm

Forty rods north of Stouffville station, Ont., offers for sale Shorthorn calves and yearling heifers, Shropshire lambs and shearlings.

SHORTHORNS

Cows and heifers, some of them the same family as the first and second prize cows at Provincial Dairy Show, London.

F. MARTINDALE, York P.O., Ont.

Shorthorns and Leicesters.

Herd Established 1855. A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859.

JAMES DOUGLAS. CALEDONIA, ONT.

FOR SALE:

Six choice young Shorthorn bulls—bargains for quick sale. A few heifers could be spared.

E. JEFFS & SONS, Bondhead, Ont.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. The Baron at head of herd. Seven young bulls for sale—good ones. Also a few females.

J. T. GIBSON. DENFIELD, ONT.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898.

T. E. ROBSON, Iderton, Ont.

Shorthorn Bulls

FROM 8 to 17 months old. Red; in good condition. Also thick young cows, bred to Imp. Prince William.

R. MITCHELL & SON. Burlington Jct. Station, Nelson, Ont.

SPRINGBANK FARM.

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.

JAS. TOLTON, WALKERTON, ONT.

Maple Lodge Stock Farm

ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best.

ALEX. W. SMITH. MAPLE LODGE P. O., ONT.

5-- Shorthorn Bulls --5

From 9 to 15 months. Also a few choice yearling and 2-yr.-old heifers, among which are grand, thick-fleshed and choicely bred animals.

G. A. BRODIE, BETHESDA, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

Messrs. Alfred Mansell & Co., live stock exporters, Shrewsbury, Eng., recently shipped from Avonmouth, per SS. "Memnon," of the Elder, Dempster Line, on behalf of Major McGillivray, the pen of three Dorset Horn ewes, bred by Mr. L. C. Attrill, which secured premier honors at the Royal Show at York.

On Tuesday, July 31st, Alfred Mansell & Co., of Shrewsbury, Eng., conducted sale of Harrington Hall Shropshires on behalf of Mr. A. F. Mansell. A large and numerous company assembled, including all the leading breeders and the representatives of numerous foreign buyers.

The estate of the late James Cooper, Kippen, Ont., is again in the front with a choice lot of Shropshires, which were founded upon right lines of breeding. We always found the late Mr. Cooper extremely enthusiastic over his flock of Shropshires, and since his death the sons are consistently continuing along the same lines, stirred to greater enthusiasm by shouldering the entire responsibility.

Messrs. C. & E. WOOD'S LEICESTERS. While in the vicinity of Burlington, a member of the FARMER'S ADVOCATE staff called upon the firm of Messrs. C. & E. Wood, whose home is near Freeman, Ont., which is their post office.

NOTICE.

The London Fence Machine.

The question of economy in fencing is one of interest and importance to the farmer. Fencing is a necessity under the present prevailing system of farming, and is likely to be for a long time to come.

To Whom it may Concern: I hereby certify that I have seen Mr. A. E. Blashill, the inventor of the London Fence Machine, weave an upright stay on a ten-bar fence in nine seconds.

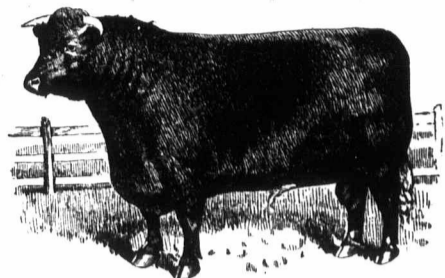
It is claimed that a new beginner can with this machine weave 40 rods per day, while a man who has had practice can weave twice that amount.

PLEASE MENTION FARMER'S ADVOCATE.

W. D. FLATT,

Hamilton, Ontario, Can., Importer and breeder of

Shorthorn Cattle.



GOLDEN FARM (IMP.)—26056—(72610).

My herd is one of the largest in America, both imported and Canadian-bred. A very choice selection of both sexes always on hand for sale.

JAMES SMITH, Mgr., Millgrove, Ont.

R. R. Station and Telegraph, Hamilton, on main line Grand Trunk RR.

Shorthorns and Shropshires FOR SALE.

Am offering a few young bulls and heifers from imported Rosebud and Countess females, upon which have been employed imported sires from Duthie, Campbell, and Cruickshank herds.

WM. D. DYER, COLUMBUS, ONT.

Shorthorn

Cows and heifers (also a November bull calf), including the imported cow, Northern Empress, and her 3 mths. daughter.

A. P. ALTON & SON, Appleby, Ont.

Shorthorns for Sale.

12 FEMALES, from 1 to 7 years old, descended from Red Knight (53512), Hopeful (55903), Crown Prince 10637, Canada 19536, and Riverside Stamp 23589, on a Crimson Flower and Stamford foundation.

WM. SHIER, SUNDERLAND, ONT.

Pure Scotch Shorthorns for Sale.

thirteen and fifteen months old, and three two-year-old and two one-year-old heifers. All right. Good ones. Meadowdale station, C. P. R. S. J. PEARSON & SON, Meadowdale.

R. & S. NICHOLSON

SYLVAN P. O., PARKHILL STATION.

Scotch Shorthorns, imp. and home-bred.

The Imp. Clipper bull, Chief of Stars, heads the herd. Nine bull calves for sale, 8 to 10 mos. old (extra good ones), sired by Royal Standard. Inspection invited.

Scotch Shorthorns.

100 head to select from.

Imp. Diamond Jubilee = 28861, at the head of the herd. Eight grand yearling bulls, and cows and heifers of all ages of the most approved breeding.

T. DOUGLAS & SONS, Strathroy Station and P. O. Farm 1 mile north of the town.

GUERNSEYS.

This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices.

Address—SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.

Herefords for Sale.

Three or four one-year-old bulls. Cows and heifers.

The Plains Farm, Arkell; Moreton Lodge, next the O.A.C. College; containing 200 to 250 acres each.

The F. W. Stone Stock Co., Guelph, Ont., Can.

75 HEAD

High-quality, Early-maturing

Herefords

Prizewinners, Producers of Money-makers in the feed lot.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation.

H. D. SMITH, COMPTON, QUE.

HAWTHORN HERD

OF DEEP-MILKING SHORTHORNS.

We are offering 5 young bulls for sale, of first-class quality, and AI breeding.

Wm. Grainger & Son, - Londesboro, Ont.

TO THOSE WANTING

A SURE PRIZEWINNING BULL

to head their Jersey herd, I offer

Prince of Belvedere 11655

5 years old, solid bronze fawn. Dam, 17 1/2 lbs. butter a week; sire's dam, 20 lbs. 6 oz. a week.

Also, Golden Fawn Cow, 5 years, superb udder, grand butter record.

Also a Young Stock, both sexes and rare quality.

MRS. E. M. JONES, Box 324, - Brockville, Ont.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right.

FOR SALE:

Jersey bulls from tested and prizewinning dams, and sired by our champion bull. They are fit to head any show and dairy herd.

B. H. BULL & SON, Brampton, Ont.

G. T. R. & C. P. R. Stations. 20 miles from Toronto.

ST. LAMBERT OF ARCFOST 36943

whose sire was 100 Per Cent.; dam St. Lambert's Diana 69451. Official test, 18 lbs. 6 oz. in seven days.

A few choice young bulls and heifers rich in his blood, from deep and rich milking dams, for sale at moderate prices.

Tuberculin tested. H. E. WILLIAMS, Sunnylea Farm, Knowlton, P. Q.

DON JERSEY HERD.

Offering choice young Bulls and Heifers by Costa Rica's Son.

DAVID DUNCAN,

DON, ONTARIO.

Nine miles from Toronto Market.

YORKSHIRES AND HOLSTEINS:

Boars and sows, not akin, from 2 to 6 months, from prizewinners at Toronto and local shows. A 3-year-old bull, of the Tirania family; and young stock at reasonable prices.

E. HONEY, Warkworth, Ont.

BROOKBANK

Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred.

GEO. RICE, Currie's Crossing, Ont.

Maple Hill Holstein-Friesians

SPECIAL OFFERING.

Bull calf 8 months old, sired by DeKol 2nd's Paul DeKol Duke. Bull calf one week old, sired by Daisy Teake's King. Also several fine females, all ages.

G. W. CLEMENS, HARRISBURG STN., - ONT. ST. GEORGE P. O., ONT.

Maple Glen Stock Farm.

The home of officially tested, Advanced Registry, dairy test and showing-winning HOLSTEINS, of Carman Sylvia now for sale. Price is in keeping with breeding and performances.

C. J. GILROY & SON, Brockville, on C.P.R. or G.T.R. Glen Buell, Ont.

WE WANT TO SELL A FEW

Holstein Heifers, coming 2 years old

THEY are of the richest and largest producing strains, fine individuals, and bred to as good bulls as there are living.

WE have a few bull calves and yearling bulls also for sale.

HENRY STEVENS & SONS, LACONA, OSWEGO CO., N. Y.

SHOW AYRSHIRES FOR SALE.

As we are not going to show any cattle at the fairs this year, we will sell the imported prizewinning bull, Napoleon of Auchenbrain, champion and head of first prize herd at Toronto, 1898.

Also first-class 2-year-old bull and three choice bull calves of last fall. These are all fit for the showing, as we kept them for that purpose.

For prices and particulars come and see, or write. James Boden, Mgr., St. Anne de Bellevue, Quebec.

Farm close to St. Anne Station, G.T.R. & C.P.R., 20 miles west of Montreal.

Maple Cliff Dairy and Stock Farm.

Breeders of AYRSHIRES, 1 yearling and 6 bull calves from 2 to 8 months old.

TAMWORTHS, Boars and sows, 6 to 8 months old, and sucking pigs.

Improved BERKSHIRES. Booking orders for young pigs.

R. REID & CO., Hintonburg, Farm 1 mile from Ottawa. Electric cars to farm.

ONLY GENUINE IS

MULT'S

BALSAM.

CLEVELAND, O.

Never used. Takes mild or severe action.

ALL CAUTERY or produce scar or blemish.

Druggists, or sent by full directions for its use.

MS CO., Toronto, Ont.

CLIFFE Farm

of Clydesdales in the Champion Stal-

GREGOR."

Scotland and Canada, from imported stock, sired by the prize-winner. Best milking

all repay you.

AVIES, Farm, TORONTO.

g Bulls

and a desirable lot of

Royal Prince = 31241 = worthy son of Imp. Fairn, and Station, Ont.

WMAN, BREEDER OF

Polled Angus Cattle, Yorkshire Swine, Suffolk Down Sheep, Shropshire Down Sheep.

Mount Forest, Ont.

Hay, Ont. Cattle.

line bunch of heifers

R., half a mile

8

by Revenue and Blue Ribbon.

Myrtle, Ont.

FRANCE, ONTARIO.

Berkshire Pigs

for sale.

STOCK FARM.

for sale, from 8 to 15

Also Cotswolds. Visitors welcome.

rg. Ont. C. P. R., Bolton; or G. T. R.,

of all ages and both sexes. Founded on

DAVID MILNE, ETHEL, ONT.

H. CARGILL & SON,

CARGILL, ONTARIO, CANADA.

WE have the largest herd of Cruickshank and Scotch-bred imported cattle in Canada. Herd headed by the Duthie-bred Golden Drop bull, imp. "Golden Drop Victor," assisted by the Marr-bred Princess Royal bull, imp. "Prince Bosquet." The herd will be augmented about 4th August by a fresh importation of fifty-two head, personally selected by Sylvester Campbell, of Kinellar, an expert judge both as to individuality and pedigree. The cattle in this lot will compare very favorably with any lot yet imported. All females of suitable age are bred to the very best bulls obtainable. Correspondence or personal inspection invited. Catalogue and service list upon application.

Cargill Station is on the Farm, Half a Mile from Barns, and 70 Miles North-west of Guelph. See Catalogue for Map.

Isaac Usher & Son, QUEENSTON, ONT.,

Manufacturers of QUEENSTON CEMENT. Proprietors of

Queenston Heights Stock Farm. Shorthorn Cattle.

Herd headed by Lord Gloster (26895), by Abbotsford. We have for sale seven young bulls, 4 to 20 months; also young cows and heifers. Stock offered for sale sired by or bred to such noted bulls as imp. Guardsman, Royal Standard, Abbotsford, Lord Gloster, Indian Count.

P. O., TELEGRAPH AND TELEPHONE, QUEENSTON, ONT.
FARM 3 MILES NORTH OF NIAGARA FALLS.

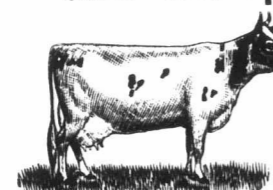
W. G. Pettit & Son, FREEMAN, ONT.

IMPORTERS AND BREEDERS OF Scotch Shorthorns and Shropshire Sheep

OFFER FOR SALE: 1 imported bull, extra good; 3 imported cows, with calves at their side and in calf again; 6 home-bred bulls, from 5 to 15 months; 40 home-bred cows and heifers. All of breeding age have been bred to imported bulls. Our Shropshires have wintered well, and our lambs this season are a strong, thrifty bunch. 5 rams carried over from last season are in good shape. Correspondence or a personal visit solicited. Catalogues on application.

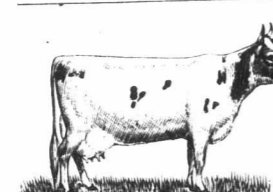
Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm.

Ayrshires, Guernseys, Yorkshires and Shropshires are our leaders.



ALL high-class, pedigreed stock. Those desirous of purchasing thoroughbred animals should write for particulars at once. Orders booked now in rotation for present and future deliveries. Address—

ISALEIGH GRANGE FARM, Danville, Quebec.
J. N. GREENSHIELDS, PROP. T. D. MCCALLUM, MGR.



W. C. Edwards AND COMPANY, IMPORTERS AND BREEDERS

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

Ayrshires, Jerseys, Shropshires, Berkshires
Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Fowl's Son 2nd of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.
A. E. SCHRYVER, Manager.

We can be reached either by steamboat, the C. P. R., or C. A. R.; the C. A. R. making connection with the G. T. R. at Coteau Junction. Rockland is our station on all lines. 7-1-y-om

WILLIAM WILLIS, Newmarket, Ontario.
Breeder of St. Lambert Jersey cattle, with Count of Fine Ridge, a grandson of the great Adelaide of St. Lambert, at head of herd. Also registered Cotswold sheep.

AYRSHIRE CATTLE.

KAINS BROS., Byron, Ont. (R. R. London), are offering a number of grand young bulls, prize winners; also a few choice females. Prices right.

GOSSIP.

Allow a clever woman full control of a business, of whatever kind or magnitude, and she will in most cases make it a greater success than most men. A striking instance of this is exemplified in the breeding of high-class Jerseys by Mrs. E. M. Jones, Brockville, Ont. Her stock are winners and producers, so that the animals she offers in this issue are desirable members of this worthy butter breed of cattle.

Mr. John Campbell, Woodville, Ont., writes: "The expected importation of Shropshire sheep arrived at Fairview Farm on the 25th of June, all in good condition. It would be difficult for the most critical to find fault, as the selections throughout are most creditable to Mr. Donald J. Campbell, who has so successfully landed one of the very best lots that ever crossed the sea; not that they are in high show fit, as that was guarded against. The provoking disappointments of many importers last year were not forgotten in making the selections. Overfitted show sheep are expensive but poor property to any except millionaires. Good as the home-fitted Shropshires from Fairview were last year, yet 1900 shows a marked improvement, as will be seen when they put in an appearance at the leading Canadian fairs a month hence. It is rather surprising what constant and steady progress is being made in perfecting the comely blackfaces. See Mr. Campbell's new ad., page 485.

CHAS. H. ROWE'S SHROPSHIRE AT ORILLIA, ONT.

Mr. Charles H. Rowe, whose advertisement appears in another column, is again to the front with his annual Shropshire offerings, and as his advertisement shows, he is prepared to dispose of a choice bunch of shearlings of either sex. Mr. Rowe reports a good lamb crop, and as his farm is well adapted to sheep grazing, purchasers may rely upon securing well-developed animals. The foundation was laid several years ago upon typical animals of the breed, and their substance and quality has improved upon Mr. Rowe's high lands in Simcoe Co. Watch Mr. Rowe's offerings.

FAIRVIEW SHROPSHIRE AT WINNIPEG EXHIBITION.

Mr. D. E. Corbett, Swan Lake, Manitoba, reports to J. Campbell, of Fairview Farm, as follows: "Ram came through all right; I like him very much. He had no trouble in winning first at Winnipeg Exhibition, where we had the best show of stock, sheep and pigs, ever seen at our fair. I got first on my sheep in every section of the Shropshire class. All were bred from the ram and ewes which came from your flock, except the rams got from you. My old ram, Fairview Stamp, won first, beating an imported 2-shear ram of which much was expected." The old ram referred to is a son of Newton Lord, and out of the ewe which won first premium at the World's Fair, Chicago, in 1893. Winning first when six years old, with fresh and young imported competitors in the ring, and his progeny also winning all the other firsts, except that won by the yearling sent out recently, is in line with what his great sire, Newton Lord, has done, and is still doing, as a producer of high-class stock.

ROSE COTTAGE STOCK FARM.

H. K. Fairbairn, Thedford, Ont., writes us as follows: "Frances Folsom = 14210 = is in grand form. She was sired by the silver-medal bull, Prince Albert = 3669 =. She is now carrying her thirteenth calf. Her dam was the 5th Maid of Sylvan = 7059 =. Jubilee's Julia (Vol. X.), winner of the milk in 1898 at Brantford, is doing remarkably well. Her two-year-old daughter, Janetta (Vol. XIV.), was winner of the blue ribbon at the late Provincial Dairy Show held in London. We have an extra good heifer calf from this young cow which bids fair to beat her mother. Her mate, Golden Gem (Vol. V.), show of stock, winner at the above-named show, was sired by Golden Rule = 22661 =; her dam, Miss Maxwell = 26784 =; her sire, Great Chief = 16698 =; grandam, Frances Folsom. Mary Maxwell, although in her 6th year form, is looking her best. She is twin sister to Miss Maxwell = 26784 =. We have a grand heifer calf out of her last year. Dainty Davie (Vol. XIII.) = 23221 = is the sire of it. The grand cow, Maid of the Mist, has dropped us 14 calves. She is 12 years old Nov. 24th, 1900. This fine cow was sired by (imp.) Warrior = 1133 = (53173) dam, the third prize winner. We also have the silver medal for the best herd of Shorthorn cattle in the county at the County Fair, held at Arkona in the year 1891, given by the Agriculture and Arts Association of Ontario. We will part with the offspring of a number of the above at reasonable prices."

W. R. BOWMAN'S POLLED ANGUS CATTLE, SHROPSHIRE AND SUFFOLK SHEEP, AND YORKSHIRE SWINE.

When we called upon Mr. W. R. Bowman, near Mount Forest, Ont., we concluded that this is soon to become the home of an important herd of Aberdeen-Angus cattle, and if business ability and untiring effort go for aught, our expectation will certainly be realized in the very near future. Mr. Bowman laid his foundation in the purchase of the thick, smooth four-year-old cow, Lilly of Penzance, now carrying her fourth calf, a thick-fleshed, smooth cow, full of quick beefing quality; also the three-year-old cow, by Hero of Wilton Grove, and with a solid good bull calf at foot. Three choice yearling heifers are also in the bunch. Mr. Bowman purchased the young bull, Prince of Elm Park, from his brother, Mr. James Bowman, at Guelph, out of his gold medal cow, Kyma 2nd, to head his herd, and in him we found a lengthy, deep, well-fleshed animal, having a straight, level back, and well-fleshed quarters, full of Angus character, and deep beefing substance. In Shropshire and Suffolk sheep, Mr. Bowman keeps pace with the times, and directed our attention to his crop of lambs, which are always forward, especially with the latter breed. The Suffolks are probably the best matrons of all the prolific Down breeds, and Mr. Bowman's are no exception. The foundation of this flock came from the noted flock of the Earl of Ellesmere, the most important in the breed. A few Shropshire shearling and ram lambs are held for sale. In Yorkshires, Mr. Bowman is strong in the Holywell strain among the matrons; and headed by the lengthy, deep hog, Scotchman, by Model Duke, and out of White Rose, a member of the Mistress tribe, so successful in Mr. Hume's hands. Among the suitable things we saw some choice pigs of May farrowing. Note Mr. Bowman's advertisement.

WM. WYLIE Importer and Breeder of High-class Ayrshires

The winnings of this herd last season (1899) were 37 prizes, 17 of them being firsts in Canada. The sweepstakes at Toronto, London and Ottawa belong to this herd—one imported bull, 13 imported females and a number of AI home-bred animals. A few choice cows, heifers and calves for sale at moderate prices.
Address— WM. WYLIE, Howick, P. Q.

Ayrshire Bull Calves of 1899

One bull 5 months and young calves 2 to 3 weeks, from some of our best imported cows. Will sell at reasonable prices. Address:

ROBT. HUNTER, Manager to W. W. Ogilvie. LACHINE RAPIDS, QUE.

Ayrshire Bulls: Write to J. YULL & SONS, Carleton Place,

for special prices on Ayrshire bulls from 11 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jock of Burnside—1684—, also females of all ages. Shropshire sheep of all ages; a number of the ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

EUROPEAN ADVERTISEMENTS.

FAMOUS ALL OVER THE WORLD.

ALFRED MANSELL & CO., LIVE STOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire,

breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 20 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearlings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingham, G. N. R.

The Danesfield Pedigree Stock

IMPORTERS desirous of securing selections of either Shire horses, Aberdeen-Angus cattle or Hampshire Down sheep should inspect the stud, herd and flock, property of Mr. R. W. Hudson, which are kept in the highest degree of purity that care and selection can produce, at Danesfield, Marlow, Bucks, England. Specimens of horses, cattle and sheep have been largely exhibited at the principal English shows during 1899 with very prominent success. For full information, etc., apply:

MR. COLIN CAMPBELL, ESTATE OFFICE,

DANESFIELD, MARLOW, BUCKS. who will be happy to make arrangements for inspection, or to quote prices.

W. W. Chapman,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepcote, London.

Huntlywood Southdowns & Dexter Kerry Cattle

Flock of 300 head imported and home-bred. Selected from the flocks of H. R. H. the Prince of Wales, the Duke of Richmond and Gordon, and the late Mr. Coleman. We are now offering for sale rams, ewes and lambs; also a Dexter Kerry bull calf, by imp. Bantam 257, champion R. A. S., Manchester. Apply to W. H. GIBSON, Manager.

Hon. G. A. Drummond, Beaconsfield, Point Claire P. Q., P. Q., Proprietor.

SMITH EVANS, GOUROCK, ONT.,

Breeder and importer of registered Oxford Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-o

BROAD LEA FARM.

Ram and Ewe Lambs / Oxford Down Sheep / Yearling Rams FOR SALE.

HENRY ARKELL, Teeswater, Ontario.

IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE

ter and Breeder
h-class Ayrshires
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also sold and sil-
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and Ottawa belong
13 imported females
ed animals. A few
for sale at moderate
E. Howick, P. Q.

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calves 2 to 3 weeks,
d cows. Will sell at

NTER,
CHINE RAPIDS,
QUE.

J. YULL & SONS,
leton Place,

alls from 11 years to 6
fit for service, from
y prize bull, Jock of
of all ages. Shrop-
per of fine ram lambs,
the best bacon type.

om

RTISEMENTS,

THE WORLD.

L & CO.,
ND EXPORTERS,
RY.

id shipped to all parts
to ALFRED MAN-
land, or to our Ameri-
ler, Stouffville, Ont.,

Laughton,
Folkingham,
Lincolnshire,

1 Sheep, Flock No. 46.
of the present owner's
has descended direct
single dispersion sale.
average for 20 rams,
Sale," 1895 and 1897.

or exportation. Ram
for sale, also Shire
Dorking fowls. Tele-
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Mr. R. W. Hudson,
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9 with very prominent
etc., apply:

CAMPBELL.

OW, BUCKS.

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onal Sheep Breed-

Kent or Romney
ers' Association,
of the Southdown

gent, Exporter and
egistered stock
ported on com-
n, and all enquiries

HOUSE, ARUNDEL
LONDON W. W.

on.

& Dexter Kerry Cattle

and home-bred. Select-
I, the Prince of Wales,
Gordon, and the late
offering for sale rams,
er Kerry bull calf, by
R. A. S., Manchester.

I. GIBSON, Manager,
ld, Point Claire P. Q., P. Q.,
Canada.

NS, GOUROCK,
ONT.

A FARM.

own Sheep (Yearling
Rams
LLE.

ARKELL,
Ontario.

ERTISE IN THE
DVOCATE



Sheep Dip AND ANIMAL WASH.

A NON-POISONOUS LIQUID "DIP."

**Kills Ticks. Kills Red Lice.
Heals Wounds.**

**Greatly Improves quality of
WOOL.**

**For Horses, Cattle, and Pigs.
Removes all insects. Thoroughly
cleanses the skin.**

Leading "STOCKMEN" endorse it as the
CHEAPEST and most EFFECTIVE "Dip"
on the market.

SOLD BY ALL
DRUGGISTS, 50 cents PER QT.
CAN.

Special rates in larger quantities.

MADE ONLY BY

THE
PICKHARDT RENFREW CO.,
LIMITED,
STOUFFVILLE, ONT.

Cotswolds for Sale.

8 VERY CHOICE SHEARLING EWES, and this
season's crop of lambs, of both sexes. All of
good size, with quality, and well covered.

JOHN I. BALSDEN, - Balsam, Ont.

Summerhill Oxfords

Flock Established Over 20 Years.
Offering SHEARLING EWES AND RAMS,
and an excellent lot of 1900 lambs of both sexes.

PETER ARKELL & SONS,
TEESWATER, ONT.

Leicesters

only. Rams and ram lambs, shearing ewes and ewe
lambs, having the best blood, with quality and size.

C. & E. WOOD, Freeman, Ont.

SHROPSHIRE.

Shearing rams and ewes; also the 1900 crop of
lambs, well covered and uniform.

C. H. ROWE, ORILLIA, ONT.

SHROPSHIRE RAMS AND RAM LAMBS

From Tanner, Minton and Bradburn foundation.
Uniform and first-class in quality, size and covering.

ESTATE JAS. COOPER,
Kippen, Ont.

Fairview Shropshires

GOOD, BETTER, AND BEST.
Rams to head flocks.
Ewes to give flocks more quality.
Imp. show rams. Imp. field ewes.
Home-bred rams and ewes.
Come to see good stock, or write to

John Campbell, "Fairview Farm," Woodville, Ont.

Shropshire rams, ram and ewe lambs for Sale

Descended from importations made from Tanner,
Minton, Barber, Farmer, Hoven Jones and Thomas,
upon which have been employed the best English-
bred sires. Also an imported shearing ram, well
covered.

GEO. B. PHIN, Hespeler, Ont.

Shropshires for Sale

Ram and ewe lambs descended from Cooper and
Mansell foundation, upon
which we have employed Mansell-bred sires. We
breed for quality and fleece. Shorthorns later.

Loxust Hill, C.P.R. PUGH BROS.,
Pickering, G.T.R. Whitevale, Ont.

Shropshire Rams and Ewes

Newly imported from the greatest English
breeders. Home-bred rams and ewes of best
quality. Scotch Shorthorns and Clydesdale
horses for sale at moderate prices, and in
large numbers, by

ROBERT MILLER,
STOUFFVILLE, ONT.

IN WRITING
PLEASE MENTION FARMER'S ADVOCATE

LITTLE'S PATENT FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH

THE ORIGINAL
Non-Poisonous Fluid Dip

Still the favorite dip, as proved by the
testimony of our Minister of Agri-
culture and other large breeders.

For sheep.
Kills ticks, maggots; cures scab; heals old sores,
wounds, etc., and greatly increases and improves
growth of wool.

Cattle, horses, pigs, etc.
Cleanses the skin from all insects, and makes the
coat beautifully soft and glossy.

Prevents the attack of Warble Fly.
Heals saddle galls, sore shoulders, ulcers,
etc. Keeps animals free from infection.

No danger, safe, cheap, and effective
Beware of imitations.

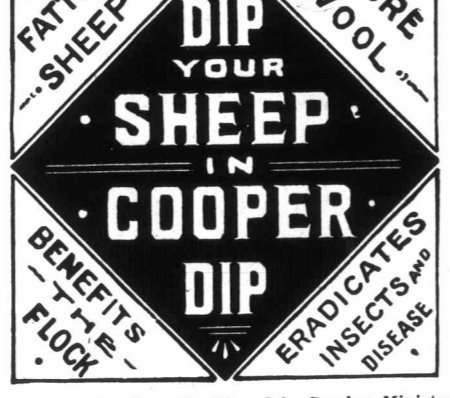
Sold in large tins at 75 cents. Sufficient in each
to make from 25 to 40 gallons of wash, according to
strength required. Special terms to breeders, ranch-
men, and others requiring large quantities.

SOLD BY ALL DRUGGISTS.
SEND FOR PAMPHLET.

Robert Wightman, Druggist, Owen
Sound.
Sole agent for the Dominion.

SHROPSHIRE SHEEP AND CHESTER WHITE SWINE.

WM. E. WRIGHT, GLANWORTH, ONT.



Used and endorsed by Hon. John Dryden, Minister
of Agriculture, Toronto, and leading breeders every-
where.

Superior to all liquid Dips.

25-gal. pkt., 50 cts.; 100-gal., \$2.00. If druggist
cannot supply, send \$1.75 for 100-gal. pkt. to

EVANS & SONS,
Montreal or Toronto.

Premiums on application to—
COOPER & NEPHEWS,
142 Illinois St., Chicago.

Write for pamphlet.

E. D. GEORGE, PUTNAM, ONT., Importer and Breeder of Ohio Improved Chester White Swine.

The largest and oldest estab-
lished registered herd in Canada.
I make this breed a speciality, and
furnish a good pig at a fair price.
Write for prices.

Snelgrove Berkshires.

When others fail to please
you with a good pig, come to
us. Our herd is bred
from the best strains of the
Large English Berkshires.
We now have a very prom-
ising lot of young pigs,
April farrow, sired by Colonel Brant 5950 (first prize
under 12 months, Toronto, 1900) and Dictator 5944.
Write for prices.

SNELL & LYONS,
SNELGROVE, ONT.

Large English Berkshires.

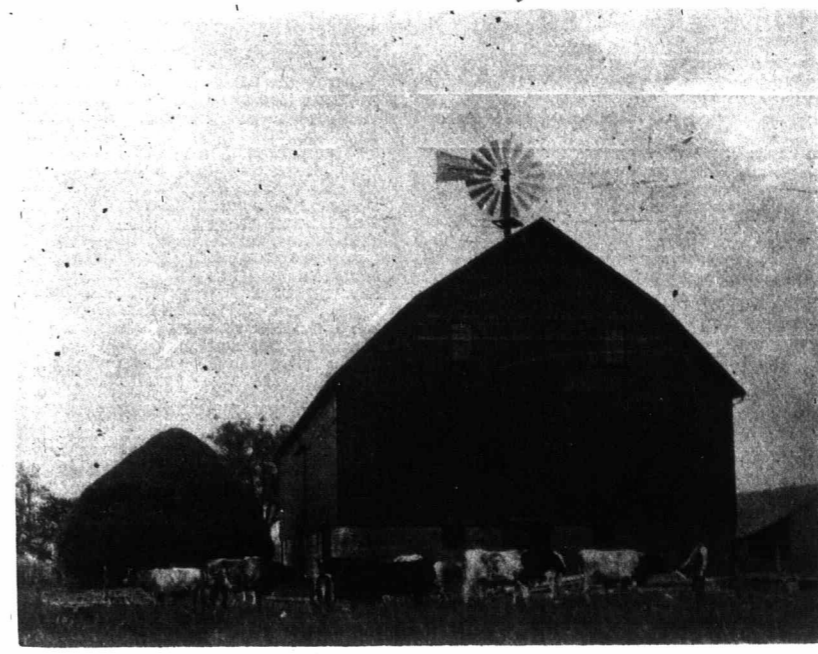
HERD headed by two
imported first-prize
boars. Young boars and
sows from imp. prizewin-
ning sires and dams.
Write for prices.

H. BENNETT & SON, St. Williams, Ont.

This is

Mr. Pardo's Barn

As it appears completed.



WHAT MR. T. L. PARDO SAYS:

ESTATE OF JOHN BATTLE, THOROLD, ONT.: CEDAR SPRINGS, KENT COUNTY, ONT., NOV. 21, 1896.

DEAR SIRS,—I write to say that we have now fully completed the stabling in my new barn, and I am well pleased with the work done throughout the whole building, which is 54 x 100 feet, with basement walls 9 feet high, and a silo 14 x 14 feet, same height as walls, built in a corner of the basement wall, there being a concrete floor throughout the whole building. We used in all 200 bbls. of your Thorold Cement in this work, with the result that our walls and floors are as hard as rock itself. The work was all done under the supervision of your travelling agent, Mr. Marcus A. Ware, a man who appears to be completely master of his trade, and who is always in a hurry, but never slights his work. I send you photo of building under separate cover.

Yours truly,
T. L. PARDO.

Estate of John Battle, Thorold, Ontario.

THE NATIONAL FARM Cream Separator

Manufactured by the Raymond Mfg. Co. of
Guelph, Limited, manufacturers of the
celebrated Raymond Sewing
Machines.



THE National is an up-to-date machine,
leading all others in separating cream
by centrifugal force. It is the farmers'
choice, because it runs easy, skims fast and
clean, and makes a perfect cream, contain-
ing any per cent. of butter-fat desired. It is
also easier to clean than any other. The
National is built of the very best material
suitable for the construction of a high-speed
machine, and with proper care should last a
lifetime. The bearings are interchangeable
and easily adjusted. Every machine is guar-
anteed to do good work, and a trial of the
"National" is solicited before purchasing
any other. The already large sale of the
"National," and the growing demand for it,
shows how much the Canadian farmers ap-
preciate a Canadian-made machine that does
its work so easily and well, and at the same
time returns such a large profit on the small
investment. Ask for the "National"; try
it and buy it.

THE CREAMERY
SUPPLY CO.,
GUELPH, ONT.,
General agents for Ontario.

MESSRS. CAMPBELL & GLENN,
381 TALBOT ST.,
LONDON, ONT.,
Agents for the Counties of Middlesex and
West.

"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 350 lbs. per hour.

The Raymond Mfg. Co'y of Guelph, Ltd.
GUELPH, ONT.

BISSELL'S

Is the Disk Harrow the farmers prefer, because it has a knack of getting into hard, stiff soil and working it up fine. A great success on stubble fields.

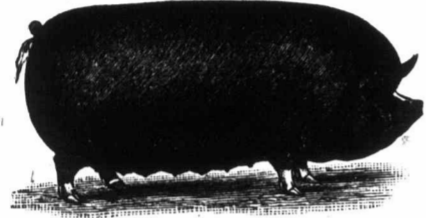
You may have one on trial.

Address—

T. E. BISSELL, Fergus, Ont.

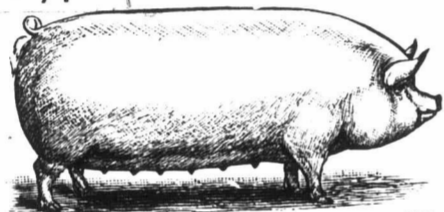
Spring Brook Stock Farm.

Two choice September pigs by imp. Whitaker Crystal, Royal winner. One choice sow in farrow. Young pigs, pairs and trios, not akin, from imported prize-winning boars. Stock of best quality. Prices right. Write at once for prices. A. C. HALLMAN, WATERLOO CO. NEW DUNDEE, ONT.



Berkshires—Large, lengthy, English type. Five first-prize boars in service. Spring pigs ready for shipment. Boars fit for service. Sows ready to breed. GEORGE GREEN, Fairview, Ont.

OAK LODGE Type of Yorkshires



We have now on hand a large herd of pigs of different ages, and they are as good as we have ever offered. The winnings of this herd have been greater than all other herds combined at the largest Canadian exhibitions.

All stock shipped to order, fully guaranteed. Brethour & Saunders, Burford, Ont., Can.

Large White Yorkshires.

An offering during this month a grand lot of boars and sows ready for breeding; pairs supplied, not akin, from show stock; also several sows in pig to imported boar. Young pigs from 2 to 3 months old, all of the most improved bacon type. Registers furnished. Express prepaid. Address: H. J. DAVIS, BOX 290, WOODSTOCK, ONT.

Yorkshires and Berkshires

FOR SALE, both sexes, both breeds, from six months old, large, lengthy, smooth type. Satisfaction guaranteed. Express prepaid. Register. JAS. A. RUSSELL, PRECIOUS CORNERS, ONT.

YORKSHIRES.

A limited number of choice young pigs of either sex, from two to four months old, at moderate prices. ALEX. HUME & CO., Breckinridge, Ont. Menie P. O.

Ayrshire Cattle and Yorkshire Hogs.

TAPE BROS., importers and breeders of Ridgetown, Ont. Duroc Jersey Swine. TAPE BROS., Ridgetown, Ont.

OXFORD HERD OF POLAND-CHINAS

The home winners of the winners. Having again won the sweepstakes at Toronto, London, Ottawa, and Provincial Fat Stock Show, we are offering again young boars and sows of superior quality, bred along the same lines as our winners. W. & H. JONES, Oxford Co. M. Elgin, Ont.

The Goldspring Herd of TAMWORTHS

won the sweepstakes at Toronto last year, and as we have made a preparation to exhibit this year, we can ship exceptionally fine charges of both sexes and all ages. NORMAN M. BLAIN, Brant Co. Goldspring Farm, St. George.

GOSSIP.

Pride of Collynie won the challenge cup for the best Shorthorn bull for his owner, the Prince of Wales, at the Lincolnshire Show, the reserve number going to Mr. Dudding's Mar-tian, first prize for bull not exceeding two years.

Mr. C. I. Hood, proprietor of Hood Farm, Lowell, Mass., during a visit to England this summer, purchased and has imported some high-class Berkshires, including Mr. Russell Swanwick's noted unbeaten boar, Samba, champion winner at Oxfordshire, the Bath and West, and the Royal Counties Shows this year, also a fine sow, in farrow, from the herd of His Royal Highness Prince Christian.

Mr. Edwin Battye, Gore Bay, Manitoulin Island, Ont., breeder of Shorthorns, writes: "Our cattle are doing first-rate; we have good pasture, and cattle are fat without any grain. We have recently sold the beautiful 9-months heifer r. Gordon Rose, out of Nelly Booth = 23079 =, by Green, Booth, imp. (5435) = 6365 =, to Edwin Beck, Gore Bay; and a bull calf, out of Fair Helen, Vol. 16, by Donald D. = 27619 =, to Wm. Foster, Kagawong; also bull calf, Gen. Buller, Vol. 17, out of Jubilee Jill = 3233 =, by British Statesman, imp. (20833), to George Anderson, Carnarvon township, Manitoulin. We also report that we have bought from the sale at Sandringham, June 29, of H. R. H. the Prince of Wales, Lot 13, heifer Kinslip, roan; calved Jan 15th, 1898; sire Crystal Prince 70221; served March 16, 1900, and in calf to Pride of Collynie 5248; 2nd at the Royal, and champion at Bath and West of England Show."

WM. HOWE'S YORKSHIRES.

Mr. Wm. Howe, of North Bruce, Ont., pinned his faith to the Yorkshires at a time when their popularity was assured. We have visited the gentleman on several occasions, and have always found his management such as to bring out the prolific qualities of the breed. The present herd was founded upon selections made from time to time from the Oak Lodge herd, and is headed by O. L. Clarence 2nd 2895, a son of O. L. Jacko 2890, and out of O. L. Cinderella 2nd 2619. He has not only inherited the strong Cinderella qualities of his dam, but transmits his uniformly even quality and thriftiness to his progeny. Among the matrons most recently added, we saw the young sow, Oak Lodge Pride 5th, coming from a strain of showyard winners, including the World's Fair, Chicago, which not only did famously for their breeder and strain, but did much to advance the reputation of the breed, and is seldom from four to six brood sows constantly, and is seldom without some salable stock of either sex. When we called, there were some four young litters at foot, ready to wean in June. A few choice young sows ready to be bred, and boars fit for service, which any breeder might justly be proud to ship on approval. Watch Mr. Howe's offerings.

SHORTHORNS AND SHROPSHIRE AT W. D. DYER'S, NEAR COLUMBUS, ONT.

For upwards of 20 years Shorthorn cattle have been bred at Mr. Dyer's, the foundation being laid in the purchase of the imported females, Rosebud and Countess. Of the descendants of the latter, Mr. Dyer has some splendid young cows being bred to Mr. Dyer's Collynie Archer (imp.), the best bull which was placed at the head of the Maple Shade herd two years ago. Of the family of the imported Rosebud, Mr. Dyer has half a dozen females, in the breeding of which the imported Cruickshank bull, Boulderwood, played an important part, and tracing to a very sweet roan calf out of Olive, by Boulderwood, a cow having several superior Cruickshank top crosses, including Prince of the Realm, Royal Bampton, and Stanley (imp.). In all, Mr. Dyer has eight cows in calf to imp. Collynie Archer, which are among the present offerings. Mr. Dyer is to be congratulated upon being so favorably located, as no section in the Province affords a greater number of good sires within a radius of a dozen miles than the one in which he resides. About 40 Shropshire sheep are owned here, founded upon selections made in England by Hon. John Dryden, and upon which good sires have been employed from Dryden, Miller and Campbell flocks. Mr. Dyer informed us that he would offer the entire stock of ram lambs, also a few ewe lambs. See his ad. EXTENSIVE IMPORTATIONS OF PEDIGREE STOCK FROM BRITAIN.

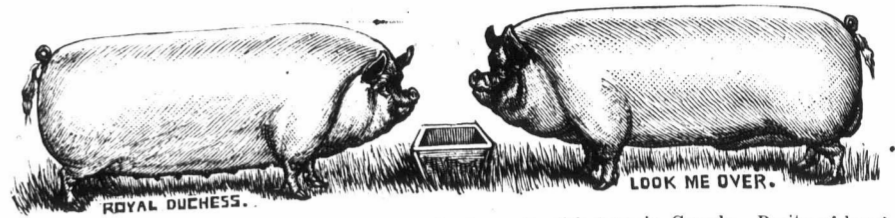
The following is a list of the various shipments of pure-bred live stock for Canada landed at Point Levis, Quebec, from ports in Great Britain, from May 17th of this year to the present date:

- Cattle—
- For H. Cargill & Son, Cargill, Ont., Shorthorns, 52 head
- For Robt. Miller, Stouffville, Ont., Short-horns, 36
- For W. G. Pettit & Son, Freeman, Ont., Shorthorns, 54
- For R. Mitchell & Son, Nelson, Ont., Shorthorns, 11
- For W. Ogilvie Co., Lachine Rapids, Que., Ayrshires, 19
- For John Isaac, Markham, Ont., Short-horns, 11
- For W. C. Edwards & Co., Rockland, Ont., Shorthorns, 21
- For Arthur Johnston, Greenwood, Ont., Shorthorns, 21
- Sheep—
- For John Campbell, Woodville, Ont., Shropshires, 40 head; Oxforbs, 2 head; Cotswolds, 3 head, 45 head
- For J. H. & E. Patrick, Hurdont, Ont., Lincolns, 23
- For W. C. Edwards & Co., Rockland, Ont., Shropshires, 106
- For Robert Miller, Stouffville, Shrop-shires, 123; Lincolns, 17; Cotswolds, 36; Oxforbs, 10; Dorsets, 1; 190
- For H. Arkell, Arkell, Ont., Oxforbs, 11
- For T. C. Douglas, Galt, Ont., South-downs, 1
- Hogs—
- For J. Featherston, Streetsville, Ont., Yorkshires, 8 head

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

Summer Hill Herd

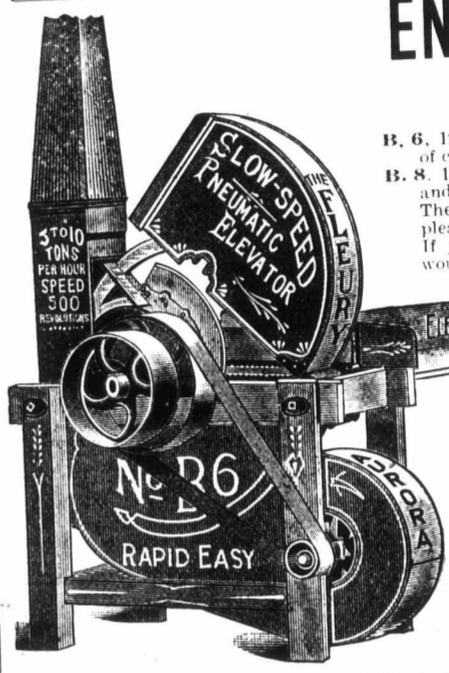
HEADQUARTERS FOR THE IDEAL BACON HOG.



The largest herd of pedigreed Yorkshires of the large English type in Canada. Purity of breed, size, and general excellence is my motto. One hundred awards with one hundred and five exhibits at 7 shows in 1899. A choice selection of young boars and sows of all ages for sale; also boars fit for service, and pregnant sows. Fifty breeding sows, of which 25 (twenty-five) are imported; also three imported stock boars bred by such noted breeders as Sanders Spencer and Philo L. Mills. Am also using two Canadian-bred stock boars, first prize at Toronto in 1898-99. Express charges prepaid. All stock carefully shipped and guaranteed as described. Telephone, Millgrove, Ont. Telegraph 254 Bay St. S., Hamilton, Ont. D. C. FLATT, MILLGROVE, ONT.

ENSILAGE CUTTERS

With Pneumatic Elevator (Blower).



B. G. 12-inch mouth, two knives; fifty to one hundred tons of corn per day.
B. S. 14-inch mouth, three knives; sixty to one hundred and twenty-five tons of corn per day.
These machines are giving great satisfaction and would please you.
If you intend to buy an ensilage cutter this year, we would be glad to hear from you.

"The B. G. Cutter I bought from your agent gives the best of satisfaction, and my customers are well pleased with it. I use a 12 h. p. engine, and the most steam I have used on the cutter at any time was from 60 to 70 lbs. I have cut at the rate of ten tons per hour, elevating to 24 feet, and run ten hours a day. I like the machine better than any other cutter I have ever run."
J. J. LINDSAY, Prescott, Ont.
May 7th, 1900.

J. FLEURY'S SONS, AURORA, ONT.

Medals for Plows—World's Fair, Chicago, 1893; Paris, 1900.

MICA ROOFING

USE MICA ROOFING on all your Buildings. IT IS CHEAPER THAN SHINGLES. WATER PROOF. FIRE PROOF. RAPIDLY TAKING THE PLACE OF SHINGLES. Is put up in rolls of one square each, 40 feet long by 32 inches wide, and costs only \$2.25, including nails, thus affording a light, durable and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence.

HAMILTON MICA ROOFING CO., 101 REBECCA ST., HAMILTON, ONT.

THE CENTRAL BUSINESS COLLEGE TORONTO,

GIVES that practical training along business lines which every young man and woman should enjoy. Farmers' sons become better farmers with such training. The cost is nominal. Write for full particulars. Fall term opens Sept. 14th. Address: W. H. SHAW, Principal, Yonge & Gerrard Sts., Toronto.

One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices.

H. GEORGE & SONS, Crampton P.O., Ont.

TO READERS OF THE ADVOCATE:

"Are you improving your farm by fencing?" "Will it save you time and money to have a Post Hole Digger?" The Beaver Digger will do the work under the most adverse circumstances from three to five times as quick as any other tool now in use. Will dig any sized hole in the driest sand or hardest of clay. Will chop off roots like an axe, or take a stone six inches in diameter out of a post hole. Built of solid iron and steel. Write us for prices and circulars.

Hall & Son, Toronto, Ont.

TAMWORTHS

Descended from prize-winning sows, tracing through the most noted imported sires, and from equally well-bred boars. Young things a specialty.

WM. R. McDONALD, "Pine Lane Farm," Box 51, RIDGETOWN, ONT.

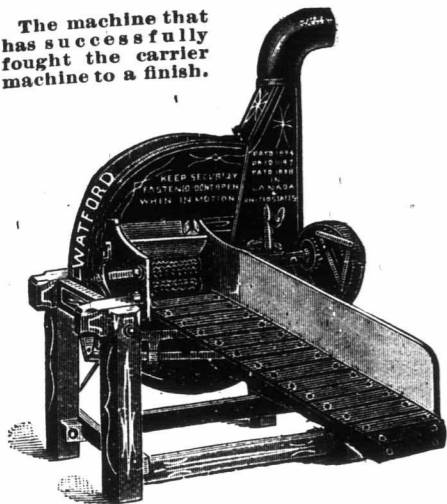
Farmers' Live Stock Ear Labels \$1.50 per 100 and up, according to the amount of matter wanted on them. Also Punches to suit them. Many send for price list, and do not order. Tell us why? Please write for circular and price list.

R. W. James, Farm Implement Forwarding Agency, Bowmanville, Ont.

A few **ANGORA GOATS** for sale; also young Holsteins (registered), Rideau, Josephine, Artis, Korn Dyke, Shadeland Boon, and DeKol blood. Dr. G. C. T. Ward, Napanee, Ont. (N.B.—This ad. will appear but twice).

Revolution in Feed Cutters.
THOM'S
Pneumatic and Propeller
ELEVATOR

The machine that has successfully fought the carrier machine to a finish.



The past few years has proved that **THOM'S PATENT** is the only successful machine on the market. Hundreds of testimonials to prove this. Correspondence solicited. Carrier feed tables furnished when required.

THOM'S IMPLEMENT WORKS,
WATFORD, CANADA.

ESTABLISHED 1875.

WANTED.

AN EXPERIENCED POULTRYMAN. Must understand the running of incubators and brooders, and everything pertaining to successful poultry raising. Address—**A. S. McBEAN, "Thorn Hill Farm,"** Lancaster, Ont., Canada.

EGGS

From Plymouth Rocks, Wyandottes, Leghorns, Brahmas, Cochins, Langshans, B. Minorcas, Spanish, S. Dorkings, Houdans, B. R. Pile and Indian Game, Hamburgs, Red Caps, Bantams, Pekin, Rouen, Aylesbury ducks, at \$1 per 13. **R. J. & A. Laurie,** Wolverton, Ont.

ADDRESS

Belleville Business College.

BELLEVILLE, ONTARIO.

ONTARIO BUSINESS COLLEGE
BELLEVILLE, ONTARIO.

Send for the illustrated catalogue for 1900; 152 pages (32nd year). Address—

ROBINSON & JOHNSON, F.C.A.

BUSINESS EDUCATION.

CENTRAL Business College

STRATFORD, ONTARIO. sends out a very handsome prospectus to all who are interested in securing a business or shorthand education. Write to **W. J. Elliott,** the Principal, for one. This College has the reputation of being a first-class institution.

The Fall Term Opens on Tuesday, Sept. 4th.

Ruts.

Our carefully-arranged courses of study keep you out of the old ruts. We give you up-to-date instruction in business and shorthand. Catalogues free.

Forest City Business & Shorthand College
J. W. Westervelt, Principal. **London, Ont.**

"'Tis Better to Have and Not Need, Than to Need and Not Have."

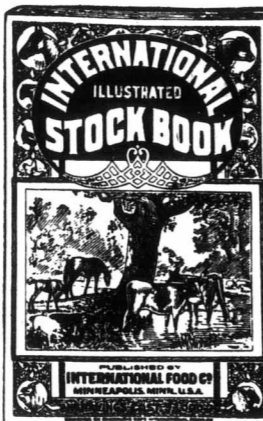
When it looks like rain you carry an umbrella. Some time ago it looked like "business." Those who took our advice and carried a business education are getting the benefit. Those who didn't, wish they had. Get an education that will be of use to you all your lifetime. Our business course is just what you need. Send for catalogue, which contains full information regarding this course, to the

NORTHERN Business College

C. A. FLEMING, PRINCIPAL,
OWEN SOUND, ONT.

Spring Term begins April 17th, 1900.

PLEASE MENTION FARMER'S ADVOCATE.



A \$3000.00 STOCK BOOK FREE.

WITH POSTAGE PREPAID BY US.
We will ship you \$14.00 worth of "International Stock Food" FREE if book is not as described. This engraving shows cover which is printed in 6 brilliant colors. The book is 9 1/2 by 6 1/2. It contains 183 large colored engravings of Horses, Cattle, Sheep, Hogs, Poultry, etc., with a description of the different breeds and practical points on breeding, raising and fattening stock. It also contains a very finely illustrated and valuable Veterinary Department. The engravings cost us \$3000. We will mail you a copy Free, **POSTAGE PREPAID**, if you write us and answer 4 questions: 1st—Did you ever use "International Stock Food" for Horses, Cattle, Sheep or Hogs? 2nd—Is it for sale in your town in 25-lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. "International Stock Food" is a safe vegetable stimulating tonic and blood purifier. It fattens Cattle, Hogs or Sheep in 30 days' less time and saves grain by aiding digestion and assimilation. Is extra good for breeding animals. Thousands of farmers feed 500 to 200 lbs. every year. It makes Colts, Calves, Lambs and Pigs grow very rapidly and only costs 2 1/2 Cents for One Cent. Guaranteed to make Hogs weigh 300 lbs. at 6 months, and to cure and prevent **HOG CHOLERA**. Your money will always be refunded if it ever fails for any use. It will make you a large extra profit in growing or fattening. Refuse cheap and inferior imitations that are on the market. Our 20,000 Dealers give this book FREE with "International Stock Food" in 25 lb. pails.

Largest Stock Food Factory in the World. **INTERNATIONAL FOOD CO.** We occupy 15 floors, also 100x25 feet each, in addition to our large Printing Dept. Capital Paid in \$300,000.00. **MINNEAPOLIS, MINN., U. S. A.** Our Stations Buttonwood 2:17 by Nutwood (600) and International Stock Food by Hartford (874) and Naheola 2:22 1/2, eat "International Stock Food" every day. Our "International Stock Food Steer" weighed 1100 lbs. at 3 years.

Sobrite

saves work,
time, backs and
tempers.
Cleans everything,
scratches nothing.
10 cents
everywhere.

GOSSIP.

R. MITCHELL & SON'S SHORTHORNS.
An interesting hour or two was spent late in June at Messrs. R. Mitchell & Son's, of Nelson, Ont., reviewing their Shorthorns and the pedigrees of their cattle, and being entertained by Mr. Mitchell, Jr., in his interesting description of experiences among the large Scottish herds, in company with Mr. W. G. Pettit, of Freeman, where they selected a large draft of high-class cattle, now in comfortable quarters in quarantine at Quebec, to be released about the middle of August, when more detailed particulars will be given. Among those worthy of special mention on the farm were a consignment of three yearling heifers, selected from Messrs. Cargill & Son's herd late last year. The trio are daughters of the worthy imp, Royal Member, and on their dam's side inherited the blood and strong

peculiarities of the Scotch-bred Ury, Blythsome Girl, and Rosa Fame families. They are a splendid group of young females, and the only regret with their owners now is that they did not purchase as many more. They are typical specimens of the breed, and like all of Royal Member's calves, are rich in natural flesh. They are being bred to the young imported bull, Prince William, by Reveller, by Allan Gwyn, and out of Madge 2nd, by Red Prince, a combination of desirable blood. Prince William is a full-fledged, thriving young bull, in possession of much character, a deep red color, and a capital feeder. The large roan Waterloo Duke females, formerly referred to, were found in such a manner that a valuable family in Mr. Mitchell's hands, and their management has been such as to develop the goodness in them. They produced a splendid lot of bull calves last year

to Elvira's Saxon, which will be, and in fact are, in the market at any time. Watch future Gossip and offerings.

STAY AT HOTEL LELAND

The Leading Hotel of the West.
ALL MODERN CONVENIENCES. RATES, \$2 to \$4 PER DAY.
W. D. DOUGLAS, Prop., Winnipeg, Man.
PLEASE MENTION FARMER'S ADVOCATE.

SOME DISTINGUISHED PATRONS OF THE UNITED KINGDOM
MASSEY-HARRIS IMPLEMENTS IN

HER MAJESTY THE QUEEN,	WINDSOR HOME FARM.	
HER MAJESTY THE QUEEN,	MUNDFORD (NORFOLK).	
HER MAJESTY THE QUEEN,	BALMORAL.	
HER MAJESTY THE QUEEN,	SUFFOLK.	
HER MAJESTY'S GOVERNMENT,	CROWN FARMS, BEDFORD.	

The late Duke of Argyll	Earl of Dalhousie	Lord Amburst of Hackney
Duke of Buccleugh and Queensberry	Earl Derby	Lord Blantyre
Duke of Devonshire	Earl of Ellesmere	Lord Carbery
Duke of Grafton	Earl of Errol	Lord Carew
Duke of Portland	Earl of Fitzwilliam	Lord Clonbrock
Duke of Richmond and Gordon	Earl Grey	Lord Derwent
Duke of Roxburgh	Earl of Kintore	Lord Egerton of Tatton
Duke of Westminster	Earl of Loudoun	Lord Maurice Fitzgerald
Marquis of Conyngham	Earl of Mansfield	Lord Fitzhardinge
Marquis of Drougheda	Earl of Mar and Kellie	Lord Forbes of Castle Forbes
Marquis of Lansdowne	Earl of Morton	Lord de Freyne
Marquis of Londonderry	Earl Nelson	Lord Grimthorpe
Marquis of Northampton	Earl of Northesk	Lord Lawrence
Marquis of Salisbury	Earl of St. Germans	Lord Louth
Marquis of Waterford	Earl of Southesk	Lord Middleton
Marquis of Winchester	Earl of Stratheden	Lord Montague
Earl of Ancaster	Earl of Strathmore and Kinghorne	Lord North
Earl of Bathurst	Earl of Tankerville	Lord Peelworth
Earl of Caledon	Earl of Wemyss	Lord Peel of Sandy (ex-Speaker of House of Commons)
Earl of Camperdown	Viscount Halifax	Lord de Ramsey
Earl of Carlisle	Viscount Hampden (ex-Speaker of House of Commons)	Lord Raleigh
Earl of Cawdor	Viscountess Hood	Lord Rookwood
Earl of Courtown	Viscount Middleton	Lord Sherbourne
Earl of Crawford and Balcarries	Viscount Templeton	Lord Wantage, V.C.
		Lady Gordon Cathcart

Rt. Hon. J. D. Balfour (Lord President of the Court of Sessions)
 Rt. Hon. Sir Michael Hicks-Beach, Bart., M. P.
 Sir Matthew White-Ridley (Secretary of State for Home Affairs)
 Sir Walter Gilbey, and very many others.

Western Fair,

LONDON, ONT., SEPT. 6th to 15th, 1900.



Live stock and all departments improved. Specials added.

Grounds greatly improved by removal and alterations of buildings. Greater convenience and comfort for both exhibitor and visitor.

Most complete prize list and entry forms.

Special attractions (list complete), newest and most startling features.

Special train service. Prize list now ready.

SEND FOR ONE.

Lt.-Col. W. M. Gartshore,
PRESIDENT.
J. A. Nelles,
SECRETARY.

No instrument is more popular in Canada to-day than the

Bell Piano

And there is no better to be had.

This orchestral attachment renders possible the effect of sixteen different stringed instruments. It is used only in the "BELL." Send for free booklet, No. 40, it tells all about it.

Built to last a lifetime.

The BELL ORGAN & PIANO CO., Limited, GUELPH, ONTARIO.

THE NEW CENTURY ALPHA

BABY Cream Separators

Have never been beaten!

AN EVERYDAY STAND-BY. SEE HOW IT TURNS UP.

SHELburne, JUNE 18, 1900.

The Canadian Dairy Supply Co., Montreal:
 GENTLEMEN—I have bought a No. 2 Alpha Separator from your agent, Mr. Hugh Taylor, of Shelburne, Ont. It is now working four months, and I am pleased to give you this testimonial.
 Last March I got a DeLaval on trial, which was satisfactory. Just then the Melotte agents from Dundalk got me to try a No. 1 Melotte separator, saying it would "beat the DeLaval, as it had done often before." But it came far from giving the results which they claimed for it. My barn is about 5 rods from the house, and the weather being very cold at the time, I found the Melotte separator would clog at times as the milk was a little chilled. The agents then brought a No. 2 Melotte, which gave the same results. I found that the discs in the Melotte separator would start and clog, commencing at the bottom and continuing upwards the longer you skimmed. As a result of the trial, I bought a DeLaval, and would advise my fellow farmers to try a DeLaval Separator before buying any other, as it is a machine that is well constructed, and will skim milk at any temperature and not clog.
 Yours truly,
 SILAS MYERS.

CANADIAN DAIRY SUPPLY CO.,
 327 Commissioners Street, MONTREAL.

SAVE FUEL BY USING A FAMOUS MODEL RANGE FOR WOOD.

THE M^cCLARY MFG. CO.,
 LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER.

THERMOMETER in oven door shows EXACT COOKING HEAT for pies, cakes, bread, etc.
VENTILATED OVEN allows of a constant circulation of PURE WARM AIR.
STEEL OVEN BOTTOM (that cannot crack or warp) heats oven quickly.
CEMENTED BOTTOM causes even baking of food.
ASBESTOS OVEN FRONT prevents heat escaping.
EXTRA HEAVY FIRE EXPOSED PARTS. SECTIONAL FIRE-BOX LININGS AND STOVE TOP THAT CANNOT WARP.

Why Not Build YOUR OWN COILED STEEL SPRING FENCE

The Strongest and Most Durable Frost-Proof Wire Fence Known....

SAVE AGENTS' AND FACTORY PROFITS. BUILD IT YOURSELF WITH THE

LONDON FENCE MACHINE

JUST OUT!

The Fastest and Cheapest Machine in America. Anyone can operate it, and weave 40 to 60 rods per day. EVERY MAN WHO OWNS A FARM SHOULD HAVE ONE. It is built of malleable iron and steel. Its stays do not slip or warp the fence. See our exhibit at all the large fairs. Don't fail to get a catalogue and price. Manufactured by

THE LONDON FENCE MACHINE COMPANY,
 Mention the ADVOCATE when writing. Patented in Office: 151 YORK ST., London, Ont.
 Responsible agents wanted. Can. and U. S.