

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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* AGRICULTURE; STOCK; DAIRY; POULTRY; HORTICULTURE; VETERINARY; HOME CIRCLE *

Vol. XXXIV. LONDON, ONTARIO. DECEMBER 1, 1899. WINNIPEG, MANITOBA. No. 491

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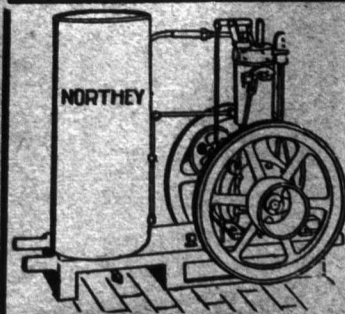
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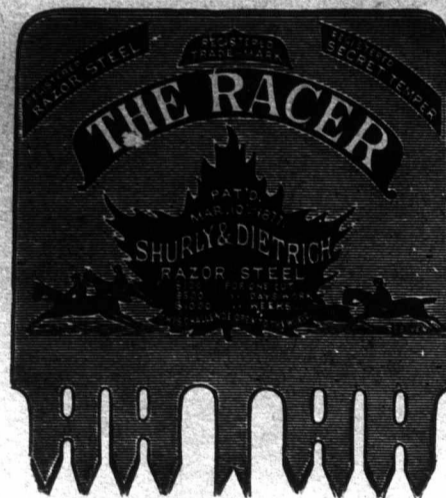
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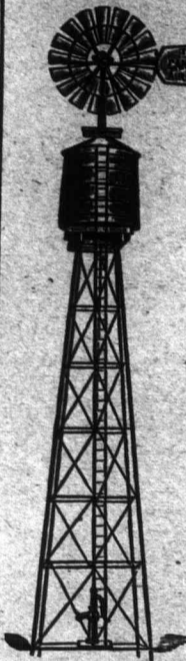
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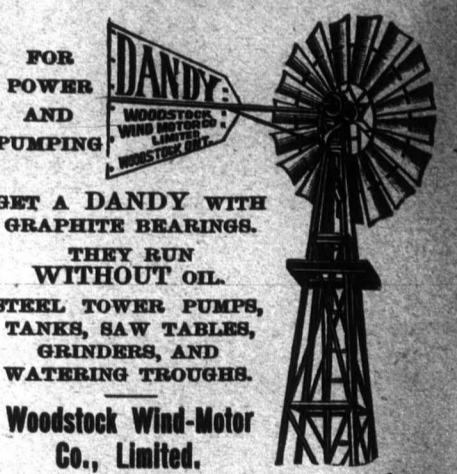
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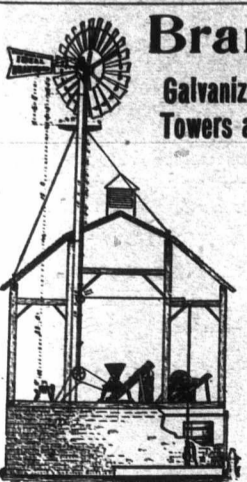
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* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE. *

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LONDON, ONT., AND WINNIPEG, MAN., DECEMBER 1, 1899.

No. 491

EDITORIAL.

A Worthy Institution.

It affords the FARMER'S ADVOCATE genuine satisfaction to give in this issue a résumé of the past and present of the Ontario Agricultural College at the Royal City of Guelph; satisfaction, because it is an institution upon which the farmers not only of this Province, but of all Canada, can look as a credit to the great industry which it exists to serve. Its progress through the quarter-century past, and its condition to-day, must be a source of gratification to all who have had to do with its inception and its development. Education, investigation, and demonstration are its three-fold purpose. In common with many other like enterprises, it has had to face positive opposition and some criticism that was probably not always unwarranted; men have been skeptical of its utility, and others have regarded it with a species of negative indifference not infrequently the fate of state-aided concerns. These obstacles have in a large measure been overcome, and it is to-day the center of an ever-widening influence for good. The progress of the institution has not been of the pyrotechnic sort, but, corresponding with nearly all advancement that is of any real or permanent value, has been patiently, though steadily, made like the growth of an oak. Consequently, the secure and honorable position which it now holds is all the greater credit to its promoters and staff. Does the reader ask for proof of the foregoing statements? We point to the college now thronged to overflowing with students, the brightest of young men from Canadian farms; to the results of experimental work that commend themselves to the practical men and other investigators of standing throughout the continent; to graduates chosen for important positions in similar institutions; and to a farm proper that is clean, creditable, and growing luxuriant crops, the result of a system of tillage that seems well adapted to the soil there, and by the application of manures produced on the farm.

But what of its future? Has the institution attained perfection? Has it reached the limit of its usefulness? We trow not. Agriculture is of sheer necessity progressive, because the conditions that confront the farmer are subject to change; hence, its scope and equipment must be enlarged and enhanced. We have, therefore, no hesitation in saying to the newly-reorganized Government of Ontario and to the legislators of the Province generally that any cheese-paring policy toward the O. A. C. will not commend itself to those who have the well-being of agriculture at heart; in other words, to the men who lead the van. Indeed, we look forward to the time when Canada will sustain not one only, but half a dozen agricultural colleges or schools.

We would encourage farmers, instead of sending their sons to the Collegiate Institute and High School, say, after passing the entrance examination, to give them a good course of two years at least at the Agricultural College. Why? In the first place, the cost would be less—though that is a comparatively trifling matter—for all students have an opportunity by working on the farm to earn a portion at least of their board, and that occupation is most healthful and strengthening. Natural science occupying so large a proportion of the A. O. C. course, supplements the lack of it which is the weakness of the Ontario public-school curriculum. This will accord with the more modern view of the superiority of science teaching as against the old classical system of education. With the former the student learns to know and to do by doing, training his faculties by a study of the things and the processes with which in actual life-work he has to deal. By increasing a love for nature, it will check the tendency to leave the farm, to which, as the records actually show, the great bulk of the Agricultural

College students return. The associations at the O. A. C. are such as to create a greater respect for agriculture, and, other things being equal, should make those who take a course there more successful farmers. But the supreme function of education is not merely to impart information nor to train the student how to do things so as to succeed in acquiring wealth on the farm, but, above all, to develop manhood.

"Ill fares the land to hastening ills a prey
Where wealth accumulates and men decay."

Herein lies the paramount importance of maintaining and liberally sustaining a college staff of high character and qualification, infused with the true genius and spirit of education. Coming under such influences for a fairly complete term, the young man will receive an inspiration which he does not get at the ordinary school, and the great body of students acquire, as we believe they do at Guelph, a morale or an *esprit de corps* which, coupled with the other advantages of the institution, must prove to them of incalculable benefit in the battle of life.

The Crude Petroleum Remedy for San Jose Scale.

The letter, which we publish elsewhere in this issue, from the pen of Dr. Bethune, editor of the *Canadian Entomologist*, is a decidedly notable contribution to the literature of the San José scale for the reason that it presents very fully the results of the official investigations in New Jersey, which appears to have very thoroughly demonstrated the efficiency of a new remedy for this serious foe of the orchardist, viz., crude petroleum oil. At the time when the recent Ontario Government Commission was at work investigating the question, and how best to combat and if possible eradicate the pest, this new treatment had not been made public, but it is patent on the face of Dr. Bethune's letter that it should without delay be thoroughly tested in the areas of infection, which, fortunately, are limited. With all the advancement that is being made in entomology, and with a scale insect which experts can locate and which does not run away from them, it has seemed to us a most remarkable thing if some less drastic and costly a remedy could not be devised than the axe and the torch for the chopping down and destruction of orchards. The summary of the report of the Commission, published in our September 1st issue, suggested some modification in the original plan of campaign by the scale inspectors; but a test of the petroleum treatment will now be in order. We are not aware that the official reports from the New Jersey Station say whether crude oil from the Ohio or Pennsylvania fields was used; but if the latter, then the Western Ontario oil fields would probably furnish a better insecticide, as it is a decidedly better lubricant. At the Petrolia and Oil Springs wells, crude oil has been quoted lately at \$1.65 per barrel, and even with freight and cost of barrels included, it would certainly be very much cheaper—probably not much more than half the cost of the whale-oil application. If found as effective as indicated in Dr. Bethune's letter, the Provincial Department of Agriculture will no doubt make such arrangements with the oil producers that a sufficient supply can be made available for fruit-growers and those engaged in combating the pest, at wholesale rates.

At Buffalo in 1901.

In the FARMER'S ADVOCATE for November 15th, reference was made to the proposal to revive at Chicago a fat stock exhibition befitting the city and the western interests that center there, and which, it was hoped by those promoting the idea, would rise to the dignity of an international character by again attracting Canadian exhibits. In the meantime, events are shaping towards a big exhibition of live stock at the Buffalo Pan-American

Exposition in 1901, to which Congress has already given its recognition by a generous subvention, and the promoters have effected a masterstroke by securing for Director-General the services of Hon. W. I. Buchanan, whose executive abilities were crowned with such marked success in the administration of the Agricultural Department at the World's Columbian Exhibition at Chicago in 1893. Since that time he has been rendering the United States interests distinguished service as its representative in the Argentine Republic. With the memories of their Chicago achievements of '93 in mind, the stockmen of Canada will naturally follow with interest the unfoldment of plans for that department at the Pan-American, and whether individually or in a more comprehensive way, measures will no doubt take shape so that the "studs, herds, and flocks" of the Dominion will be appropriately represented at Buffalo.

Ontario Grain for Paris Exhibition.

The Dominion and the Ontario Departments of Agriculture are desirous of having a good representation of Ontario grains, threshed and in the straw, and the Provincial Department is now in communication with a number of representative farmers and grain-growers. The exhibits of grain will be shortly sent from Ottawa along with the fruit and other agricultural exhibits, and any farmers having grain suitable to exhibit should communicate at once with the Department at Toronto.

Public Stock Sales.

The question whether public auction sales of pure-bred stock are in the interests of the breeders generally or not is one that will bear discussion. It is probably true that as a rule better average prices are made by private contract, taking the years as they come, than are made at auction sales. In this regard much depends upon the business ability and tact of the seller, and quite as much on the quality, breeding, and condition of the stock to be sold. In order to share in the best prices going for stock of any class, the first desideratum is to have animals ranking as nearly as possible with those of the most generally approved breeding, type and quality, and the next to have and keep them in such condition that they will be attractive and catch the eye of the prospective buyer. This, of course, applies equally to private and to public sales. While the system of doing business by private contract is and will continue to be the general custom, being, as a rule, the most convenient and least expensive, there are occasions and circumstances where it is necessary or expedient to call a public sale and to dispose of an entire stock, or a portion of it, by public competition as the readiest means of dispersal. The necessity of closing or dividing an estate, or of raising money for any special purpose, a change from one line of business to another, the fact of being overstocked for the stable accommodation or of being short of feed owing to an unfavorable season in the district, are all legitimate reasons for the adoption of the public vendue as a means of bringing buyers and sellers together, and may be to their mutual advantage.

The question of the advisability of establishing annual or other periodical auction sales is another question, and one on which there is room for difference of opinion. Judging from observation of the experience of those breeders who have tried this system in Canada in the past, we cannot say that we are sanguine of the prospects for success. The fact that so many have started out with the purpose of holding such sales, and so few have continued them for any considerable number of years, is liable to lead to the conclusion that for the seller at least the results have not proved satisfactory. The failure of one or of a number to make a continued success of such sales is not, however, by any means a conclusive argument against the system. In these

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LONDON, CANADA.

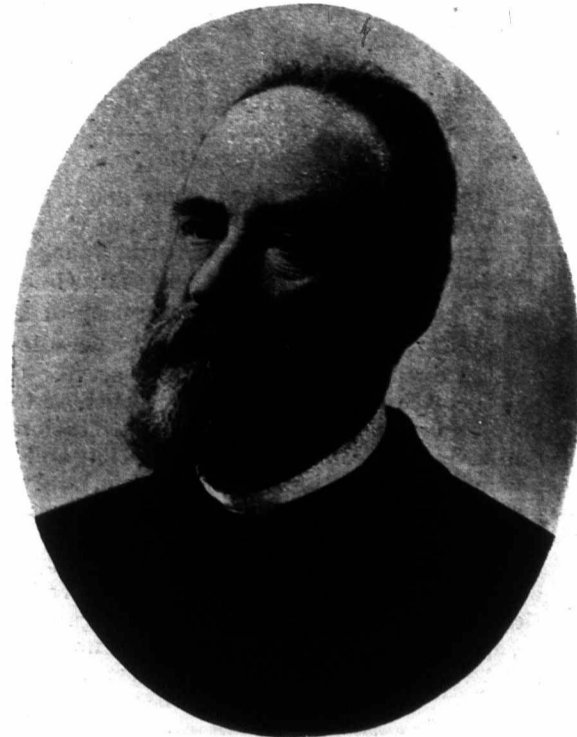
later days, and in the hands of other men, they may meet the expectations of the most sanguine and prove fairly successful. Annual sales have apparently proved satisfactory in Britain and to a limited extent in the United States, where they are evidently on the increase. We see no valid reason why they should not work as well in this country, especially in the case of large herds, from which a selection of a considerable number could be made each year, and if a number of breeders, who are in a position to make such an offering, would arrange to hold their sales on successive days, buyers would have an extra inducement to come from a distance, as the expense of one trip would practically cover all the sales of the series, and each would share in the benefits of co-operation. Besides this, the other breeders throughout the country would benefit from the presence in the country of visitors who come to the sales meaning business, who may not find at these sales what they want, and would take advantage of the occasion to visit many other herds, and thus the benefits of the occasion would be extended far beyond the sphere of the original sales. In this way any objections which may be made to public sales are met, and they may well be made to do good service in giving an opportunity for all to secure fresh blood from strong herds, to the improvement of the breed generally and the enhancement of trade.

The desire has often been expressed by breeders, both publicly and privately, that men of large means would, as they do in Britain, take an interest in the raising and distribution of high-class pure-bred stock, and it is gratifying to find that this wish is now being realized to a very considerable extent by the enterprise of such men, and that they have set their ideals high and will import and breed from only the best obtainable. The disposal of this class of stock by public competition, where

the buyers are free to name their own prices, is surely a helpful means of distributing meritorious animals, and cannot fail to improve the general stock of the country as well as that of professional breeders.

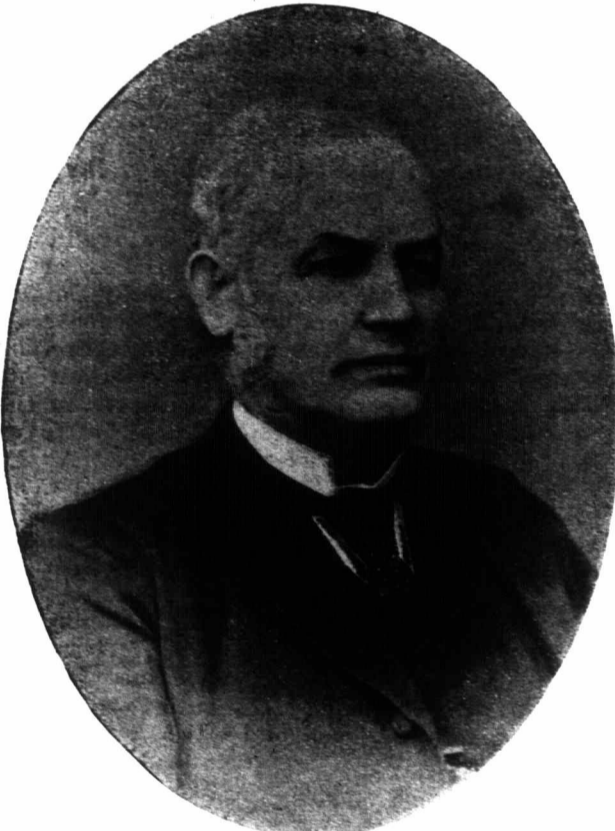
The men who risk a public sale virtually put themselves in the hands of the public, and are entitled to fair consideration and encouragement as long as they do their part honorably and above board, but the moment they resort, on any pretext, to questionable methods, confidence is properly gone, sympathy ceases, and the idea of a continuation of annual sales has met the beginning of its decline. While this is true, it is well to remember that breeders and prospective buyers who attend the sales owe a duty to the seller which justice to him and the retention of their own self-respect demands that they faithfully perform by mentally putting themselves in his place, remembering the expense he has assumed in advertising and bringing together and entertaining the company, and should do nothing from selfish motives, by word or inference, to prejudice his interests. The day is fairly his who has assumed the responsibility of the occasion, and the man who attends a sale with the dominant idea of doing business for himself at the expense of another by depreciating his stock and inducing buyers to see his own before investing has a very low estimate of the code of honor which should exist between brother breeders. The broader and more generous view, which recognizes

showings, and written equally plainly in the many excellent works on the subject of scientific feeding, published by able men in their own country, and in the reports issued from their agricultural colleges and experiment stations. Is it because their stockmen, from among whom their judges are chosen, are too busy to take time to read the literature of the day on the very question in which they are most vitally interested in their own occupation; or is it, which is probably the true reason, that their great common crop of maize is so easy to raise and



REV. W. F. CLARK.

Commissioner who investigated other agricultural schools and colleges, and recommended plan.



SIR JOHN CARLING.

Original promoter of the Ontario Agricultural College.

the rights of others and the general good, will be found in the long run to redound to the advantage of all concerned, individually and collectively. It is clearly in the interest of all that values be well sustained, and as the prices made at public sales are as a rule the only ones published, they have a considerable influence in setting the standard for private contracts. A spirited and successful sale makes everyone present feel better and has a reflex influence for good over a wide circle. To the realization of such a result each one can contribute by showing a sympathetic interest and lending a helping hand.

Over-fat Show Stock.

The complaint is being vigorously urged by a portion of the agricultural press of the United States that over-fatted animals in the classes for breeding stock of the beef breeds at the shows in that country are, as a rule, favored by the judges selected for awarding prizes, supposed to be tokens of recognition of comparative merit in the animals for the primary purposes for which they are intended. It is an old story which has long applied to American shows, and it is surprising that a people so generally intelligent and up-to-date have learned so slowly the lessons in advanced feeding written so plainly in living letters in the well-known fate of a large proportion of the over-fat animals as breeders which have figured conspicuously in their

to feed that they fall into the old way or fail to get out of the old way of pouring heating corn into their cattle, as a stoker shovels coal into the fireplace of an engine, until the vital organs of the animals for breeding purposes are burnt out, and they are left as useless for procreation as an extinct volcano for pyrotechnics.

Canadian judges, breeders, and exhibitors have caught on to the idea of scientific (which is but another name for rational) feeding and the proper preparation of breeding stock for show purposes,



WM. JOHNSTON, B. A.

Principal of the Ontario Agricultural College from 1876 to 1879.

and are a long way in advance of their neighbors across the line in this respect. It is long since there has been just cause for complaint, except in very rare instances, of over-fat animals winning the best prizes at Canadian shows, and very few indeed are shown in that condition, for the very good reason that exhibitors know from experience and observation that it would certainly lessen the chances of their animals for preferment by the judges, or of favorable notice from the stock-breeders around the

showing. There is good reason to believe that the animals which have been winning at the leading shows in Canada in the last ten years or more have made a very favorable record as regular breeders, and have produced a fair proportion of offspring good enough to make show animals, if need be. The complaint has been made by a contemporary that the classes for breeding animals of the beef breeds at the great agricultural exhibitions are nothing more nor less than fat-stock shows. We are glad to know that in this enlightened age this indictment does not apply to Canadian shows, and we will go further and say that many of the cattle shown, and winning in those classes at American

The Ontario Agricultural College and Experimental Farm--Then and Now.

BY PRESIDENT MILLS.

To the Hon. Sir John Carling, of London, belongs the honor of having taken the first steps towards founding a School of Agriculture in the Province of Ontario; to him also is due the credit of having established the Dominion Experimental Farms at a later date.

In his report for the year 1869, addressed to Governor Howland, Mr. Carling, then Commissioner of Agriculture and Arts for Ontario, spoke in complimentary terms of the system of general education in this Province, and then said: "I have a growing conviction that something more is required to give our education a more practical character, especially in reference to the agricultural and mechanical classes of the community, which comprise the great bulk of the population and constitute the principal means of our wealth and prosperity. What now appears to be especially needed, in addition to the ordinary instruction in common schools, is the introduction of elementary instruction in what may be termed the foundation principles of agricultural and mechanical science, and I hope to be able, in the next report I may have the honor of presenting to Your Excellency, to record the fact of a commencement being made with a prospect of success."

REV. W. F. CLARK, COMMISSIONER.

On the 12th August, 1869, Mr. Carling appointed the Rev. W. F. Clark, of Guelph, a Commissioner to visit the principal agricultural colleges of the United States, gain what information he could and report with the view of establishing in this Province a school to give instruction in agriculture and kindred subjects, and to conduct experiments

report as to its suitability for an experimental farm.

Both reports were unfavorable to the site, chiefly on account of the character of the soil and the lack of church and other privileges such as are enjoyed in the immediate neighborhood of a town or city; and the result was that a committee, consisting of John Dunlop, John Miller, John Dryden, the Hon. David Christie, and Robert N. Ball, was appointed to examine farms in the neighborhood of Whitby, Guelph, and Woodstock, with the view of getting a suitable site for the proposed school. This Committee reported the facts, without a definite recommendation, on the 13th December, 1872, and left it for the Government to decide, which it did by purchasing the Guelph farm of 550 acres from F. W. Stone, a political opponent, in the early part of 1873.

Some additions were made as soon as possible to the farmhouse, which still constitutes the first two stories of the main building, in order to get ready for 30 pupils at as early a date as practicable.

NAME AND MOTTO.

The name decided upon was the Ontario School of Agriculture and Experimental Farm, and the motto suggested by Geo. Buckland, the genial and scholarly Professor of Agriculture in the University of Toronto, was *Practice with Science*.

LIBERAL TERMS.

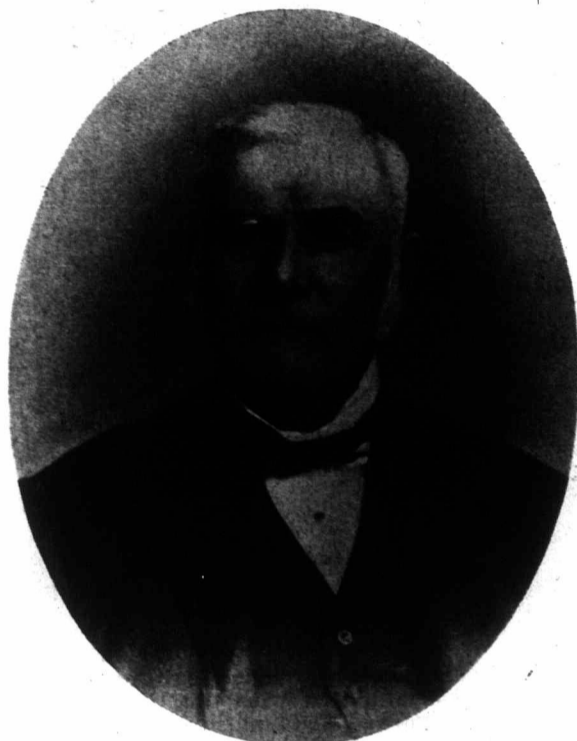
In accordance with the recommendation of a Commission appointed to prepare by-laws and regulations for the school, the first years were to be regarded as a Preparatory Term, in which student help was to be largely employed to put the farm and horticultural department into shape for practical instruction at a later date. During this period students were to work seven hours a day in the outside departments, and for his labor in these departments each was to receive instruction, lodging, board and washing, with a bonus of \$50 in cash at the end of the year, in case he completed it satisfactorily and passed the prescribed examinations on the course of instruction.

OPENING OF THE SCHOOL IN 1874.

On the 29th July, 1873, Henry McCandless, from Cornell University, was appointed the first Principal; and on the 26th March, 1874, there appeared over the signature of Mr. McCandless a long advertisement announcing the opening of the school on the 1st May, 1874.

LIST OF OFFICERS AT OPENING.

H. McCandless, from Cornell University... Principal.
 Rev. W. F. Clark, from Guelph... Rector.
 Jas. McNair, from Richmond Hill... Farm Foreman.
 James Stirton, from Guelph... Stockman.
 Thomas Farnham, from Toronto... Gardener.
 Jas. McIntosh, from Guelph... Foreman Carpenter.
 Mrs. Petrie, from Guelph... Housekeeper.
 T. Walton, from Toronto... Engineer.



HON. ARCHIBALD MCKELLAR.

First Commissioner of Agriculture for Ontario.

shows, would not be tolerated in a fat-stock show in Canada. They would at least have no chance of winning prizes at the hands of our judges. We do not have that sort of stock entered for competition, and if they were presented they would be passed over without any mark of preferment. It is flesh, not fat, that wins, and a good judge, with a trained touch, can readily distinguish between the two qualities. We want, and will have, neither the soft, quivering, jelly-like covering of the carcass properly called blubber, nor the hard, dry, harsh-feeling rolls of fat on the ribs and rump, both of which are the results of the work of men who are ignorant of the first principles of scientific feeding or criminally careless in their methods. Let it be known and understood that adipose tissue is doubly discounted in Canadian showings either for breeding stock or for butchers' beasts, since its inevitable destiny is the rendering tank, and tallow is a low-priced product, the market for which our people are not ambitious to cultivate. Quality against the world should be the motto of Canadian breeders and feeders, and we are making progress along that line. Let the breeders proceed in the course that has proved a success, and to that end let there be no decadence of the cultivation of roots and other succulent food for winter feeding, and let a wise system of feeding mixed rations of nitrogenous foods more generally prevail, in which such muscle-producing foods as bran and oats form a liberal proportion, and with this precaution, coupled with a fair amount of exercise at all seasons, there will be little room for complaint that we are disregarding the law of self-preservation in our herds, or wasting good food in producing cheap meat, if fat, indeed, can properly be called meat—it is grease. Let our judges also—whether in breeding or fat-stock classes—make a memorandum in their memory that a good quality of firm flesh, thickly and smoothly laid over the carcass, and especially where the highest-priced cuts come from, is the mark of merit which must win, keeping always in view in the breeding classes character and breed type, which are qualities not easily described, but nevertheless readily recognized by the experienced and observant breeder. The judges assume a heavy responsibility, as they by their decisions set the standard of merit, and are leaders in the education of young breeders and feeders.



HON. S. C. WOOD.

Second Commissioner of Agriculture for Ontario.

for the purpose of solving some of the problems which confronted those who were engaged in agricultural and horticultural pursuits. Mr. Clark's report, which appeared on the 8th June, 1870, was concise, comprehensive and scholarly, and withal practical and sensible in its suggestions and recommendations. It furnished the Minister with the desired information and indicated in outline the scope and character of a school of agriculture such as it was thought should be established in the Province of Ontario.

SCHOOLS OF AGRICULTURE AND PRACTICAL SCIENCE.

So, in pursuance of his previous intimation, Mr. Carling, in his report for 1870, definitely proposed the establishment of two schools, one for agriculture and the other for mechanic arts, and the outcome of his recommendation and subsequent action were the founding of the School of Practical Science in Toronto, and the purchase of 600 acres of land for a School of Agriculture at Mimico, seven miles west of Toronto.

The land was purchased in 1871, and a contract for the erection of school buildings for the accommodation of 100 resident pupils, at a cost of \$47,900, was entered into in November of that year; but, a change of Government having taken place that fall, the work was delayed for a time, and objections urged against the Mimico site by prominent farmers and stockmen caused some hesitation as to what should be done.

HON. ARCHIBALD M'KELLAR.

At length the Hon. Archibald McKellar, the new Commissioner of Agriculture, requested the Provincial Board of Agriculture and Arts, and afterwards Professor Miles and Dr. Kedzie, of the Michigan Agricultural College, to examine the site and



HON. A. M. ROSS.

Third Commissioner of Agriculture for Ontario.

Twenty-eight students entered the first term, and the outlook seemed encouraging, but the officers soon began to quarrel among themselves. In a short time the dispute between Principal McCandless and three or four members of his staff became so violent that Mr. Clark resigned on the 9th of June; and on the 13th of July, twenty-six of the students in attendance sent a petition to the Hon. Oliver Mowat, asking for the removal of the Principal. Mr. McCandless resigned on the 18th of July, and the Government began to realize that its troubles had only begun.

THE SECOND PRINCIPAL.

Charles Roberts, Esq., of Haslemere, Surrey, England, a prominent graduate of Cirencester

Agricultural College, was appointed to succeed Mr. McCandless. He came out for observation in the fall of 1874, but could not enter on his duties till April, 1875. In the meantime, Wm. Johnston, B.A., of Toronto, who had been appointed Rector, discharged the duties of Principal. According to agreement, Principal Roberts was on hand in April, 1875; but he was suddenly seized with an illness so



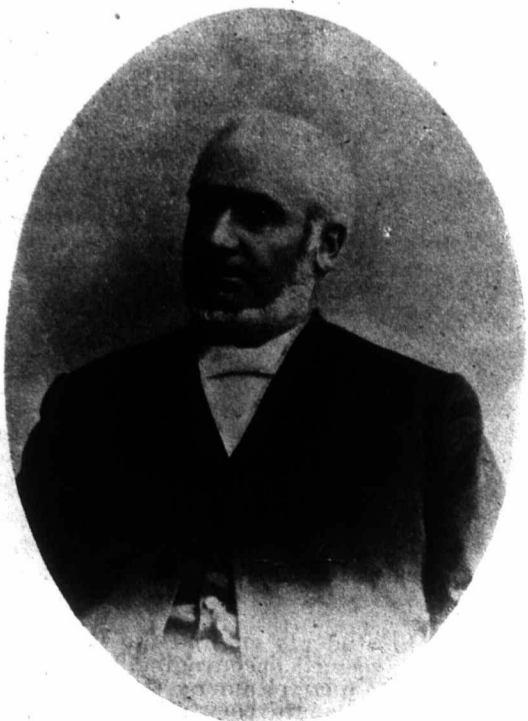
HON. JOHN DRYDEN.

Minister of Agriculture for Ontario from 1890 to the present time.

severe that he decided to resign his position and return at once to his native land. Some have said that the illness was caused by the stories which were told him of the frightful difficulties, trials, and annoyances of the position which he had accepted.

THIRD PRINCIPAL.

Wm. Johnston, B. A., was employed in the capacity of Rector from August, 1874, till the end of 1875, and as Principal for nearly four years—from the beginning of 1876 till the 1st of October, 1879.



HON. CHAS. DRURY.

First Ontario Minister of Agriculture; now Sheriff of Simcoe County.

Mr. Johnston, though lacking in practical experience, was a man of real ability—a good organizer, an efficient executive officer, and a vigorous writer. He soon grasped the situation, and to him very largely is due the credit of having placed the institution on a fairly solid foundation. He classified the work in the different departments, handled his

men to advantage, and did much to give character and stability to the School.

CHANGE OF NAME, ETC.

At the time of Mr. Johnston's resignation, and at his suggestion, the Ontario School of Agriculture and Experimental Farm became the Ontario Agricultural College and Experimental Farm, and the chief executive officer of the institution was afterwards to be known as President of the College. The writer took charge at that time (1st of October, 1879), and through storm and stress has stood by the ship for over 20 years.

FARM SUPERINTENDENTS.

From the outset, the office of Farm Superintendent was one of the most important in the School, and it is no less important in the College. James Laidlaw, afterwards representative of South Wellington in the Legislative Assembly, was Farm Superintendent in 1875; William Brown, from the fall of 1875 till 1st July, 1883, a period of nearly thirteen years; Thomas Shaw, from the 1st October, 1883, till the summer of 1893—nearly five years; and Wm. Rennie, from 1st October, 1893, till the 1st October, 1899—exactly six years. G. E. Day, B.S.A., was appointed Superintendent on the 1st October of the present year.

COMMISSIONERS AND MINISTERS OF AGRICULTURE.

The gentlemen who, as Commissioners and Ministers of Agriculture, have had control of the School and College since the Mimico site was purchased by the Hon. John Carling are: the Hon. Archibald McKellar, about four years (1871-1875); Hon. S. C. Wood, nearly eight years (1875-1883); Hon. James Young, a few months in 1883; Hon. A. M. Ross, about four and a half years (1883-1888); Hon. Chas. Drury, first Minister of Agriculture, nearly two and a half years (May 1st, 1888, to September 1st, 1890); and Hon. John Dryden, second Minister of Agriculture, over nine years (September 1st, 1890, to December 1st, 1899).

It would be invidious to enter into a discussion of the work done by the different Commissioners and Ministers; but, without offence, we think it may be said that every one in the list devoted a great deal of time and anxious thought to the affairs of the College at Guelph, and did the work much better than it would have been done by any Board of Trustees or Governors.

ADVISORY BOARD.

In the early days, 1874-75, there was an Honorary Council to consult with the President in the management of the school. This Council consisted of the Hon. David Christie, Hon. George Brown, Hon. Archibald McKellar, Professor George Buckland, James Young, Esq., M. P., Delos W. Beadle, Esq., and James Laidlaw, Esq. The Council disappeared when the Hon. S. C. Wood became Commissioner of Agriculture, and the Commissioner alone controlled the institution, till the year 1885, when the Hon. A. M. Ross had an Advisory Board of practical farmers appointed to assist him from time to time, especially in matters pertaining to the management of the farm. This Board is still in existence, and consists of John I. Hobson, Guelph, chairman; C. C. James, Deputy Minister of Agriculture, secretary; John McMillan, M. P., Constance, Huron Co.; William Donaldson, South Zorra, Oxford Co.; Edwards Jeffs, Bondhead, Simcoe Co.; G. B. Boyce, Norham, Northumberland Co.; and D. A. Dowling, Appleton, Carleton Co.

STRONG AND WEAK POINTS.

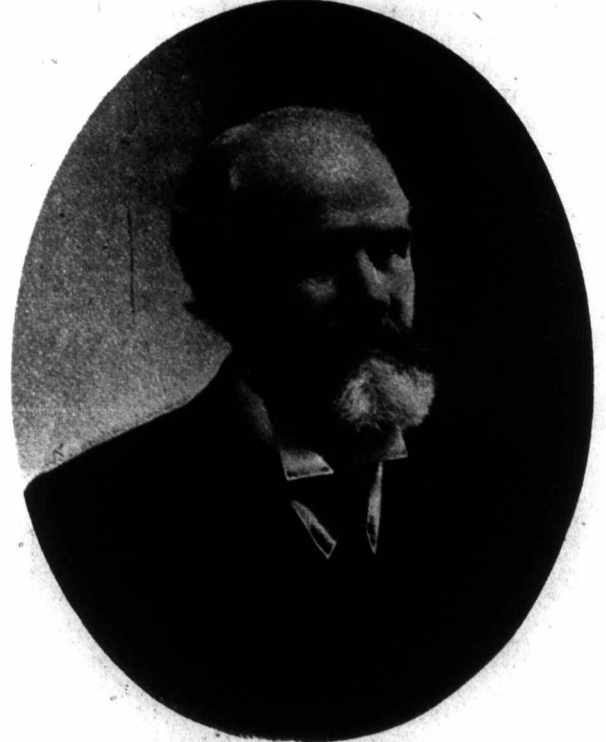
One of the specially strong points of the Institution, from '74 to '99, has been the thoroughly and persistently practical character of its work. Many United States Agricultural Colleges are agricultural only in name. They have placed agriculture in the background, and have broadened their courses so as to compete with arts colleges and universities. The Ontario Agricultural College has not done so, but has always insisted on manual labor, and has given special prominence to agriculture, live stock, dairying, horticulture, veterinary practice, and other branches of study which have a direct bearing on the ordinary work of the Canadian farmer. For a long period the Farm management was severely criticised by the farmers of the Province, and was very often spoken of as the weak point of the Institution; but, in time the tide began to turn, and during later years the Farm has been made an undoubted source of strength to the College. One source of weakness, from the beginning till 1893 (for nineteen years), was divided, and necessarily conflicting, authority. It was a cause of trouble to the first Principal; in the form of a double headship, it led to the resignation of Mr. Johnston, the third Principal, in 1879; in the same form, it caused endless friction from '79 to '88; and in other forms endangered the Institution subsequently. It was not till the summer of 1893 that the Government had the courage to give the President full control and make him responsible for everything, thus eliminating a serious element of weakness.

Though often, from its inception (starting with the change of site), made a sort of political party football, we are glad that that attitude toward the College has grown less marked and bitter than it was, and we now look for reasonable sympathy and fair support from both parties.

COURSES OF STUDY, DIPLOMAS, AND DEGREES.

The primary aim of the College always has been to train young men for work and life on the farms of the Province. The course for an Associate diploma, extending over a period of two years, and

including both study and practical work, has been arranged with this object in view; and nothing is allowed to interfere with this aim throughout the first two years of every regular student's course at the College. Those who complete this course and obtain the Associate diploma, signed by the Minister of Agriculture and President of the College, are known as "Associates of the College."



JAMES MILLS, M. A., LL. D.

President of the Ontario Agricultural College from 1879 to the present time.

In 1887, a third year was added to the course, and the College was affiliated with the University of Toronto for advanced examinations and degrees. The addition was made at the request of Associates who wished to pursue their studies in certain departments for a longer time than was embraced in the Associate course, with a view to preparing themselves more fully for the work of the farm or for positions as agricultural writers and teachers of agriculture, horticulture, dairying, animal husbandry, chemistry, biology or entomology. The work for this additional year is heavy, and none but the best Associates are allowed to take it. The examinations on the third-year work are conducted by the University of Toronto, and the B. S. A. degree (Bachelor of the Science of Agriculture) is granted to the successful candidates at the annual commencement exercises of the University.

Ninety-eight degrees have been granted on the three-year course, and it has recently been decided to extend the course to four years—two years for the Associate diploma, and two additional years for the



MR. JOHN I. HOBSON.

Chairman of Advisory Board of Ontario Agricultural College and President of the Provincial Winter Show.

B. S. A. degree. This change is due to the fact that the additional work required for the degree has been found too heavy for one year.

A special course in dairying was announced for the 1st of February, 1893, and the attendance was so satisfactory that a new dairy building was at once erected, and the equipment for a permanent

Dairy School promptly provided; so everything was ready for a large dairy class (over 100) in January, 1894. This school furnishes a very thorough course of theoretical and practical instruction in milk-testing, buttermaking and cheesemaking, and is divided into two departments—one for home dairy work and the other for a factory course, including both butter and cheese. A special dairy certificate is given to those who complete this course.

A large and well-assorted *geological cabinet*, especially arranged for purposes of instruction.

A well-equipped *biological laboratory*, with classroom and everything required for theoretical and practical work in botany, zoology, and general biology, including cabinets and specimens for the study of entomology, or that branch of science which treats of insects.

A large and well-equipped *bacteriological laboratory* for instruction and original work in the vast

A lecture-room for instruction in *English* and *mathematics*.

II.—FOR PRACTICAL WORK ILLUSTRATIVE OF LECTURES IN THE COLLEGE.

A farm of 345 acres of land in fine condition, well tilled and well managed.

A complete set of farm buildings and an ample outfit of agricultural implements.

Representative specimens of the most valuable breeds of cattle, sheep, and swine.

A large experimental building, and 43 acres of land divided into about 2,000 plots for testing varieties of grains, roots, potatoes, and corn, and for experimenting as to different methods of cultivation, dates of seeding, kinds of seed, value of artificial fertilizers, etc.

Special stable, piggeries, and yards for experiments in feeding cattle, pigs, and sheep.

A separate dairy stable and a special herd of 30 cows for experiments in dairying.

Butter, cheese, and milk-testing rooms, with the latest and best appliances for buttermaking, cheesemaking, and milk-testing, and the pasteurization of milk and cream.

Two rooms devoted to experimental cheesemaking for nine months of the year, and to work in the dairy school for the remaining three months.

Large and well-arranged poultry buildings, with 20 varieties of the most valuable hens, for practical instruction in the breeding, feeding, and management of poultry.

Sixty-three acres of land, including lawn, arboretum, forest-tree plantations, vegetable garden, vinery, small-fruit garden, and orchards, for instruction and practical work in horticulture.

A carpenter shop, with benches and tools for plain work and general repairs.

COURSE OF STUDY.

The course of study is liberal and very practical, specially adapted to the wants of young men who intend to be farmers. It embraces agriculture, arboriculture, live stock, dairying, poultry, bee-keeping, chemistry, geology, botany, zoology, entomology, bacteriology, horticulture, veterinary science, English literature and composition, arithmetic, mensuration, drawing, mechanics, electricity, bookkeeping, and political economy. French and German have recently been added for the B. S. A. degree. The purely practical or bred-and-butter subjects are well taught. The work in English is thorough, and the course in natural science is equal to that in our best arts colleges.

OUTSIDE WORK.

Already the College has rendered excellent service to the Province at large by the publication of reports and bulletins from year to year, and in several outside departments of work:

(1) The *Experimental Union* of ex-students and others in testing manures, and varieties of grain, grasses, roots, potatoes, and other crops throughout the Province—about 3,500 of them working under the direction of C. A. Zavitz, B. S. A., the College Experimentalist.

(2) The *Farmers' Institutes*, organized and controlled by the President of the College for ten years, and assisted by the College staff from their inception to the present time.

(3) *Travelling Dairies*, sent out from the College, controlled by the President, and conducted by graduates of the College.

(4) *Dairy Schools*, east and west, under the control of the President.

(5) *Fruit Experiment Stations*, twelve of them and two sub-stations, testing varieties of fruit under various conditions of soil and climate throughout the Province, and preparing a description of Canadian fruits, under the control of a small Board, of which the President of the College is chairman, and the College Professor of Horticulture a member.

With due regard to modesty and professional etiquette, I think I may say that, through these organizations and in other ways, the College is imparting a great deal of useful information to the farmers of Ontario, is creating a widespread interest in agriculture, and is adding dignity to life and labor on the farm.



MAIN COLLEGE BUILDING, WITH CHEMICAL LABORATORY TO RIGHT.

EQUIPMENT THEN AND NOW.

From the beginning, the institution had a very fair equipment for instruction in field agriculture and stock-raising—550 acres of land and substantial farm buildings, with good samples (male and female) of cattle, sheep, and swine; three greenhouses and a large garden for instruction in horticulture, and two commodious classrooms for lectures and demonstrations on the subjects embraced in the course of study. A dairy building was erected in the early days, but little or no instruction in the subject was given for the first eleven years after the opening of the school.

Houses for the Farm Superintendent, the Bursar, the Gardener, and the Farm Foreman were erected and large additions to the main building made in the Hon. S. C. Wood's time; and the chemical laboratory (the first laboratory provided) was built and equipped in 1887, near the close of the Hon. A. M. Ross' commissionership. The experimental barn was built while the Hon. Charles Drury was Minister of Agriculture; and the following large and important additions have been made during the regime of the Hon. John Dryden: New greenhouses, biological laboratory, convocation hall, dairy building (with complete equipment) and houses for the Department, poultry buildings and house for Manager, physical laboratory, experimental building, bacteriological laboratory, buildings for Experimental Feeding Department, and a new chemical laboratory (the first having been burned).

PRESENT ATTENDANCE OVERTAKES CAPACITY.

The number of students enrolled in the regular course this term is one hundred and sixty-four, no less than twenty-six of whom are lodging outside for want of room in the College.

PRESENT POSITION.

With an able staff of instructors and workers, and such large and valuable additions in the way of buildings, apparatus and appliances, it may surely be said that the College is now in a splendid position to train young men for agricultural pursuits; to do work in original research; to conduct experiments on various lines, and to lead the van of agricultural and horticultural progress throughout the Province. The present equipment of the College may be briefly described as follows:

I.—FOR COLLEGE WORK.

A large and well-furnished *chemical building*, containing a beautiful classroom and three commodious laboratories—one for first and second year students in general, agricultural and animal chemistry; another for third-year students in quantitative work; and a third for special investigations and research in connection with the dairy and experimental departments.

and highly important field of bacteriological research.

A good *physical laboratory*, with tables and all necessary appliances for practical instruction in dynamics, mechanics, hydrostatics, hydrodynamics, electricity, and soil physics.



GLIMPSE OF LAWN AND TREES AT THE O. A. C.

General and special lecture-rooms for studying, handling, and judging *live stock*, especially cattle, sheep, and horses, and for practical demonstrations in the veterinary art.

A complete set of *greenhouses*, with lecture-room and laboratory for instruction in horticulture.

Lecture-room, with all modern appliances for the illustration of lectures on *dairying*.



GENERAL VIEW OF COLLEGE AND FARM BUILDINGS.

A FORWARD MOVEMENT NEEDED.

Progress has been the watchword of the College in the past, and it would seem that the time has come for another forward movement. Increased accommodation for students is very much needed, and there is a growing demand for instruction in domestic economy for farmers' daughters; so it would appear to be the duty of the Province to provide at once the new building which the ex-students asked for last year, and to add without further

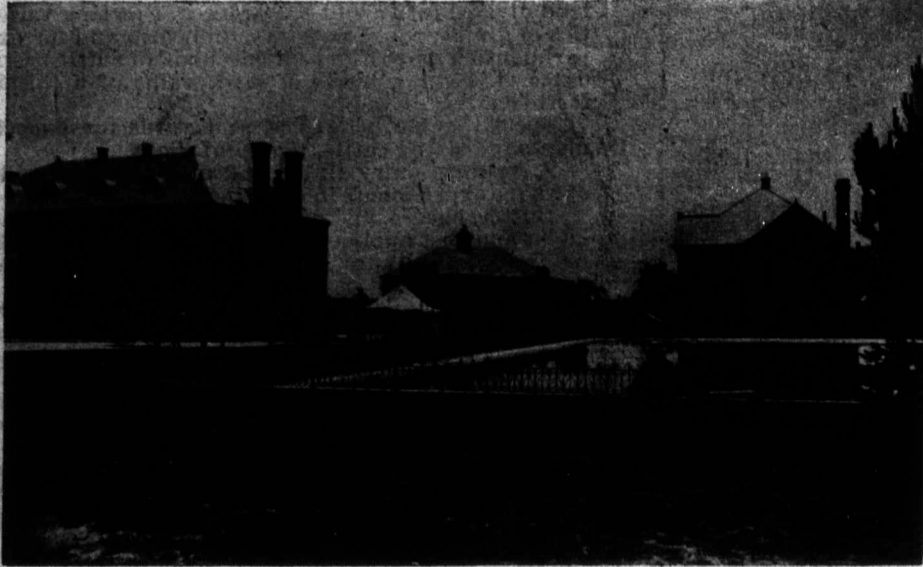
In other words, the West is a pretty good place for men hedged about by hard circumstances, who feel that they could do better if they only had the chance. The Canadian Pacific Railway has made available large tracts of productive land, which may be had at small cost, and since, by the way, the East has had to "loosen up the price," as the Westerners say, for this work, they should reap some of the benefits from it. The settlement of the West by people from different places is going

to benefit the East in a variety of ways; at the same time, does it not look as though the East has paid well for the free privileges of the strangers? Let the farmers who found taxes heavy since 1885 answer. Let the men whose lands dropped thirty-five to forty per cent. in value with the opening of Manitoba answer, or whose wheat went from a dollar to seventy cents, and beef from six to three cents; but this is another story. Probably it is the business of states and governments to expand and grow as states independent of the interests of individuals. It is a case of self-preservation of the state as against other states, but rather hard on some of the individuals. It would be in

the interests of the East if Provincial autonomy were given to the Territories, as the Dominion Government would be relieved of expenses in the keeping of public order, that should then devolve on the Territories themselves. We shall expect to hear from Eastern parliamentarians on this matter in future.

Manitoba's goddess is wheat. There is no ques-

itoba farm steadings. A few strands of wire, however, seem to have been surreptitiously put up. The wheat fields, of course, indicate by their size the vast resources of the country, and by their beauty the wonderful productivity of the soil. The preponderance of wheat-growing over every and all other branches of agricultural enterprise suggests something abnormal, not simply because the Manitoba fields differ from the fields of Ontario, with their variety of barley, peas, oats, turnips, pota-



GYMNASIUM, EXPERIMENTAL BUILDING, BIOLOGICAL LABORATORY, WITH RESERVOIR FOR FIRE PROTECTION ON THIS SIDE.

delay a large and well-equipped Department of Domestic Economy.

The Great West.

II.

[SPECIAL CORRESPONDENCE.]

There is probably considerable interest for the general reader in accounts of the Doukhobors and



ONTARIO AGRICULTURAL COLLEGE, MAIN BUILDING AND FRONT GROUNDS FROM NORTH-WEST.

the Indians. The industrial qualities of the former are known to be good, which is a matter for congratulation, considering the comparatively large numbers that have come into the West. The social customs of the latter are interesting, from the fact that they are the original holders of the West, and because they are a dying race. It may be safely concluded, however, that what the Ontario or Maritime boy or man wants to know is the opportunity afforded by the West for the employment of his hands to the satisfaction of his immediate wants or the making of a competence. Without a very intimate knowledge of the West, or with no knowledge of it at all, it may be accepted as axiomatic that a man is foolish to leave a good thing any place for a problematic or uncertain better thing in a place he knows little about. The fact that a man is doing well in a place is conclusive proof that he is suited to the kind of environment in which he is placed, and is not an infallible index of what his success will be in another. The man who comes west just because he expects to get something for nothing, may be expected to finish in exactly the way that persons with such imperfect conception of the problem of existence deserve. Man shall not eat bread, even in the region of No. 1 Manitoba hard wheat, except by the sweat of his brow, any more than he will in any other part of the globe.

While it should be strictly borne in mind that it is always poor policy to drop the bone for the shadow, it is, on the contrary, wise, if you have no bone, to look about for one in the most likely place.

tion as to how well she can grow it. The place it takes in the markets of the world has settled this beyond discussion. The country is monotonous in its absence of knoll and brook and tree, and in no respect is the ground is covered by the nodding, golden straw, the close, heavy stooks, or the twin stacks. At times wheat fields extend on both sides of the railway, past the line of vision in all directions without a break. One would judge that fences were against the law, were it not for the pictures of what the advertising agents in their pamphlets call typical(?) Man-

toes, and corn, or their cattle revelling in clover, or sheep nibbling on the knolls; but from well-learned simple scientific lessons on the necessity of preserving land fertility by rotation of crops and by the rearing and feeding of the domestic animals. The advantage to the land is not the only one. Mixed sources of revenue have the advantage over a single crop that may be almost destroyed over large areas in a single night by frost. The best Manitoba farmers already realize this, and are having their farms enclosed, and there are already many breeders of excellent horses, cattle, sheep, and pigs. There are plenty of young men from the East who have worked out and homesteaded their quarter-section at the same time, that have made themselves comfortable in two or three years. Good available homestead lands, of course, tend to become scarce near the towns and railways, but good land can be bought for from three to six dollars an acre, so that a man with a thousand dollars could buy a quarter-section, a team, and a few implements, and make a very decent start in Manitoba—much better than he could probably do, for example, in old Ontario. What is said of Manitoba applies to eastern Assiniboia. The region of Indian Head is scarcely inferior to the Portage la Prairie district, and the best parts of both the Province and the Territory are claimed to be away from the main line. With the opportunities afforded for seeing the country on the cheap summer excursions, no young man in Ontario who is looking for a wider field should neglect seeing the country. In a later issue the Western Territories will be dealt with, with special reference to cattle, sheep, and horse interests.

J. MCCAIG.



PORTION OF LAWN, WITH DAIRY DEPARTMENT IN THE DISTANCE.

STOCK.

The Winter Shows.

The remarkably mild weather of the last month has been so little suggestive of what is sometimes called grim winter, that it is difficult to realize that within a fortnight the fixtures now known as the Winter Fat Stock, Dairy and Poultry Shows will

purposes for which they are intended are placed before the people and their comparative merits passed upon by competent and experienced judges who know the kind and quality of products which best meet the requirements of the markets and command the highest prices. The slaughter tests, which will be a part of the Provincial Show to be held in London, December 11th to 14th, as advertised in this issue of the FARMER'S ADVOCATE, should prove an

in various lines of work connected with stock-raising, feeding and marketing, is an additional feature of interest, and cannot fail to be helpful to all who are willing to learn. The complete programme of the show was published on page 643 of our November 15th issue. Some changes in this, made at a recent meeting of the committees, are referred to in a paragraph in our "Gossip" columns. The probabilities point to the shows of this year, both at London and Guelph, being better than ever before, the prizes being more liberal than at any time in the past, and the entries likely to be more numerous than ever before.



FARMERS INSPECTING EXPERIMENTAL PLOTS IN REAR OF COLLEGE.

be events of the past, and yet the calendar—sure index of fleeting time—points unerringly to the fact that within the period named these will have come and gone.

The steadily-growing importance and interest of this class of shows, in the estimation of those leading the van of live-stock improvement, has not yet been so generally realized by the rank and file of farmers as is desirable in the interest of all, but year by year increasing numbers are coming to see them, and, invariably, to see is to be satisfied that these are in many respects the most interesting, helpful and practically useful exhibitions of live stock and its accompaniments that are placed before the public in this country. From the consumer's standpoint all classes of the community are vitally interested in the objects of these exhibitions, which are the improvement of the quality of a large proportion of the food being prepared for the people, and the best means of securing that improvement. The great aggregation of producers in these lines are doubly interested, since they are not only included with the consumers, but are largely dependent for the sinews of war to carry on the battle of life upon their receipts from the handling of live stock and its products, while all the indications point to the certainty of an increasing dependence upon these as the safest source of revenue from the farm.

The feeding of stock on the farm is the only practicable means by which the average farmer can hope to retain or maintain the fertility of his land and reap a fair reward for his labor, and the class of stock he feeds determines the question of profit or loss in the transaction. If it be true that one class may be fed at a fair profit and another may be kept at an actual loss, as has been clearly demonstrated in numerous instances by the sure logic of weights and measures and dollars and cents, surely the sooner the people interested know it and realize it, the better for them and for all. There is only one means of grading up the common stock of the country, either for meat or milk production: that is by the use of pure-bred sires of the standard breeds, and in order to make the best use of this means, intelligent and judicious feeding must accompany it. The object of the fat stock, dairy and poultry shows is to furnish a school of practical science, which simply means common-sense methods, in which object lessons of the best class of animals for the

exceedingly interesting feature from an educational standpoint, while the practical illustrations of the most approved methods of dressing, preparing and packing poultry for the export trade, which is constantly growing, are subjects which interest a very large number of the farmers of Canada.

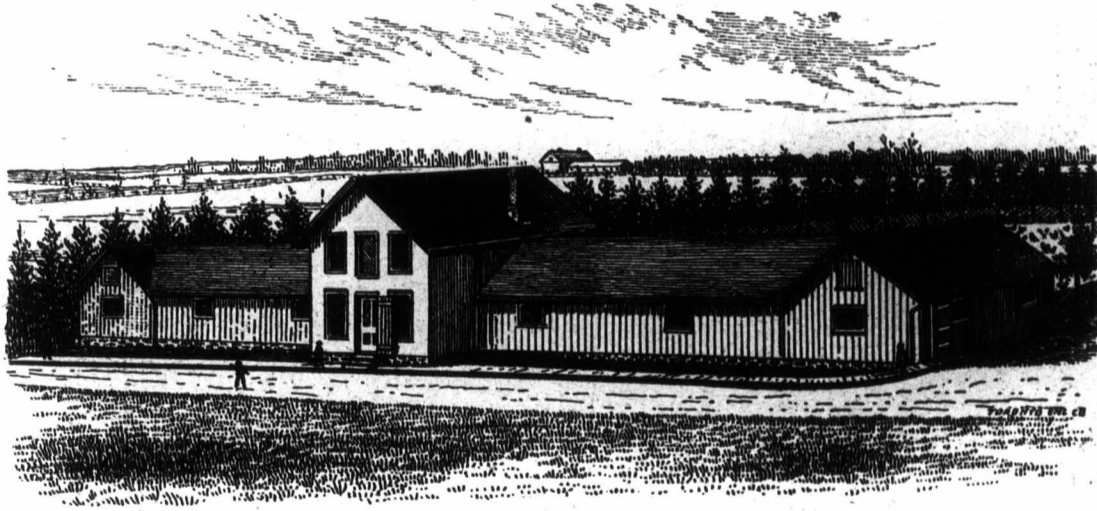
While we believe these shows are yet in their infancy and are bound to experience great expansion in the not distant future, yet they have made

ers of this popular type to congratulate themselves. The chief exhibitors in the breeding classes were Messrs. F. C. Stephens, of Attica, N. Y.; E. D. Jordan, Chiltonville, Mass.; while the following contributed to the competition: A. J. Cassatt, Berwyn, Pa.; Glen Dower Stock Farm, South Newbury, Vt.; Graham Bros., Claremont, Ont.; Chestnut Hill Stock Farm, Pa.; F. G. Bourne, Oakdale, L. I., and Gerkendale Stock Farm, Long Island. It was un-

fortunate, and is much regretted, that through illness a consignment from Hillhurst Farm, Quebec, could not be present. The Canadian entry, Lord Roseberry, by Lord Derby, met a strong rival in Fandango, from Maplewood, each putting up a sensational display, and each conformed well to the ideal Hackney pattern. Fandango, by Lord Rattler, by Lord Derby 2nd, like his rival, is no youth, being nine years old, and like him, he has until recently been under cover, but he is a great horse of a great breed. He was well shown, and won over Graham Bros' entry, that did not reach his best in going. There was keen competition in the smaller horses, colts, mares, and fillies. In the male cham-

ampionship contest, Fandango, Prince Crompton, a son of Dangel, Brandon by Cadet, and Enthorpe Performer contested, but the two-year-old, Prince Crompton, carried off the challenge; while Fandango won over Enthorpe Performer in the stallion and progeny contest.

There was a great show of light harness horses, including Standard-breds and roadsters. Some of the great sires of speed contested in the stallion sections. Gen. Tracy's Advertiser, 2.15, by Elec-



THE POULTRY BUILDING AT THE O. A. C.

sufficient progress under obvious difficulty to commend them to the favorable consideration of the people, and will well repay the time and expense of attending them, and the latter item is reduced to very moderate limits by the arrangement effected with the railway companies, whereby on presentation of the prescribed certificate single rates are secured for the round trip. The schedule of meetings of farmers and stockmen during the show week at London, to be addressed by well-known experts



A SAMPLE FIELD OF OATS ON THE COLLEGE FARM.

ioneer, a horse for which was offered \$125,000, was among the contestants; along with Medio, 2.14, by Pilot Medium; Alcander by Alcanta, and the Earl by Mambrino King, that won in the order named. The championship was easily won by Dare Devil, a black son of Mambrino King. He stands 15.3 hands, is shapely and rugged in his build, and is full of elasticity.

Thoroughbreds were meagerly shown, as only three stallions responded to the call; but saddle horses made a great display. Among the numerous exhibitors of this class, Messrs. Adam Beck, of London, Ont., and George Pepper, of Toronto, were successful competitors, as was also Dr. F. C. Grenside, V. S., formerly of the O. A. C. staff at Guelph, Ont. It is notable that a get of the Hackney stallion, Fordham, and out of a Kentucky saddle mare, won second for Dr. Grenside, in the section for weight-carriers up to 200 pounds. The Canadian stables contributed several winners in various classes.

The Proposed Chicago Fat Stock Show.

A despatch from Chicago, Ill., dated November 24, says: "Definite steps were taken to-day at a meeting of committees from each of the ten United States Live Stock Breeding Associations on the formation of the proposed new association of live-stock breeders, commission men and stock-yards officials for the holding of an international fat stock and breeders' exposition in Chicago next fall and in subsequent years. The proposed exposition will be held in the new Dexter Park Pavilion at the Stock Yards and in additional buildings to be erected, it being the purpose to exhibit only cattle in the Pavilion. It is anticipated that breeders from Canada, England and the Continent will compete with American raisers for the premiums offered. It was decided to adopt the name 'The International Live Stock Exposition,' and articles of incorporation will be taken out in Illinois.

The date of the first exhibition was fixed at December 1 to 3, 1900.

Among the premiums available for the show are the following: American Hereford Association, \$5,000; American Shorthorn Association, \$5,000; Polled Angus Breeders' Association, \$5,000; Polled Durham Association, \$1,000; Red Polled Cattle Club, \$1,000; Galloway Cattle Breeders' Association, \$1,000; Cotswold Sheep Breeders' Association, \$500.

The following officers were elected: President, J. A. Spoor; Vice-President, DeWitt W. Smith; Second Vice-President, Alvin H. Sanders; General Manager, W. E. Skinner; Secretary, Mortimer Levering; Treasurer, R. Z. Herrick; Executive: T. F. B. Sotham, cattle; A. J. Lovejoy, hogs; G. Howard Davison, sheep; R. B. Ogilvie, horses; J. Ogden Armour, packers; E. F. Swift, Stock Yards; John Clay, commission; William H. Thompson, Live Stock Exchanges; R. Gibson, Associations; A. G. Leonard, transportation; C. F. Curtiss, Agricultural Colleges.

Feeding Steers for Export.

AN EXTENSIVE FEEDER'S SYSTEM.

To the Editor FARMER'S ADVOCATE:

SIR,—At your request, I have no hesitation in giving your many readers a short account of my experience in feeding steers for export. Of course, at the outset, I wish it distinctly understood that I do not claim to know it all, or that the system which I follow is the best one. It will seldom be possible for two feeders to follow exactly the same system, yet both may be successful, judged by results. I have now been feeding from 50 to 100 head each winter for twelve years, but am not prepared to say that I have the proper system, although I can make beef for about 60 per cent. of what it cost me ten years ago, owing, no doubt, to improved methods, and the use of larger quantities of corn ensilage, clover hay and straw, and, of course, smaller quantity of grain. For instance, last year I sold my peas and barley, receiving 60 and 50 cents per bushel, respectively, for them, and bought corn at 37 to 40 cents per bushel; while this year it is doubtful if, at present price for the former grains, it would be profitable to buy the one and sell the others.

Probably I cannot give your readers a better idea of my manner of feeding than by stating the results of my feeding operations during the last season with 80 head, weighing on an average about 1,100 lbs. each when placed in the stables about first of November, and weighing 1,365 lbs. when shipped early in June. I give these figures to show the actual result, leaving your readers to draw their own conclusions. This lot were fed in the following manner: One lot of 40 head were tied in the usual way; were not let out during the feeding period, and having water before them all the time. The other lot of 40 head were fed loose in pens, 15x15, five in each, with water supplied by wind power, as in the case of the lot tied up, and as in

the other case, were not let out during the feeding period. Both these lots, in other respects, were treated practically alike. As these lots were not weighed when placed in the stables, I cannot give the exact gain in each case, but, so far as I can judge, I am perfectly satisfied that those in the pens did equally as well as the lot tied, while the labor in attending them was only one-half. More bedding is required in the case of those loose, but the quantity of manure is greater and of much better quality, the urine being more largely if not all retained.

The daily ration consisted of all the corn ensilage mixed with cut oat sheaves and cut straw slightly dampened (to which the meal was added) they could eat. The meal fed consisted wholly of corn meal, and averaged about six pounds per day for the whole feeding period, starting on about four pounds during first month, and gradually increasing to ten pounds the last month. The clover hay (uncut) was fed as an extra, either at noon or evening.

The two lots consumed during feeding period the products of 30 acres of corn in form of ensilage, 20 acres of oats cut in the sheaf, about 20 acres of clover hay, and 2,000 bushels of corn. This season I purpose feeding a lot for shipment by February, and shall follow the same process, only that after the first ten days will increase the allowance of meal to 10 or 12 lbs. per day. I have no experience in using spice or drugs, but use salt in small quantities daily, mixed with regular feed.

Huron Co., Ont.

D. A. FORRESTER.

Feeding Cattle With a View to Greatest Profit.

SIR,—Extended issues are raised by the questions about feeding steers, but I will only take them up in so far as they affect my own circumstances and system of farming and feeding.

Let it be thoroughly understood that fattening cattle can only be profitably undertaken by those

as cattle fed liberally on grain are slow gainers, and shrink heavily when first put out on grass.

In fattening steers about the same method of feeding is adopted, excepting that at the outset they are given more roots and 4 lbs. daily of a mixture of chopped oats, barley and corn, which is gradually increased till by the middle of January they are receiving 8 to 10 lbs. each daily.

Excepting salt and a little sulphur, I have never given anything beyond natural foods, and therefore can give you no results of the use of spices. Animals that can be finished in three months do well tied up, but those requiring longer feeding give better results running loose, and the saving in labor in the latter method is a most important item not to be overlooked. With very little extra bedding cattle will keep cleaner than in stalls, and, taking everything into consideration, I am decidedly in favor of loose boxes (built long and narrow, rather than square), but some stalls are necessary for tying an occasional steer that is shy in pushing himself up against the rest at feeding time.

Free access to water in the comfortable quarters where cattle are stabled is most essential, as they can then drink at their leisure at such times as their tastes incline them. Even if it is deemed necessary for cattle to be turned out daily for exercise, it is best to provide them with water in the stable.

As to type for feeding, adhere closely to the best breeds, selecting individuals exhibiting the good characteristics of their breed in a marked degree, avoiding long heads, long necks, and long legs.

Middlesex Co., Ont.

ROBERT MCEWEN.

Blanketing or Clipping Horses.

"We have reached," says Col. Edwards in the Newark Call, "the conclusion that a heavy blanket on an unclipped horse in the stable is detrimental to his health. Observation and experiment have convinced us that the unblanketed horse in the winter is the healthiest and most comfortable. The best possible condition for a horse to take cold is

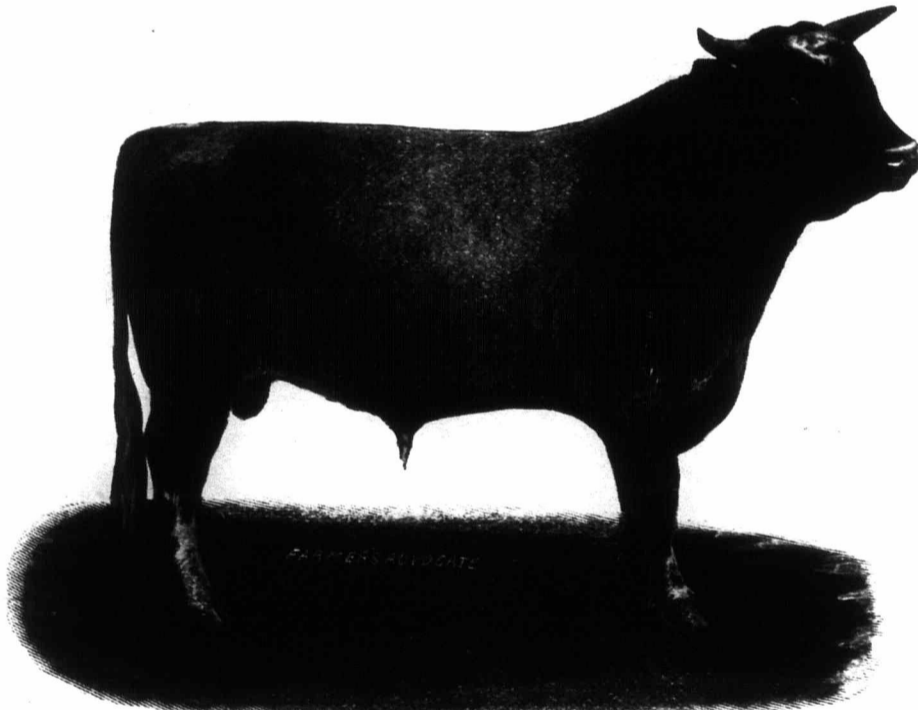
when he comes out of the stable where he has been standing blanketed. The cold air will strike like a knife into every part of his body. A heated horse should not be blanketed when he goes into the stable. A horse with long hair will remain wet all night under a blanket. If the stable is warm and free from draft the horse will be much better off without any covering whatever. Nature provides a covering ample to protect the unclipped horse in this climate in the winter. If more had been needed more would have been provided. We are not speaking idly. For some years we have carefully noted the effect of cold upon blanketed and unblanketed horses. Seven years ago we discarded the blanket, and the result has been entirely satisfactory. No man in his senses would think of wrapping himself up in a warm house and removing the wraps when he went out.

All this refers to unclipped horses. A man who would leave a clipped horse unblanketed in the winter should be arrested and sent to jail. And this brings us to remark that horses whose work causes them to perspire freely in cold weather are better for being clipped. The cold air is not half so penetrating to a clipped horse as to one with his coat on and wet. A clipped horse, if wet, can be rubbed dry in fifteen minutes. The experiment has been thoroughly tested, and men who own horses worth thousands of dollars would not have them clipped if they did not believe they were better for it."

Free Transportation of Bulls to N.-W.T.

In connection with the free transportation on 8 carloads of pure-bred bulls granted by the Canadian Pacific Railway on behalf of the Northwest Territorial Government, we are advised by C. W. Peterson, Deputy Commissioner of Agriculture, Regina, that "the scheme is identical with that of last year. This Department will offer to carry animals from Ontario to Territorial points at the uniform rate of \$5.00. The Canadian Pacific Railway has, however, recognizing the usefulness of the work undertaken by this Department, come forward upon the request of the Department and agreed to co-operate to the extent above indicated. This will enable us to carry out a more vigorous policy in this matter this year than we have been in a position to do in the past."

Under this arrangement the party purchasing a pure-bred bull in Ontario can, upon filing an application accompanied with \$5.00 and a declaration that he is a bona fide farmer possessing a certain number of cattle, have the animal delivered to his nearest railroad station under the supervision of the Government, the Government undertaking, through the Dominion Breeders' Associations, the collection, shipping, and distribution of the stock. Last year each applicant was only entitled to get in one animal on these terms, and we understand the same rule applies still. The arrangement is the same as last year, so far as the farmers are concerned. The Government will be saved the freight, but \$5.00 a head is a very reasonable charge, and no one should object to paying that amount.



PRECIOUS STONE.

Imported 2-year-old Shorthorn bull.

PROPERTY OF W. D. FLATT, HAMILTON, ONT.

(See "Gossip," page 672.)

who have started out with the idea in the spring of the year and provided abundance of cheap fodder, such as corn or ensilage, and straw; hay and grain alone will enable a man to produce fat animals, but he who counts at what cost will never follow it. At best the most economical feeding is necessary to obtain a profitable result, and margins are too narrow to permit of waste, or the lack of those inexpensive materials which can be, by forethought, provided.

The treatment of stockers and fattening cattle is entirely different. For the former, daily exercise or confinement in loose boxes is essential; while for the latter, though I prefer them running loose, for "short-keep" ones it is not so important. Steers to be put on grass, I start on a mixture of cut corn fodder, straw, and a little clover hay, dampened, and a little bran and pulped turnips. Of this they are given, morning and night, all they will eat, with long straw in the middle of the day, and a small allowance of hay at 8 o'clock at night. This is continued till about Xmas, when the corn fodder is usually finished. I then give each steer twice a day 2 bushels of ensilage, and after the morning feed from $\frac{1}{2}$ to $\frac{3}{4}$ bushel of mangels, with 2 lbs., later on increased to 3 lbs., ground barley and oats added. No grain or roots are fed after the evening meal, but follow the roots at noon with uncut straw, and the last thing at night a little hay. Last winter for a time the straw was cut and mixed with the ensilage, but I do not now consider that necessary. My aim in feeding stockers is to obtain from the minimum quantity of grain and inexpensive foods the greatest increase in weight possible.

Anthrax from Hides.

At a recent meeting at Oswego, N. Y., Dr. Pearson reported as follows: "There were two extensive outbreaks in Pennsylvania last year, caused by imported hides from China. They were dry hides treated with arsenic, and of course brought over in one cargo and distributed to two tanneries—one at Proctor, Lycoming Co., and one at Falls Creek, Jefferson Co. At each of these tanneries anthrax appeared, first among the workmen. In one tannery six men died of anthrax. Several other cases resulted in recovery. The water and refuse from the tannery were thrown into a near-by stream, and a number of cattle—about 30 or 35—that drank the water at one tannery died of anthrax, and about the same number at the other. This year we had anthrax in the vicinity of the Falls Creek tannery. It appears that the stream is infected, and it has been found necessary to vaccinate a large number of cattle in that district.

Tuberculosis Among Dairy Cows.

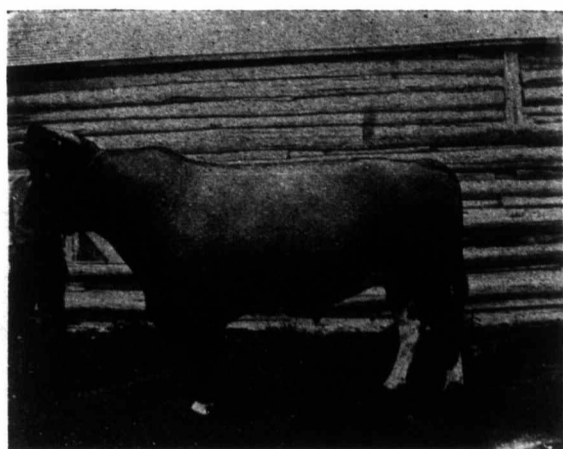
A report by Professor Wortley Axe on the results of the inquiry promoted by the British Dairy Farmers' Association into the prevalence of tuberculosis among dairy cattle appears in the journal of the Association recently issued. Nine herds were selected for testing, the number of animals in each, including bulls, ranging from seventeen to ninety-four. In two herds, containing respectively seventeen and forty-one animals, none of the animals reacted, and in one containing eighty-three the reactions reached only 3.6 per cent.; but in the other herds the percentages of reactions were respectively 20, 30.3, 43.4, 71.4, 76.9, and 90.4. The herds which gave no reactions were bred on their farms, and the animals lead an outdoor life all the year round, being in the pastures or yards by night as well as by day. The other herds are kept to a great extent in sheds, and Professor Axe lays stress upon the influence of shed life upon the propagation of tuberculosis. Of the 461 cows comprised in the inquiry, 51, or 11 per cent., were found to have some disease of the udder of one kind or another, and of the animals so affected, 27, or 55 per cent., reacted to the test. Still, in an appendix by Mr. F. J. Lloyd, who analyzed thirty-three samples of milk from the tested herds, he states that he could not discover the tubercle bacillus in a single instance. After this failure he took measures for cultivating the bacillus, if present, in glycerine beef broth, and tried about thirty samples of milk in that way, but without developing the tubercle bacillus in one of them.

Why Breed Unprofitable Live Stock?

One Samson endeavors to point out in the English *Live Stock Journal* a glaring folly on the part of very many English farmers, which he blames for their unpropitious condition. What is true among English farmers in this regard applies well to a large number in Canada and other lands, who through choice or force of circumstances neglect the improvement in their stock that is easily within reach. This is what Samson says:—

"In making a short review of this subject, which is so important to the pecuniary success of all farmers who breed live stock, we willingly concede that, after every endeavor has been made, there will be misfits in breeding; but because that is so, it is none the less a mistake to keep these misfits to propagate other misfits, and so to lower the standard of the animals of the country. The argument is applicable to all descriptions of live stock, but in the present article we confine it principally to Shorthorn cattle. In most farmers' stocks in the northern counties of the United Kingdom you find some half-dozen cows of more than ordinary excellence—good in shape, flesh, and milk, and which would do no discredit if brought in contact with the best pedigree herds. But the others, it may be from thirty up to fifty milch cattle on each farm, fall by gradation, and you have the feeling that some of them are not paying for their keep. They have been bred in a happy-go-lucky way, from lack of thought mainly, but with the intention strongly underlying, although not openly confessed, of saving a shilling in the service fees. Unsound horses on the road at low fees are not the only sinners. For some years past a system has grown up amongst northern farmers of using a pedigree bull and rearing all their male calves for sale. These latter are mainly sold in the auction marts as pedigree stock, although they are mostly bred from unregistered dams, and much disappointment frequently results following the use of such bulls. The trade, too, has been so overdone that it is not unusual to see yearling bulls sold at from 6 to 10 gs., a price that cannot pay the breeder and rearer. These are the mongrels that keep farmers' stocks mongrel and unprofitable. At a sale of pedigree stock the purchaser has the opportunity of seeing both sire and dam of the young bull he decides to buy, and can thus assure himself that they are good alike in both milk and flesh. After taking stock of

the best of the dams in his own herd from which he purposes to breed his future produce, he can then satisfy himself if they are lacking in any salient feature, and then select the bull most likely to supply the defect in his dam. It was precisely in thus selecting male animals to supply shortcomings in the females that the Holker and Inglewood herds attained to such excellence. But even when this has been done, there will in all probability come misfits, and these must be cleared out, the males steered and the females fattened for slaughter. There can be no doubt but that if nine-tenths of the male calves now reared for service in the northern counties (possibly the same will apply to other counties) were sold as fat calves, or steered and sold fat as bullocks, the breeders (tenant farmers) would benefit pecuniarily, and a manifest improvement would result in the general cattle of the country. At present such breeding and rearing



SHORTHORN BULL, PRINCE LINCOLN =23368=.
Sired by Golden Robe =20396=; dam Lady Zoe 2nd =25980=.
THE PROPERTY OF W. STROTHERS, GRABURN, ASSA.

for use is a lottery. The yearling may bring 6 gs. or 20 gs. in the sale, so each take their chance of the higher figures. Such sires are simply a national loss, a deterrent to the improvement of the national breeds of cattle, and a pecuniary loss to each farmer who breeds them or from them. In the United Kingdom at the present time trade is good, wages are good, and the masses would prefer to eat British home meat; but when much of that meat offered to them is no better than the foreign meat sold at 2d. to 3d. per lb. cheaper, need we wonder that the foreign meat comes to us in ever-increasing quantities; and the future offers to intensify the competition, for the foreigners are taking the steps so many British farmers ignore, and are yearly improving their live stocks from British foundations. The lesson is before our eyes, yet British farmers—at all events, too many of them—remain apathetic, passive, looking on with folded hands



TWO SHORTHORN HEIFER CALVES.
Sired by the late stock bull, Valkyrie. (See "Gossip," page 671.)
BRED BY T. DOUGLAS & SONS, STRATHROY, ONT.

whilst their principal trade is slowly but too surely departing from them, and asking Jove to lift the wheel out of the rut—the landowners to reduce their rents. It is certainly a strange picture of 'rest and be thankful,' and the pity of the situation is that it is true. We remember the case of a farmer, a man of capital, who took what he admitted to be the worst of a dozen rams, because it was 5s. cheaper. Yet he selected that ram for use in his own flock, to the probable deterioration of hundreds of its produce. Where practice such as this prevails need we wonder that British agriculture remains under a cloud? How can we hope to see the silver lining?"

Best in Canada.

J. B. THOMSON, Hamiota, Man., Oct. 28th, 1900: "I like the FARMER'S ADVOCATE well. I think it is the best agricultural paper in Canada."

Star Pointer Retires from the Turf.

Referring to the report that the celebrated Star Pointer has been permanently retired from the turf to the stud, the *Chicago Horseman* says:

If ever a stallion has earned a rest, Pointer is the one. He is the only real 2-minute horse the world has ever seen. The more one knows about trotting and pacing, the harder does the 2-minute task appear. One has only to consider how much it is to say that a horse "can show a quarter in 30 seconds," and, comparatively speaking, how very few horses are worthy thereof, to reach some idea of what a tremendously hard task it is for a horse to go four quarters in 30 seconds each. Star Pointer's greatness rests chiefly on the fact that he did not merely scratch into the 2-minute list with one lone performance of 1.50½. Five different times he turned the 2-minute trick, and therefore it must be admitted that he is a genuine 2-minute horse in all that the term implies. He possessed that extraordinary rarity, 2-minute speed, and he was able, when right and in hard training, always to show it. No other horse has to his credit an equal number of such wonderfully fast miles. The seasons that James A. Murphy owned him, Star Pointer scored a series of victories against the watch and over other horses that have no parallel in the annals of the harness breeds. He was carried from one end of the country almost to the other and he proved himself the champion under almost all circumstances. He was never a half-mile track horse, but that does not matter—it was not his line—and he was not an easy horse to train. One man, though, understood him thoroughly, and that man is David McClary, who drove him in all his greatest exhibitions, and is therefore the only man who ever rode miles in 2 minutes or better in public. A big horse, and somewhat gross in his conformation and habits, Pointer was always somewhat of a problem to his trainer. Had he been smaller and less meaty, he might not have gone so fast, but he would have been easier to get fit and keep fit. However, despite this handicap, McClary handled Star Pointer to perfection, and the way in which the horse kept on edge when at his best was a revelation to the oldest timers as an example of what a good horse can do when in the hands of just the right man. When Star Pointer was reeling off his 2 minute miles almost every time he turned around in earnest, predictions were plentiful that 2-minute pacers would before very long be anything but a rarity. These predictions have failed signally of coming true, and Star Pointer retires into private life with his honors still undivided and still as thick upon him as when he went into winter quarters the fall after he had first let the world see a mile covered to harness in less than 2:00. As a sire Pointer gives promise of being able to transmit his wonderful speed, if he has not already done so, for his son, Sidney Pointer, who, by the way, will be in McClary's hands in 1900, paced a mile in 2:08½ the past summer and not under specially advantageous circumstances at that.

Give the Colts a Good Start.

Starve a colt the first and second winters and you are on a fair way to raise a "plug," no matter how good the breeding. The idea that it toughens colts and fillies to allow them to rough it on poor feed is altogether without foundation, and is often offered as an excuse for negligence because it is cheaper and easier. It pays to feed young horses liberally with grain, as when it is assimilated it becomes the best class of horseflesh. Starved horses never made anyone a dollar and never will, as they mature slowly into cheap stock that, through lack of proper development, have a tendency to go wrong in their legs and digestive organs. The old Scotch proverb, that "the flesh born on a foal is the most valuable and should never be lost," is as true as anything that was ever written, and if that flesh is once lost it costs far more to replace it than to have kept it in the first place. There is a limit to the capacity of all horses as to the amount that may be fed them, for what is not digested and assimilated is more than wasted. It does harm and gives rise to trouble; so that it is necessary to feed with judgment as well as grain, while good hay should not find a substitute in straw or cornstalks. In the fall especially should the feeding be generous, as the drain on the system of growing a heavy coat of hair should not be allowed to detract from the condition of the animal, as the old saying, "The animal that is in good condition when cold weather comes is already half wintered," contains an element of truth. It is also a bad practice to keep horses, either young or old, out in cold and storms with the idea that it toughens them. Occasionally those who try this plan have to purchase horses in the spring to do their seeding.

In feeding and caring for stock of any kind we must not forget that all waste tissue, heat, and action must come from the feed, as well as the growth of new material, be it bone, flesh or hairy covering, and for this reason more grain should be fed in the fall than at any other season to growing

colts. A proportion of new corn is relished with the oats, and it is both stimulating and nourishing. If well-cured clover hay is used, less grain is needed than if timothy is fed; but in any case, if the animal is not growing and gaining, the provision should be improved.

Ottawa Pig-Feeding Experiment.

Mr. J. H. Grisdale, Agriculturist at the Central Experimental Farm, Ottawa, embodies the results of eight years' experiments there on pig-feeding, from which he draws the following conclusions:

SUMMARY.

The experiments conducted, and reported upon as above, seem to indicate that:

1. It will not pay to cook feed for swine where economy of pork production is the sole consideration.
2. There is a gradual increase in the quantity of feed consumed for every pound of gain in live weight after the average live weight exceeds 100 lbs.
3. The most economical time to slaughter swine is when they weigh from 175 to 200 lbs.
4. The greatest and most economical gains are made when the swine are able to eat the most feed in proportion to their weight.
5. Frozen wheat may be used as a profitable feed for swine.
6. Skim milk adds most materially to the value of a grain ration and 100 lbs. mixed grains equal about 700 lbs. skim milk. The relative value of skim milk in any ration varies with the amount fed, the poorest return per pound fed being obtained when the proportion of skim milk to the total food is the greatest.
7. The average dressed weight of swine is about 76.44 per cent. of the fasted weight.
8. Skim milk is a most valuable adjunct to the grain ration, when hard flesh is desired.
9. Type of animals fed influences character of meat more than breed; i. e., the fact of an animal being a Yorkshire or a Tamworth will not insure a good bacon carcass, but they must also be of a rangy type, and fed in a certain way.
10. Feeding mixed meal (barley, peas and oats) with milk usually insures firm meat.
11. The greatest gains from a given amount of grain appear to be made when it is ground and soaked for 24 hours. Part of grain fed whole is frequently voided before being digested.
12. Mixed grains are more economical than grains fed pure.
13. Pigs whose rations are limited, make, on the whole, more economical gains than pigs that are rushed.
14. Maturity or ripeness of the animal affects the quality of the flesh.

Draft Horse Breeding.

BY A. G. HOPKINS, V. S., WISCONSIN AGRICULTURAL COLLEGE.
MANAGEMENT OF STALLION.

The management of the stallion should always be with a view to foster and increase his procreative powers. In order to do so, good food, good stabling, and plenty of exercise are essentials. The practice of administering drugs to a stallion, with the view of increasing his sexual powers, cannot be too severely condemned. The groom should be cautioned against their use; he should be active, good-tempered, and a thorough horseman, many good horses being spoiled by incompetent grooms.

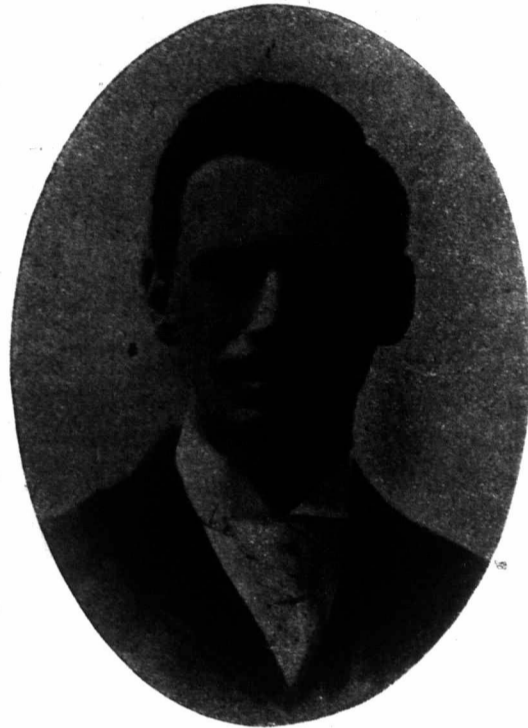
The same hygienic rules must be observed with the mare as with the stallion. During pregnancy she should not be worked too severely, and should not be hitched to any machinery on which there is a pole, at the latter end of such pregnancy; backing in a wagon should not be allowed. Food of a nourishing and slightly laxative nature should be given her as foaling time approaches; if grass is abundant, so much the better.

FOALING.

As foaling time approaches, evidenced by enlargement of the udder, waxing of the teats, falling in over the hips, enlargement of the vulva, and increased docility and quietness, she should be placed in a roomy, well-aired and lightly-bedded loose box, and placed under the care of a trusty attendant. If present at the foaling, which, if normal, only takes a very few minutes, and if everything is going on favorably, little or no assistance is needed. If, however, after protrusion and rupture of the water bag, if after the interval of one or two hours no further progress is made, skilled veterinary help should be summoned to rectify the probable abnormal presentation. The membranes should be removed from the head of the foal as soon as it is born, the navel string divided and tied at about one to one and a half inches from its body, and a solution of carbolic acid, 1-25, or bichloride of mercury 1-500, applied to the navel soon afterwards. Daily dressings for three or four days are advisable. If the foetal membranes (afterbirth) are retained, they should be removed by a veterinarian or skilled person, and an antiseptic uterine douche given not later than twenty-four hours after foaling. The foal should be got up to suck as soon as possible after birth, so as to ensure its getting the colostrum (the first milk, which contains a purgative principle). Some breeders administer a little (teaspoonful) of unsalted butter, and thus prevent that bane of early foalhood—constipation.

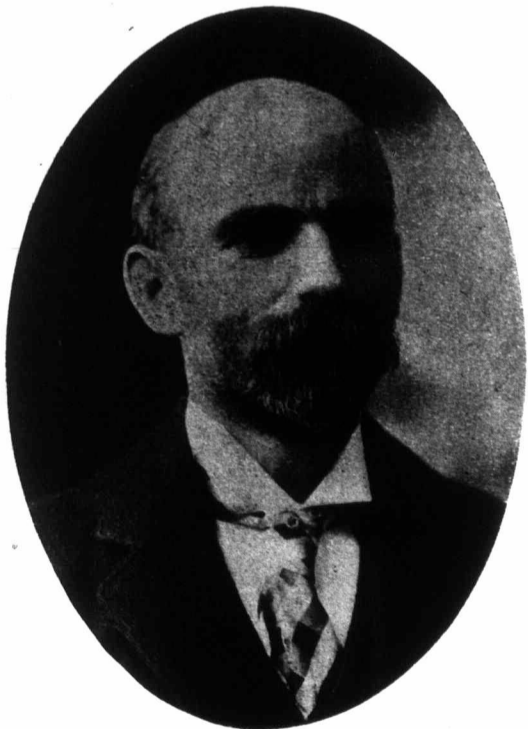
THE FOAL.

The foal should be watched carefully, to see that the urinary and fecal passages are patent. If constipation does ensue, rectal injections of tepid water and soap, glycerine or a cone of soap introduced into the rectum, are to be recommended. If necessary to work the mare soon after foaling, she should only be worked for half the usual period and returned to the stable, so as to allow the colt to suck her. Later on the mare may be kept away the full working period, for a half day, but if warmed up when brought to the stable, she should be allowed to cool off, and some of the milk removed



H. L. BECKETT, B. S. A., OF HAMILTON.
President of the Ontario Agricultural and Experimental Union.

from her udder, before allowing the bolt to come to her. By so doing the breeder will tend to avoid intestinal derangements in the foal. The practice of allowing the foal to follow its dam around during the working period cannot be too strongly deprecated. The mare should be fed bran mashes for a few days, while convalescing from the foaling, and tepid water should be given her to drink, followed in a few days by the addition of oatmeal to the ration, which should be supplemented by good pasture or hay. Care should be taken that milk does not accumulate in her udder (a common occurrence), as the foal, when quite young, is incapable of taking



CHAS. A. ZAVITZ, B. S. A.
Secretary of the Ontario Experimental Union, and Experimentalist at the O. A. C.

all the milk supplied. A box should be fixed up in the stall, and feed put in it for the foal, who will soon learn to nibble. A mixture of bran and oatmeal, moistened with milk, is very good; by this method it can be taught to drink cow's milk, a very desirable accomplishment as it grows older. At from seven to ten days after birth, a halter should be applied and the little fellow handled for a few minutes each day. This procedure should be kept up until the time of breaking. At six to eight months old the foal is weaned, and as it eats well by this time, little loss should ensue.

THE COLT.

If possible, it should be placed with other weanlings or with an old horse for company. From weaning time till put to work, the period of adolescence, is the critical period of the foal's life; neglected during its first two or three years, it will become stunted and spoiled forever. It must not be forgotten that a growing animal, such as the colt is, needs an abundant supply of nitrogenous food in order to furnish material for the proper growth of bone and muscle; on the other hand, the colt must not be pampered and deprived of exercise, or overfed, or the result of going to these extremes will be a soft, flabby-muscled horse, with puffed hocks. The straw-stack boarding-house regime entails misery on the colt, in the form of unthriftiness, worms, and other troubles. If a colt does not appear to be doing well, in spite of good fare, an examination should be made for lice or worms, and the teeth should also be examined. Contrary to the general opinion, colts at two and three years often suffer from teething; in such cases the veterinarian is indispensable. The feet of the colt should have unremitting attention; superfluous horn should be removed at regular intervals; neglect to do so will result in premature lameness or blemishes. Colt foals, unless of A1 quality and registered, should be castrated at one year old. There is no gain by leaving them unaltered until two or three years old; should they die at the latter age, the loss is more severe. Stabling, shoeing, watering and feeding are subjects of themselves. Suffice it to say that the stabling should be roomy, well lighted, well ventilated, and so arranged that the horses can see one another. Shoeing should be done at regular intervals, say once every six weeks. Watering and feeding will depend a great deal on the owner and attendant, save that regularity of supply is a *sine qua non*, and also that the quality must be right and the quantity ample. Watering should be done previous to feeding, as a rule.

FARM.

Growth of the Ontario Agricultural and Experimental Union.

The Ontario Agricultural and Experimental Union was started in 1880, and was composed of professors, students and ex-students of the Ontario Agricultural College, who paid the annual membership fee of 50c. The objects of the association were to form a bond of union among the officers and students, past and present, of the Ontario Agricultural College and Experimental Farm; to promote their intercourse with the view to mutual information; to discuss subjects bearing on the wide field of agriculture, with its allied sciences and arts; to hear papers and addresses delivered by competent parties; and to meet at least once annually for these purposes. Each member had the privilege of receiving seed for experimental purposes, and was expected to report to the Union the result of any experiments which he conducted, and also to give his experience on such subjects as came under the scope of the association. It appears, however, that no definite system of experimental work was started until 1884, when Dr. Hare arranged a plan of action, and nine or ten ex-students volunteered to assist in conducting experiments. By the end of 1885 not many results of the co-operative experiments had yet been obtained, as only three complete reports of one year's work had been received since the Union was started six years previous. The annual meetings, however, had been interesting and profitable, and a foundation was being laid for future work.

In the spring of 1886 a new committee was appointed, and the co-operative experimental work was started in real earnest. In the following summer twelve experimenters conducted uniform tests in agriculture, on their own farms, and eight good reports were secured as the result. From that time onward the development of the work has been of a very substantial character, and the results are now received with eagerness by the best farmers of the Province. The present work embraces agriculture, horticulture, live stock, dairying, bee-keeping, noxious weeds, insect pests, and soil moisture. In 1889 the agricultural experiments were conducted with fertilizers, fodder crops, roots, potatoes, grains, grasses and clovers, on three thousand, four hundred and eighty-five farms, and occupied twelve thousand and thirty-five plots; and the horticultural experiments were conducted with the various kinds of small fruits on upwards of two hundred farms throughout Ontario. The summary results of these co-operative experiments will be presented and discussed at the annual meeting of the Union, to be held at the Agricultural College, Guelph, on the 6th, 7th and 8th of December. Those who purchase a single ticket to Guelph for those dates, and get a standard railroad certificate, properly filled out by the ticket agent, will get free transportation to the starting point when returning.

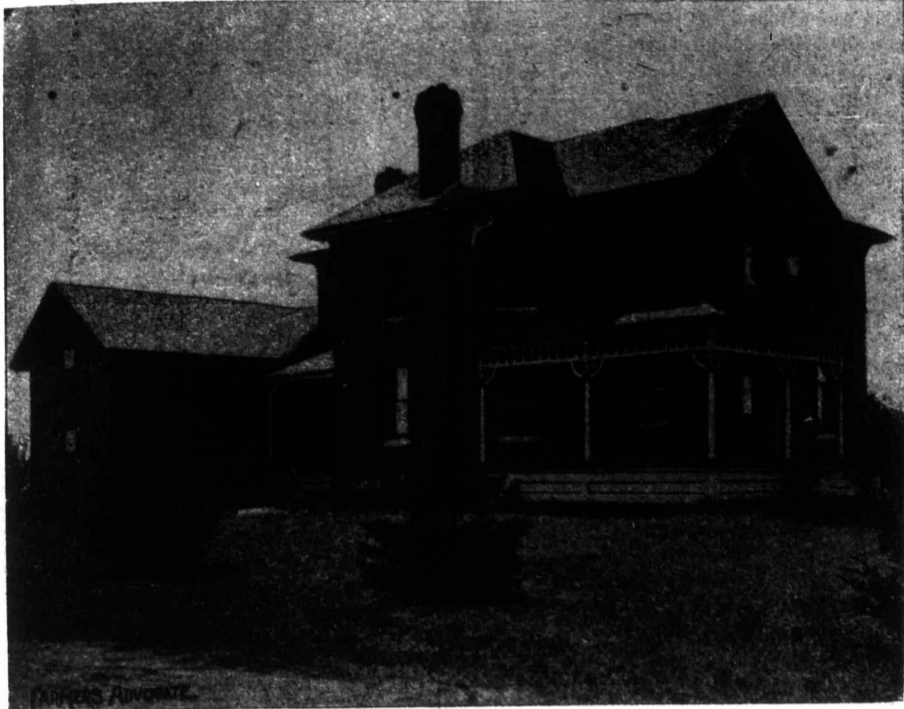
The president during the past year has been Mr. H. L. Beckett, B. S. A., Hamilton, and the secretary and director of experiments, Mr. C. A. Zavitz, who has justly earned a high place for himself as experimentalist on the staff of the Ontario Agricultural College, the practical and high standard of his work attracting recognition not only throughout America, but in Great Britain as well.

Description of Wellington F. Justin's Farmhouse.

(SECOND PRIZE.)

FARMER'S ADVOCATE:

GENTLEMEN,—I have pleasure in mailing you plans and specifications, also photo, of our residence for competition for the prize you offer in *ADVOCATE*. The house was erected in 1897, for the accommodation of a small family on 100-acre farm in the township of Trafalgar, County of Halton, Ont., and cost when completed (not counting proprietor's work for teaming material), about \$2,000.



RESIDENCE OF WELLINGTON F. JUSTIN. SECOND PRIZE IN FARMHOUSE PLAN COMPETITION.

The chimneys are all tile flued, and extend from cellar up, always keeping cellar well ventilated; cellar excavated 3 ft. and having a grade-up of 18 inches, leaving 2 ft. of stone wall clear above surface of soil.

We had a few changes made in plan after it was submitted to me, which you will observe. (The "Specifications" explain all.) We are well pleased with our house, and would not change any part now; would perhaps add one or two more mantels and grates, say, one in dining-room, also one in large chamber above to use in case of sickness.

I hope the above may meet with your approval for a prize, and may be beneficial to some other party who intends erecting a home. The whole building was planned and erected with a view to economy and also convenience for housekeeper. It is quite easy to understand all from plan and "Specifications," which were followed out all through. The same scale extends through all.

WELLINGTON F. JUSTIN,
Halton County.

SPECIFICATIONS.

Stonework.—Build all stone walls for main house 6 ft. 6 in. high and 18 inches thick, to be well bonded, and to have as many stones to extend across wall as possible; all angles to be built plumb, and all walls left level to receive bond timber for joist to rest on; all cellar walls to be neatly pointed inside, and outside walls above ground to have struck joints to be done in neat, workmanlike manner. Build in all door and window frames at their proper levels.

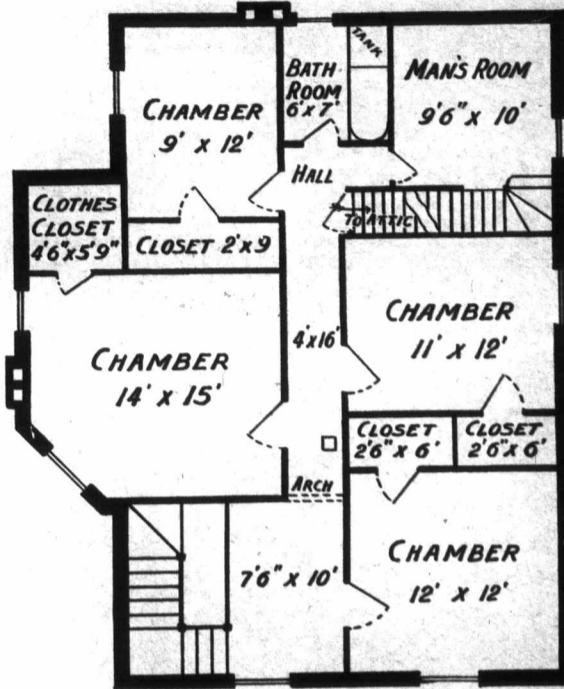
Build all flues for chimneys; build in all stovepipe collars or ash-pit doors that may be necessary, or that is furnished by proprietor; build stone walls to form entrance to cellar; build stone walls for front veranda where shown. Proprietor to furnish all materials for stonework and to do all excavating and teaming; stone mason to set out building and to be responsible for correctness of same; build the central wall in cellar with brick or stone as afterwards directed.

Brickwork.—Proprietor to furnish all material for brickwork, with the exception of mortar color, and do all teaming; contractor to furnish mortar color and all material for scaffolding, the said scaffolding to remain for other trades; contractor not to use any material belonging to carpenter in building scaffold; proprietor to bring and return scaffold material when building is completed; build all walls colored red on plan with pressed brick furnished by proprietor, bricks to be carefully selected and the best class to be used on front of building; brick to be laid with neat head joint in colored mortar, and not to rise more than 1 inch to every four courses—that is, 1 inch of mortar to every four courses laid; all walls to be carried up plumb and level, with joints plumb over each other; turn neat brick arches or set stone caps (as may be specified by proprietor) in neat and proper manner; build chimneys where shown to be one foot higher than roof ridges, to be well plastered inside from top to bottom; build tiles in chimney on north side of building, also all chimneys to be finished with tiles on top throughout; build into chimneys all stovepipe collars that are required, and rods to stay chimneys to roof; build in 2x4 bond timber where directed, the same to be placed 9 inches from outside of brick wall to inside of bond timber, this to be strictly carried out; beam all all joist on ground floor, and from plate to roof sheathing; plaster inside of brick walls one coat of mortar before strapping is done.

Carpenter and Joiner's Work.—Contractor to find his own board, to furnish all material for carpenters' and joiners' work, also all nails, spikes, or other hardware hereafter specified, and that is necessary for the proper completing of building according to plans and specifications; the material for carpenter work to be of the best quality of hemlock, and of the following dimensions:—Ground and first floor joist, 2x10; ceiling joist, 2x8; rafters and ridges, 2x6; angle rafters, 2x10; plates, double 2x8; studding and bond timber, 2x4; sashes, 4x8; the ground and first floor joist to be laid level, with crowning side up, at 16-inch centers, the first floor joist to be brought all to same width throughout, all joist to have one row of bridging between each bearing, ceiling joist to be placed 16-inch centers, and to extend over walls to form cornice; rafters to be placed 16-inch centers and well spiked to plates, as shown in drawings; cover roof with good sound, dressed inch lumber, well nailed to rafters, and left ready to receive slate; build saddles behind chimneys, and leave ready for tinsmith to cover with galvanized iron.

Form cornice with 9-inch fascia board and soffit, sheathed with narrow beaded sheathing, with brackets placed in pairs, as shown, with large bedmoulds cut between; gable trimmings to be carried out as shown, with panel verge boards, and large bracket at attic window to stop cornice; large wood brackets under angle on south side. Build front veranda with 2x8 joist, 1 1/2 flooring, not more than 3/4 wide, of good quality; 1 1/2 beaded sheathing on roof, 2x4 dressed and beaded rafters, and covered with No. 1 cedar shingles laid 1/4 to the weather, 6x6 turned and moulded posts, with turned 4 1/2 in. cornice (all to detail). Build outside steps to all outside door, with 2-inch strings, 1 1/2 treads, and 3/4 risers, to rest on large stones or cedar posts. Build side veranda where shown, with joist, floor and roof same as front veranda, 5x5 chamfered and moulded posts, with brackets and bedmould. Put up all inside partitions where shown. Strap all outside brick walls with 1 1/2x2 strapping, well nailed to 2x4 bond timber, to be plumb and straight, and placed 16 centers. Kitchen and pantry floors to be laid with surface-dressed, inch, well nailed to joist, and re-laid after plastering is done with No. 1 birch flooring not more than 2 1/2 wide, to be kiln dried, same as detail; all the rest of ground floor and first floor laid with 1-inch pine flooring, dressed and matched, to be of good quality, free from large knots, and not more than 4 1/2 wide.

Attic laid with good, sound, surface-dressed, inch, well nailed to ceiling joist; parlor, hall, and dining-rooms to have 5-inch face-moulded casing, with band-sawed head and moulded base blocks, with 10-inch double moulded base, with carpet strip at floor; all the rest of rooms to have 5-inch casings, with turned corner and moulded base blocks, with 8-inch moulded base and 1 round. Kitchen to be sheathed 10 ft. 2 in. high, with narrow matched and beaded birch, not more than 2 1/2 in. wide, and of a uniform color; all trimmings of kitchen to be birch, kitchen ceiling to be sheathed with narrow beaded and matched birch, same quality as wainscoting, and finished at walls with birch bedmoulds and turned corner blocks.



UPSTAIRS PLAN OF WELLINGTON F. JUSTIN'S HOUSE.

Bath-room sheathed 2 ft. 10 in. high, same as kitchen; all the rest of rooms on ground and first floor, except closets, to have 8-inch moulded base, with 1 round at floor; closets to have 6-inch square base and 4-inch square casings, with penrail and shelf, and at least half a dozen coat and hat hooks. All the ground floor trimming to be for oil finish, of first quality of pine, except kitchen; all the birch sheathing of kitchen to be kiln dried, and all trimmings to be well smoothed before being put on.

Front doors to have 2x8 moulded and rabbeted frame, with 1 1/2 door made to receive glass in top panel, of neat design, hung with three 4x4 loose-pin steel butts; a good front door set in keeping with building; side and back door to have 3x8 moulded frame, with 1 1/2 door hung with three 4x4 loose-pin steel butts and good mortise locks; all the rest of doors on ground floor to be 1 1/2 five panels, O. G. raised, kiln-dried doors, hung to 1 1/2 frame with 3x3 loose-pin steel butts, and good mortise locks of approved design; all doors on ground floor to be made for oil finish; side entrance to be made to receive glass in top panel, to have six margin lights; first floor doors to be 1 1/2 five-panel doors, hung with 3x3 loose-pin butts and good mortise locks. Outside doors to have white oak sills; cellar to have 1 matched and battened doors hung to 10x8 frames, with 6 T hinges and thumb latch. All windows on ground and first floor to have box frames made in usual way, with 1-inch pulley stiles, 1 1/2 hanging stiles, 2x6 heads and sills, 2-inch iron axle pulleys, and hung with cast-iron weights and Silverlake sash cord; 1 1/2 sash hung with strong sash locks and lifts; attic and cellar windows to have 2x6 rabbeted frames, 1 1/2 sash hung with 3-inch steel butts and metal buttons; cellar window frames to have white oak sills; put good outside blinds on all windows, except cellar and attic, hung with strong blind hinges and fastenings.

Pantry fitted up with cupboard, where shown, with cupboard inclosed at bottom and top, with sheathed and battened doors hung with 3-inch butts and cupboard catches; form entrance to cellar from pantry with 2-inch strings and treads, to be dressed; build stand for sink where shown, and enclose with small door (sink to be furnished by tinsmith).

Build back stair with 1 1/2 strings and treads, 3/4 risers, treads and risers housed into strings and well wedged; attic stair made similar to back stair, front stair to have 1 1/2 strings, 1 1/2 treads, and 3/4 risers, treads and risers housed into and wedged into strings; wall string moulded to correspond with base in hall; front string paneled and moulded and sheathed to floor to form closet; to have 6x6 turned birch newel at bottom and 5x5 at landing, and top with 3x4 birch rail grooved to receive 1 1/2 birch turned balusters, all to be of good quality; form panel at bottom of stair, to be neatly moulded, and put rail with turned spindles from newel post to wall (all to detail). Put in all boxes for stovepipe collars in ceilings and partitions where shown or directed. Build outside cellar steps where shown, with 2-inch strings and treads; put up partition in attic to support rafters where shown.

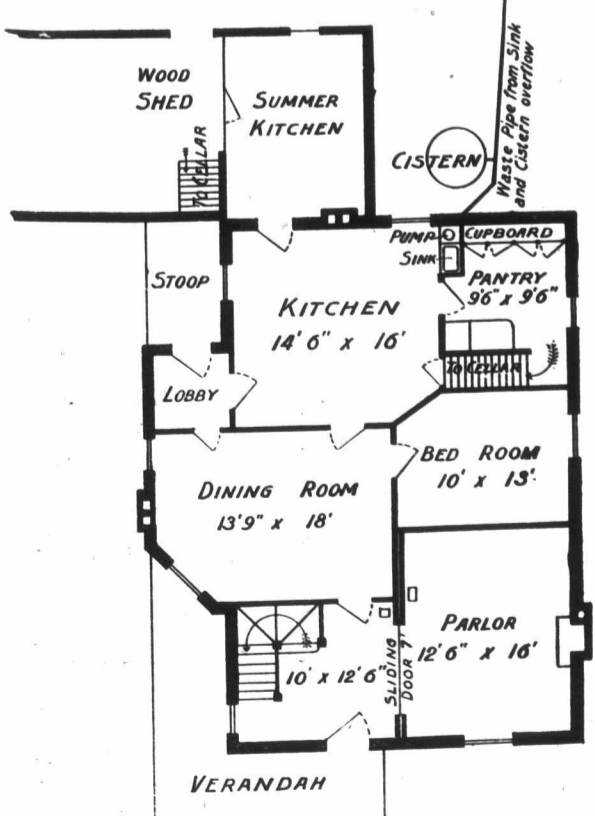
Frame deck with joist 2x10, placed 2-ft. centers, well spiked together; form manhole on top; roof of deck to be covered with matched inch, to be left ready for galvanized iron. Build waiter in pantry where shown, to extend to cellar, and enclosed in cellar with screen door, and in pantry with sheathed and battened door, with all the necessary ropes and pulleys made to work freely to and from cellar; form flour-bin beside waiter, with table-top over flour-bin, made to slide on rollers with two

Material Used in Construction.—For foundation stone—Limestone beneath the surface of ground and dressed freestone for portion above (two feet above); also dressed stone sills for all windows. Brick—No. 1 pressed brick for outside, and discolored *hard* brick for inside wall, all laid in colored mortar with beaded joints. (See "Specifications.") It took about 35,000 brick, at a cost of \$9.00 per M, delivered at nearest railway station.

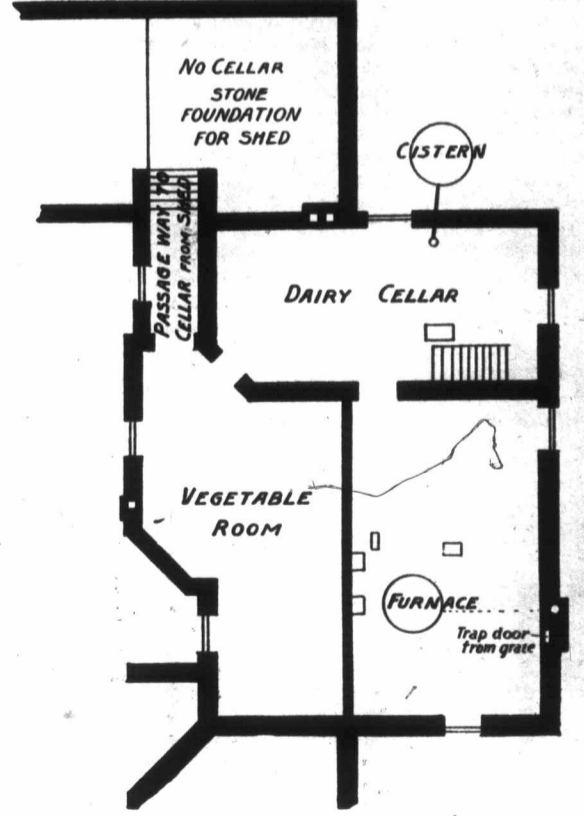
The building is covered with No. 1 black slate, which cost about \$100 more than No. 1 shingles would. All the outside woodwork received three coats of paint, and inside on ground floor is finished in oil. I would suggest all inside work finished in oil, thus leaving the natural wood. (See "Specifications.")

For size of house see plan—scale 4 ft. to the inch (four feet to in.). For a larger family, building could be extended, say ten feet farther back, thus making more kitchen room and also more bedrooms for servants, etc.

The parlor is supplied with a first-class mantel (oak) and an English fire-grate set on tile; bath-room supplied with a water tank to hold about 50 gallons, also a steel-clad, nickel-plated bath tub, 5 1/2 ft., and a marble wash bowl; soft water being forced up to tank from pump below in sink in kitchen. (See plan.)



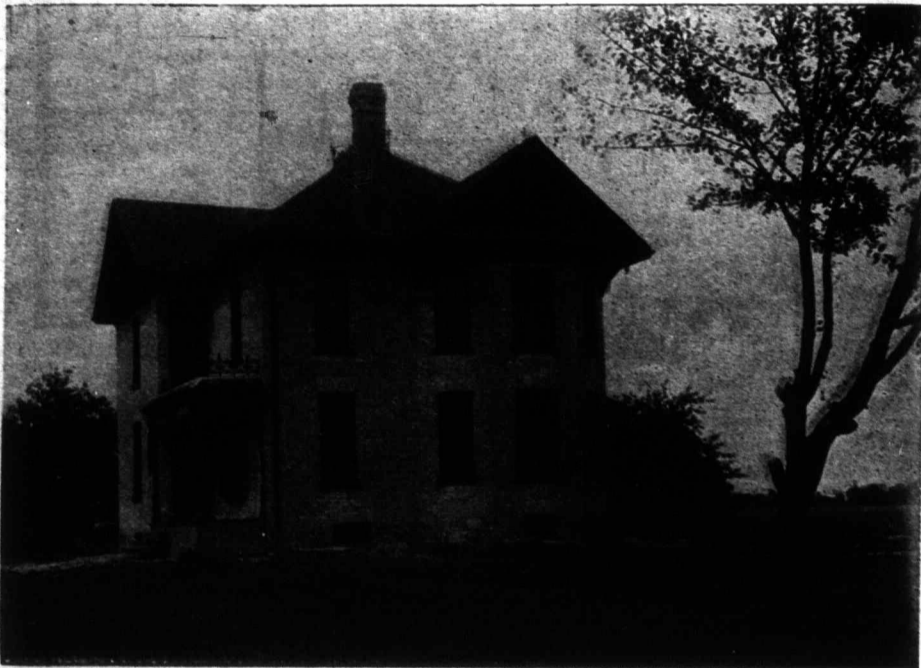
GROUND-FLOOR PLAN OF WELLINGTON F. JUSTIN'S HOUSE.



CELLAR PLAN OF WELLINGTON F. JUSTIN'S HOUSE.

draw pulls. Sliding door between hall and parlor to be 7 feet wide, 1 1/2 inch thick, 8 feet high, and hung with Lane's parlor door hinges, with handy pulls; partition to be sheeted between studs opposite door slide.

Plastering.—Lath all walls, ceilings and partitions of ground and first floors of main building with good quality of sawn lath, well nailed and joints well broken; plaster all the above lathed work with two coats of mortar run into beds, with the proportion of lime, sand, and hair, to be run off at least one week before being put on; the first coat to extend to floor, and behind all casings; last coat furnished with white lime and plaster of Paris, with the proper proportions of each, and to be well troweled; lath and plaster ceiling of room in cellar under kitchen, one coat; put up centers in parlor, hall and dining-rooms; build in all stovepipe collars in ceiling and partitions where directed; the contractor to furnish lath, lath nails, and hair; proprietor to furnish all balance of material and do all taping; the contractor to furnish his own scaffolding and board; put cement floor in cellar under kitchen.



RESIDENCE OF MR. W. W. REVINGTON. THIRD PRIZE IN FARMHOUSE PLAN COMPETITION.

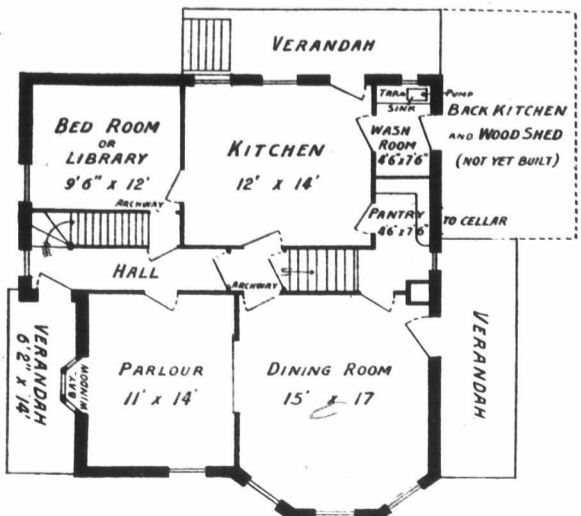
Tinsmith Work.—Tinsmith to furnish all material for galvanized iron work, or anything below specified, all iron to be used 26 gauge, and of a good brand; furnish an 18-inch steel sink for pantry; put good galvanized iron eavestrough on main building; put square conductor pipes of galvanized iron of sufficient size to carry off all water, to be placed where directed; put small trough and conductor on front veranda; all conductors to be connected with boxes or other fixtures that may be supplied by proprietor.

Painting and Glazing.—The painter to furnish all material for painting and glazing, to be of the best quality of the several kinds required; knot-stop and prime the whole of the outside dressed woodwork with the best oil and lead them to receive two more coats with colors as directed by proprietor; the veranda floors and roofs to be painted; eavestrough and conductor pipes to receive two coats; all the inside work on ground floor to receive one coat of oil, and well rubbed off before being dry, then to receive two coats of hard oil, to be well sandpapered with No. 1 paper after each coat; all woodwork to be stained, if desired by the proprietor, and if so, the said stain to be done in oil; the woodwork on front stair to be rubbed; all wood work on first floor to receive three coats, with colors as directed, to be well stopped and puttied, and sandpapered after each coat before receiving another; closets to receive two coats; kitchen and pantry floors to be oiled; the outside blinds to be painted to suit proprietor; prime and glaze all windows of main house with double diamond glass of good quality, to be well tacked and puttied; attic and cellar to be glazed with star glass; all frames to be primed before being placed in building; cellar doors and windows inside to receive two coats.

Description of Third-Prize House Plan.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—Enclosed you will find plans of a farmhouse completed this year, and for comfort and convenience is considered hard to beat. It has ample accommodation for a family of ten, and if more room is needed the upper flat or garret, as can be seen by the photo, will furnish two rooms 12x16 feet each extra, making seven bedrooms in all. We only use this for a storeroom. This house is 32 1/2 x 33 feet, the nearer square the more cubic feet it contains, as you are aware, and was built with first-class material and workmanship for \$1,500, not including board or our own labor, hauling materials, etc. The contracts were let last season and before the sharp advance which has taken place in the price of build-



GROUND-FLOOR PLAN, W. W. REVINGTON'S HOUSE.

ing materials, so that some of the work would probably come higher to-day. Some might fancy a wider front hall, and if so, it is easy to add more space.

The basement floor is laid with cement; cistern plastered also with cement. All woodwork got six coats of paint or varnish. The rooms are all large and well ventilated; there being also transom fanlights over the doors of the up-stairs rooms. The basement is lathed and plastered, and has a cement floor and is 6 ft. 3 in. high; the ceiling of first floor is 9 ft. 6 in. high; the ceiling of second floor is 8 ft. 10 in. high; the ceiling of attic is 8 ft. high. The attic has a door on top that leads on deck. There is a closet off center bed-room beneath the stair leading to attic. The basement is of stone, walls 22 inches thick. The dividing wall of basement is 9-inch brick wall. The large part of basement (14x25) is divided into two sections by a partition [NOTE.—Our artist has not shown this on the plan.—Ed.], separating the dairy room from the room for sealed fruit and provisions. The dumb waiter goes up from the latter to the corner of the dining-room, next to pantry, and there is an opening, or, rather, small door, between, making it very convenient, so that things can be taken off or put on waiter either from pantry or dining-room. The walls of the house are one foot, brick, with inch airspace, lathed on strips nailed to bond timber. The inside stair leading from the basement comes out under back stairs and opens into the pantry. There

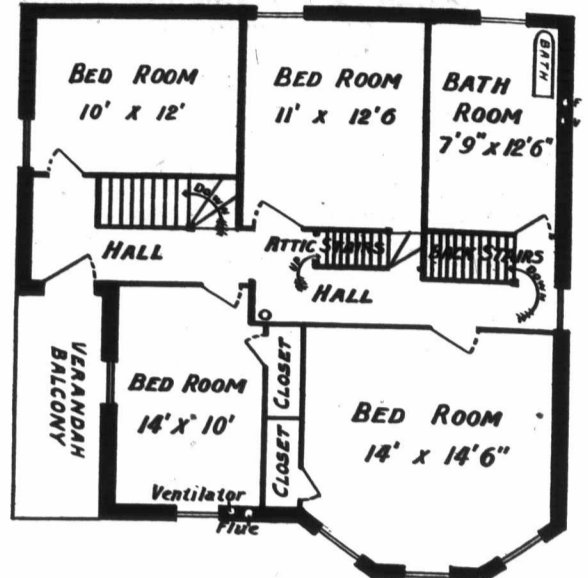
is a closet under the front-hall stairs, and we find it very convenient, as it receives the rubbers and coats before going into the parlor. The house is heated with a furnace, shown in basement plan. With regard to water supply and drainage, the cistern shown in rear corner of cellar, under wash-room in first floor, supplies soft water for bath-room and sink. The kitchen stove is arranged with what is called a "water front," which acts as a heater for the water and which discharges hot water into a 30-gallon range boiler set on a stand beside the stove, and from this is distributed hot water to bath-room above. The cold water is first pumped up from the cistern by a hand force pump next sink in wash-room (adjoining pantry) to the lead-lined tank in the attic over bath-room, and which acts as a distributor, pipes running down to stove heater and to sink. The waste-water pipes from bath and sink run downward by cistern wall and into a five-inch tile drain, into which the cistern can be drained away if required. Hard water is to be brought into house through pipes from spring well. The dumb waiter from cellar to pantry, worked by a rope lever and double pulley, is very convenient. The kitchen is ceiled with white ash lumber, sized 3 inches wide and beaded and varnished. The bath-room is lined with pine lumber, 4 ft. high, and oiled and varnished also. There is an air space or flue in each chimney for ventilation, with an air slide for each floor. The house was not occupied when I sent the plan, and therefore not quite completed.

The work was let by tender as follows:

Masonry and plastering	\$ 165 00
Painting and glazing and furnishing all glass	130 00
Carpenter	115 00
Slating	110 00
Furnace	80 00
Furnishing door frames, sashes and surbase	300 00
lumber	125 00
12,600 ft. hemlock lumber and scantling at \$100,	
and 140 bunches lath at 18c.	70 00
The flooring and other lumber cost	41 00
205 bushels of lime at 20c	130 00
32,250 brick at \$4.00 per M.	23 00
Hardware	20 00
Eavestrough	14 50
Cresting	8 00
Plaster of Paris	6 00
Tile	15 50
26 loads of sand (delivered) at 60c.	10 00
8 barrels of cement at \$1.25 per barrel	6 50
Hair	100 00
Bath-tub, basin, pump, and plumbing, all complete	
	\$1,469 50
For extra expenses	30 50
Total	\$1,500 00

Farmers' Institute Delegates.

The regular meetings of the Farmers' Institutes of Ontario have been arranged to be held in the various divisions during the months of January and February, 1900, with the exception of divisions 7a to 10, inclusive, which will be concluded in December, 1899. Supplementary meetings will be held in divisions 2a to 10 during January and Feb-



UPSTAIRS PLAN, W. W. REVINGTON'S HOUSE

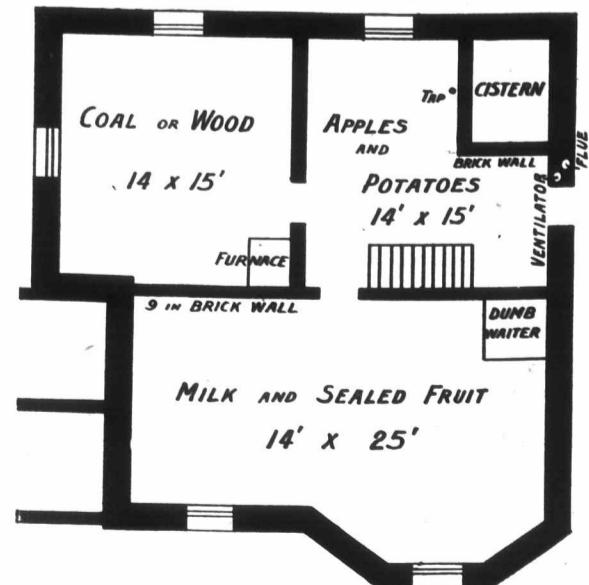
ruary. The delegates and divisions in which they will speak at the meetings are as follows:

REGULAR MEETINGS.

- Division 1.—Henry Glendenning, Manilla; Andrew Elliott, Galt.
- Division 2.—J. S. Woodward, Lockport, New York.
- Division 3.—John McMillan, M. P., Seaforth; F. M. Lewis, Burford.
- Division 4.—Duncan Anderson, Rugby; A. W. Peart, B. A., Burlington.
- Division 5.—A. McNeill, Walkerville; Mrs. Andrew Kenny, Grand View.
- Division 6.—Major James Sheppard, Queenston; John Echlin, Carleton Place.
- Division 7a.—Major James Sheppard, Queenston; J. G. Davidson, Collingwood.
- Division 7b.—J. S. Woodward, Lockport, New York.
- Division 8.—Wm. Rennie, sr., Toronto; Miss Blanche Maddock, Guelph.
- Division 9a.—T. G. Raynor, B. S. A., Rosehall; J. N. Poget, Canboro.
- Division 9b.—Henry Glendenning, Manilla; Daniel Drummond, Myrtle.
- Division 10.—John McMillan, M. P., Seaforth; Miss Laura Rose, Guelph.
- Division 11.—Robt. Thompson, St. Catharines; W. S. Fraser, Bradford.
- Division 12.—G. C. Caston, Craighurst; W. C. Shearer, Bright.

SUPPLEMENTARY MEETINGS.

- Division 1.—T. G. Raynor, B. S. A., Rosehall; A. W. Peart, B. A., Burlington.
- Division 2a.—Major James Sheppard, Queenston; J. N. Poget, Canboro.
- Division 2b.—G. C. Caston, Craighurst; A. P. Ketchen, Brucefield; Robert Harcourt, O. A. C., Guelph, Jan. 30th to Feb. 5th, inclusive; Feb. 5th to 24th, inclusive.
- Division 3.—Henry Glendenning, Manilla; W. N. Hutt, Southend.
- Division 4a.—J. S. Woodward, Lockport, New York; Miss Alice Hollingworth, Beatrice, Muskoka.
- Division 4b.—Andrew Elliott, Galt; C. W. Nash, 105 Waverly Road, Toronto.
- Division 5.—Duncan Anderson, Rugby; W. C. Shearer, Bright.
- Division 6.—Simpson Rennie, Milliken; J. G. Davidson, Collingwood, Feb. 5th to 27th, inclusive; C. A. Zavitz, O. A. C., Guelph, Jan. 30th, to Feb. 3rd, inclusive.
- Division 7a.—John I. Hobson, Guelph; J. N. Poget, Canboro.
- Division 7b.—T. G. Raynor, B. S. A., Rosehall; H. R. Ross, B. S. A., Gilead.
- Division 8.—J. E. Orr, Fruitland; N. G. Somerville, Lanark.
- Division 9.—A. P. Ketchen, Brucefield; A. M. Campbell, Dominionville.



CELLAR PLAN, W. W. REVINGTON'S HOUSE.

Division 10.—J. G. Davidson, Collingwood; D. Drummond, Myrtle, Jan. 2nd to 12th, inclusive; A. C. Hallman, New Dundee, Jan. 13th to 30th, inclusive.

LIST OF RESERVE SPEAKERS.

James Battle, Thorold; G. A. Brodie, Bethesda; Martin Burrell, St. Catharines; A. M. Campbell, Dominionville; G. C. Caston, Craighurst; D. Drummond, Myrtle; John Echlin, Carleton Place; A. Elliott, Galt; V. Ficht, Oriol; W. S. Fraser, Bradford; A. O. Hallman, New Dundee; W. W. Hilborn, Leamington; W. N. Hutt, Southend; R. Honey, Brickley; A. P. Ketchen, Brucefield; F. M. Lewis, Burford; B. O. Lott, Anson; D. McCrae, Guelph; R. McCulloch, Snelgrove; J. McEwing, Drayton; A. McLean, Carleton Place; John McMillan, M. P., Seaford; Mungo McNabb, Cowal; A. McNeill, Walkerville; T. H. Mason, Straffordville; J. E. Meyer, Kossuth; Nelson Monteith, M. P. P., Stratford; C. W. Nash, Toronto; J. E. Orr, Fruitland; Simpson Rennie, Milliken; A. J. Reynolds, Danforth; H. R. Ross, Gilead; W. C. Shearer, Bright; Wm. Smith, Columbus; Nelson G. Somerville, Lanark; R. S. Stevenson, Ancaster; R. Thompson, St. Catharines; Jas. Tolton, Walkerton; Hudson Usher, Queenston; I. Usher, Queenston; T. C. Wheatley, Blackwell.

LADY DELEGATES.

Miss A. Hollingworth, Beatrice; Mrs. A. Kenney, Grand View; Miss B. Maddock, Guelph; Mrs. M. J. Rogers, Kinsale; Miss L. Rose, O. A. C.; Guelph; Mrs. J. L. Smith, Whitby.

Local Game Protection Societies.

SIR.—This subject, referred to in a recent issue of the FARMER'S ADVOCATE, tends to awaken the minds of the farmers to the need of some effort to preserve the beneficial birds, which are Nature's own insecticides, and also to prevent the complete extermination of useful game.

In this district (North Middlesex) it was not the farmers only who were doing the mischief, as sounds of destruction most frequently were heard when farmers were too busy to attend, though occasionally farmers, possibly through ignorance of the vast injury to themselves and their neighbors, have been known to organize shooting matches, in which perhaps fifty men, after choosing sides, would engage, rival couples keeping together and shooting to kill everything visible, points being allowed according to the importance of the bird or animal shot. Thus a clean sweep was made—squirrels, woodpeckers, chipmunks, owls—everything except the most cunning and elusive creatures; the grand finale being a supper, for which the losing side paid, and at which each man was accompanied by his wife or best girl. In addition to this method of destruction, and a much more regular plan, was adopted by the idlers from the neighboring towns and villages, or those of them who could afford a gun. Even before the open season for game, they would roam the woods, which are fairly thick in this district, and to the chagrin of the property-owners, whose stock were unsafe in the woods and pastures, and who were too busy with their farm work to go hunting either the partridges or the hunters.

The young farmers began discussing the question, saying—"This is going too far," "I wonder who owns these woods, me or the sportsmen?" "This is a little too cool," "It's time this kind of work was stopped," and "Let's organize and see what can be done."

Finally a time and place of meeting was named, and they were unanimous in their decisions. The usual officers, president, vice-president, secretary, treasurer, and executive committee were appointed. A membership fee of twenty-five cents was asked, and all farmers in a given area were invited to join, many of whom were glad to do so, though a few prefer to leave their woods open to the public. The club is now in its third year, and there is still funds in the treasury, without a second payment being required. Out of the funds a stencil and paint were bought, so that the executive committee prints all notices and also puts them up, two in every forty acres to be protected. Also, for the benefit of the sporting element in the club, blue rocks and a trap were purchased, the rocks being sold at a slight advance to those wishing to take part in any of the shooting matches. This method of attaining skill in shooting is quite interesting, and is by far less destructive than the old plan of bird shooting.

Adjoining districts have asked to be admitted to membership, and the protected lands are gradually increasing. The birds have become far more plentiful, and by far less wild. Each farmer is considered a gamekeeper, and if a shot is heard in his vicinity, he hunts the hunter, and when discovered—well, the poacher pays the imposed fines and costs of the court, and once is as often as he cares to try hunting or shooting on the club grounds. There are numbers of these game-preserving clubs, but there should be more, and if adjoining districts, instead of uniting with some society already formed, would organize new unions, in a very short time the whole country would be interested in preserving game and beneficial birds and animals. It is expected, as soon as a suitable season is here, that other enemies of partridge, viz., foxes and skunks, etc., will be hunted by the club. These have become more plentiful too, owing to the fact that no hunting, even by club members, has taken place since the club was organized. Sparrows, rabbits, foxes and skunks only are in any danger in this district.

The officers of any organization for the protec-

tion of birds will, I am sure, be glad to advise or assist any who are desirous of forming other societies.

Middlesex Co., Ont.

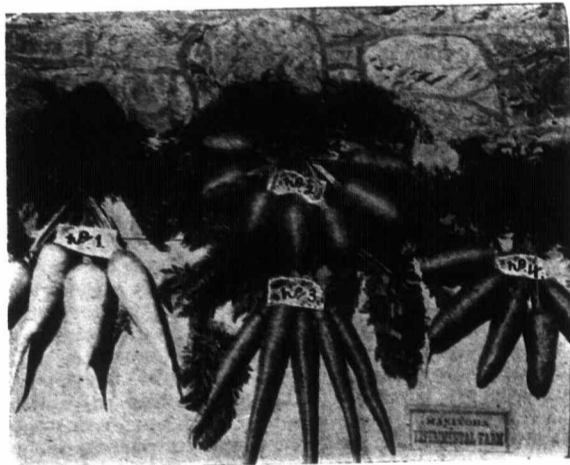
P. S.—The society above referred to is the Union Gun Club of McGillivray and East Williams. The address of the officers is Ailsa Craig, Ont. They are: President, George Charlton; Vice-President, J. D. Drummond; Treasurer, David Robinson; Secretary, H. C. Graham; any one of whom will consider it a pleasure to assist in the organization of similar societies.—M. E. G.

Renew Your Subscription.

We request our subscribers to be kind enough to remit their subscriptions for 1900 promptly, so as to lighten the extra work upon our staff at the end of the year, when the rush of renewals takes place. We are sparing no effort nor expense to give our readers the best possible service, and will certainly appreciate the early renewal of their support. Kindly make use of the first mail possible to remit your subscription, and oblige.

How to Secure an Extra Copy of the Christmas Number.

We beg to refer our readers to the announcement on page 672 of this issue containing references to a few of the special features that will appear in our Christmas number for 1899, to be issued on December 15th. As stated there, this superb number will be sent to every new subscriber for 1900. Nothing more appropriate could be sent as a souvenir or Christmas greeting to a friend. We have therefore decided to send an extra copy of the Christmas number (the price of which to non-subscribers is 50 cents) to any present subscriber sending us the name of one new subscriber accompanied by the subscription price, \$1.00. We trust that those who propose to avail themselves of this offer will do so without delay.



FOUR TYPES OF CARROTS GROWN AT BRANDON EXPERIMENTAL FARM, 1899.

No. 1, Iverson's Champion (white). No. 2, Oxheart. No. 3, Long Scarlet Altrinch. No. 4, Half-Long Chantenay.

Saved Him Money.

TO THE EDITOR FARMER'S ADVOCATE:
DEAR SIR,—I must take this opportunity of thanking you for the kind and timely advice which you gave me, and of course I heeded it. I will assuredly do all I can for the ADVOCATE among my friends and neighbors, as usual. I might say that this is the second time you have obliged us this way. We wrote you two years ago asking for information where to get a carload of corn, and your obliging reply saved us considerable money, as well as work.

Yours truly,
WM. J. MATHIESON.

Wellington Co., Ont.

A Good Turn to Others.

A very large number of our subscribers are taking advantage of the exceedingly liberal offer which we make as follows. It is simply this: That you send us the names and P. O. addresses of two new subscribers and \$2.00 and we will advance your own subscription one year and mark the new subscribers paid till the end of 1900. This is a case where your effort will prove a triple benefit—to yourself (a free paper for next year), to your neighbor, and to the paper itself, by enabling us to carry out more completely the arrangements we have made for improvements in the FARMER'S ADVOCATE for 1900. New subscribers will receive the FARMER'S ADVOCATE regularly from the time they pay their dollar until the end of 1900, including our handsome Christmas number, 1899, which alone to non-subscribers will be 50 cents.

EDWARD S. BURTON, Yorkton, As., Nov. 17th, 1899:—"It is a paper [FARMER'S ADVOCATE] that I would not be without."

The Protection of Insectivorous Birds.

To the Editor FARMER'S ADVOCATE:

SIR.—I have a copy of your valuable paper, the FARMER'S ADVOCATE, of November 1st. Your editorial and the article on the insectivorous birds in relation to agriculture have been perused, and should be strongly endorsed by all lovers of Nature and those interested in agriculture and the prosperity of the Dominion. I desire to draw your attention to the fact that this matter has been ably dealt with by Mr. Charles W. Nash, of Toronto, in his instructive little book (a copy of which I am sending you), viz.: "The Birds of Ontario in Relation to Agriculture."

Yours truly,

E. TINSLEY,

Chief Game Warden.

Parliament Buildings, Toronto, Nov. 14th, 1899.

POULTRY.

Practical Points on the Poultry Market.

BY A. G. GILBERT, POULTRY MANAGER, EXPERIMENTAL FARM, OTTAWA.

Enquiries as to how to dispose of small lots of fatted poultry are becoming numerous. There are not a few farmers and private parties who have from 50 to 300 Plymouth Rock, Wyandotte or Brahma chickens to dispose of. They do not think the number sufficient to send to the English markets on their own account, but would like to find a paying home market or to sell to some firm who are buying such superior quality of birds for shipment. The birds have not been fattened by forced feeding, but have been penned up in more or less limited quarters and fed on the most approved fattening rations. They are consequently a "superior" quality of poultry and are entitled to the superior price.

THE MONTREAL MARKET.

When in Montreal the fall before last the writer was assured by several leading dealers in poultry and game of that city—among them H. Gatehouse; Lamb, of Lamb's market; Brown Bros., and George Graham—that they were prepared to pay 10 cents per pound for poultry of the superior quality. They further stated that their customers were continually asking for such poultry, but that "it was mighty hard to get it." That was some time ago, but the demand still remains; indeed, is larger. The foregoing has no reference to artificially-hatched and reared chicks, which are generally put on the market in March and April. They are known as early broilers, sell at \$1.25 to \$1.50 per pair, and are disposed of when ten or twelve weeks old. When poultry is spoken of at 10 cents per lb., hen-hatched poultry from the farmers of the country is meant.

Of the Toronto market I know little, but correspondents tell me there is good demand for the superior quality. The earlier the hen-hatched poultry is put on the market the better.

THE BRITISH MARKET.

The British market is almost limitless, and offers remunerative prices for the very best quality of poultry flesh. The experimental shipments of fattened poultry from the Carleton Place Experimental Station, which were made under the auspices of the Commissioner of Agriculture and Dairying, Prof. J. W. Robertson, realized 16 cents per lb. wholesale. The shipment was handled by Ald. Rudden, an extensive poultry dealer in Liverpool, England, and whose recent visit to Canada will be remembered by many of your readers. The birds composing the shipment were Banded Plymouth Rocks, or first crosses of that breed, and averaged 11 lbs. per pair in weight. They were plucked, but not dressed, and were killed by having their necks dislocated, the blood remaining in the neck in a coagulated condition. After paying all expenses, including the purchase price of the birds, a profit of 50 cents per pair remained. It is not likely that many of our farmers will ship directly to England. Should they desire to sell to Canadian firms who export in wholesale quantities, they will do well to correspond with the following, whose names have been kindly given to me by the Commissioner of Agriculture and Dairying: The King-Darrel Produce Co., Toronto; D. Gunn, Bros. & Co., Toronto; Ingersoll Packing Co., Ingersoll; H. J. Colwell, Arthur; Booth & Co., Trenton; J. E. Hancock, London; H. Winter, Seaford; M. & W. Schell, Woodstock; Dundas & Flavelle, Lindsay.

SOME OF THE SUPERIOR QUALITY.

What I wish to make prominent on this occasion is the success which has attended the attempts of two of my farmer friends to produce the superior quality. I do so for the encouragement of those who are making a beginning, and to incite others to do likewise. The first letter is from Mr. A. McPhadden, of Dominionville, Ont., who writes: "I am now fattening B. P. R. cockerels, as suggested by you. I had not a suitable place to put them in, so I tried the crate plan. Two weeks ago (Oct. 25) I started with 8 birds weighing from 5 lbs. to 5½ lbs. each. I fed the first week, as directed, three parts oatmeal and one of peas; the second week corn meal was added; the third week the corn meal was increased. The result was: Total gain first week, 7 lbs., or ½ lb. per chick; total gain second week, 4 lbs., or ½ lb. per chick; total gain third week, 2½ lbs., or ¼ lb. per chick. The cost of producing 1 lb. of flesh was about 5 2-5 cents. I am satisfied at my experience in fattening, and would NOT be bothered WITH ANYTHING ELSE BUT THOROUGHbred PLYMOUTH ROCKS."

The writer may add that he bought (4) four of Mr. McPhadden's fattened chickens on the 1st of the present month. On their arrival they weighed 6.13, 6.12, 6.11, and 6.9, respectively. Two were killed, and after being kept for some days were eaten. The flesh was tender, of fine grain, and delicious far beyond the ordinary. There was no doubt of the very superior quality of the poultry flesh. Such poultry would simply be snapped up on the English market.

The second success was achieved by Mr. James Laidlaw, jr., a well-known farmer in the neighborhood of Guelph, Ont. He wrote on the 17th October that he had raised a large number of Barred and Buff Plymouth Rocks and Silver Laced Wyandotte cockerels. At that date, without any special fattening, they weighed 4, 5, to 7 and 8 lbs. each, the latter weight being attained by a few early ones. On the 25th October the average weight of all his Plymouth Rock and Wyandotte cockerels was 5½ lbs. Had they been penned up and specially fed the average would have been greater. Mr. Laidlaw adds to his last letter that he had sold all his spare birds to a dealer (who was sending them west) at a good deal better price than the local market paid, and without the trouble of dressing the birds. He says "he finds poultry pays him quite as well as any other line of stock."

CONCLUSIONS TO ARRIVE AT.

The conclusions for your many farmer readers to arrive at are:

FIRST.—Get the thoroughbreds which make the heavyweight chickens, such as mentioned.

SECOND.—Properly care for and feed the chicks from time of hatching.

THIRD.—Having got good chickens, see that they reach people who know what the "superior quality" of poultry is, and are willing to pay a price accordingly.

Ottawa, 20th Oct., 1899.

Preparing Dressed Poultry for Exhibition.

An exhibitor exhibits to win, and with dressed poultry, as with other show stuff, that presented in most attractive form has a great advantage over even better exhibits carelessly prepared. At the coming fat stock shows, dressed poultry will play a conspicuous part, and as "old hands" are sure to be forward, the beginners should take every precaution not to be outdone in the last stages of preparation. From a pen of well-fattened birds the cockerels should be chosen that are young and soft-meat, and those that are not spurry and hard. Full, broad breasts, legs wide apart, broad, rather short backs, and short, stout yellow legs are all desirable characteristics. Having selected the best from among the well-fattened of this type, they should be kept for twelve hours without food before killing. Kill by stabbing in the roof of the mouth, and pick dry. Not even the fine outside skin should be broken, which will require great care, especially when the pinfeathers are being cleanly picked out. Pick the wings either clean or only the first two joints; all quill feathers should be pulled. All the down or hair should be taken off, the feathers neatly removed from the thighs, and none left at the joint of the shank. Pick the neck clean to the head. Fold the wings back. After wiping the carcass thoroughly with a soft, damp cloth, hang by the legs in a cool, dark place till the animal heat is all out. They should be shipped and shown undrawn, and generally with the heads on.

In preparing for shipment, wrap each carcass separately in clean wrapping paper, without bending or bunching the neck or body, putting an extra paper around the head, to prevent bleeding or staining. Pack only a few in a box, which should hold them without bending or crowding. Stuff the empty spaces with soft paper to keep the carcasses in place. Be sure that they arrive at the show-room in good season, before all the rest are arranged, as there is something in position, especially if the space is crowded. Well-selected and well-fattened birds, prepared according to these directions, will stand a good chance of meeting favor with the judges.

DAIRY.

A Winner's System of Buttermaking.

Milk, as we all know, after being taken from the cow may be set, or creamed, by a variety of methods, and one only needs to go around among the farmers and collect a few samples of skim milk and test them in order to be convinced of the great waste of butter-fat continually going on among many of even our best farmers. We, unfortunately, like most others, had to experience this loss before we changed to better methods. Missing a crop of ice for the deep-setting cans, some years ago, led us to think seriously of a separator; but here again, like most families, we hesitated when the big price stared us in the face. However, we made the venture, got a machine, and tried it, only to come to the conclusion that the big price kept the margin of profit a long way in the distance; therefore, it was boxed up and sent back. But at the end of one week—in July—we were glad to re-order it, and it stayed in our dairy from that time on, being considered one of the most important factors in the whole dairy outfit. One thing which led us astray

in condemning the separator was no doubt right along the line where a great many other people blunder—i. e., in handling the cream. We ran the cream too thin from the machine, making trouble in ripening, time of churning, and sometimes affecting the quality of butter by having a lot of white specks or curd-like lumps in it. Experience, coupled with good dairy literature, taught us to thicken our cream until one gallon would churn 5 to 5½ lbs. butter. In summer the cream was cooled before placing in can, which consists of a cabinet creamer previously used for setting milk. In this we can use ice, and keep cream cool and sweet until 24 hours before churning, when hot water was substituted for cold, cream being heated up to about 70° to cause quick ripening; cream was cooled again before churning to 56° or 58°. In the winter the cream is usually kept in large cans in a cool place, and treated very much the same as in summer, except that a good starter is used, and cream emptied into can warm from the separator, and about 12 hours longer given to ripen. This method seldom fails to ensure a good, velvety, thick, nicely-ripened cream, which when churned at 60° to 62° gives results equal to summer; assuming, of course, that the feeding is correct. Temperature is always regulated before placing cream in churn.

Churning is done regularly, according to the amount of cream received; not often more than twice a week, nor less than once—a Daisy barrel churn being used, of 25-gallons capacity. This we find quite capable of churning as high as 65 lbs. from good separator cream. The churn having been scalded, and cream ready, a strainer is placed on churn and cream emptied through it; after rinsing cans, coloring is added according to season, sufficiently to give the June tint, and not the orange-yellow. The time spent in churning is from 30 to 40 minutes. When butter breaks, a gallon or more water, same temperature as cream, with a handful of salt thrown in, is added; in order to effect a more thorough separation of buttermilk, give the churn a few more turns and draw off buttermilk through a strainer. When this is effected, as many pails of cold water, at about 56°, is put on as were taken off in buttermilk; a few turns of churn is then given and water drawn off. Another lot of water a little colder being added, churn turned, and again drawn off, this time thoroughly, we find our butter sufficiently washed and ready for the salt—after being weighed in churn—which is always added while in churn. Care is taken to keep the granules just right size, which if too large will result in mottled butter. No rule can safely be fixed here, but the object sought is not to have the grain so fine that it will run out with the water and go through strainer, nor so large that the salt cannot penetrate evenly; about like wheat is a safe guide. We use 1½ to 1½ ounces in churn, which requires more than salting on a worker. After adding salt with a sifter as evenly as possible, we let churn stand; then revolve a few times every few minutes while preparing for printing. When gathered in lumps of several pounds each, the butter is placed on the worker or in a bowl, and printed and wrapped in the best parchment paper, unless ordered otherwise, as is often done for winter use, and sold to private customers in Toronto. Experience has proved to us that we get a nicer grained and better flavored butter by working salt in churn, in preference to using worker.

To cater successfully to a private trade not only involves extra labor in delivering, but the utmost care and vigilance in producing; having regular delivery days, and go on that day, no matter what work is pressing at home, or how bad the roads or inclement the weather. But once a customer's confidence is gained by giving him a uniform article of good quality, the price is in most cases a secondary consideration, and if a dairyman cannot bring that to the mark where a good profit is realized, he'd better look up some other calling.

YORK CO., ONT. MARSHALL STONEHOUSE.
[EDITOR'S NOTE.—It will be remembered that Mr. Stonehouse won second prize in the non-professional buttermaker's class at the Toronto Industrial Exhibition, September, 1899.]

Does it Pay to Feed Dairy Cows Liberally.

At a Farmers' Institute meeting, Tonganoxie, Kansas, a dairyman gave in his report on producing milk for the Kansas City market from common cows picked up through the country. So far as possible these cows were fresh in the fall. During the winter they receive a ration consisting of a mixture of 14 to 16 pounds of bran and corn meal, and what clover hay and sugar cane they will eat. In summer they receive, in addition to pasture and soiling crops, 4 to 5 pounds of bran. By this system of liberal feeding, a two-years record shows an annual income per cow of \$70.99, the milk being sold at an average of 8c. per gallon.

Last year at the Agricultural College our best cow cost us \$32.80 for feed, the highest of any cow in the herd, and about \$3.50 above the average of the herd, and yet the profit from that cow, over the cost of feed, was \$24.12 above the average of the herd. Does it pay to feed liberally? With a good dairy cow it surely does. Had the herd referred to above, or the best cow at the Agricultural College been stinted in feed, it would have been an extravagant piece of economy, that would have resulted in a diseased pocketbook. The dairy cow is a hard-working animal, and should be fed accordingly.

Kansas Experimental Station. D. H. OTIS.

GARDEN AND ORCHARD.

Trial Experiments with Crude Petroleum and Other Insecticides for San Jose Scale.

As we go to press we learn that the Ontario Government have taken steps to investigate the value of the various insecticides that have been recommended for the destruction of the San Jose scale, including crude petroleum—referred to elsewhere in this issue. The other remedies to be dealt with are: Whale-oil soap and kerosene (1 to 4 of water). About the middle of December, Prof. Lochhead, of the Agricultural College, and Mr. Fisher, the San Jose Scale Inspector, will conduct a series of trial experiments at Niagara, St. Catharines, Grimsby, Hamilton, and Guilds in Kent County. This move, we take it, is a step towards the abandonment of the axe-and-fire remedy that has met so much opposition.

A Remedy for the San Jose Scale.

Now that the Ontario Department of Agriculture has stamped out the worst cases of infestation by this pernicious scale insect, and has, in the opinion of many competent judges, done a really good work, it becomes of great interest and importance to form a wise decision regarding the methods to be adopted in the future. If it is possible to keep the scale in check, and in time exterminate it without recourse to the extreme measure of cutting down and burning all infested or suspected trees, it is most desirable to know how this is to be done, what remedial treatment is likely to be successful, and what is the probable cost of its application.

Two methods of treatment are now pretty well known, and have been employed with considerable success. The first is fumigation with hydrocyanic acid gas. An act of the Ontario Legislature, passed during the last session, has made this mode of treatment compulsory in the case of nursery stock, which cannot be sold or removed without fumigation in the manner prescribed by the order-in-council, but its use in the garden or orchard is a very different matter. That it can be successfully employed has been proven by Professor Johnson, State Entomologist of Maryland, but the expense and difficulty involved are a serious consideration. It is necessary, for instance, to have air-tight tents to completely cover the infested trees and apparatus for putting up and removing them. This might be done by the Department of Agriculture, but it could not be afforded by any ordinary fruit-grower. This method, then, can hardly be considered as generally available.

The other remedy referred to is the washing the trees with "whale-oil soap." This is undoubtedly the best and safest means hitherto known for the destruction of the scale, and has been employed with great success in many places in the United States, and especially on Catawba Island, Ohio. The only drawbacks to its use are its expense (which ought not to be considered serious when its additional advantage of being a good fertilizer is borne in mind) and the great difficulty of obtaining it of a reliable and uniform strength. In spite of these drawbacks, it is a remedy that should be employed by every fruit-grower who has reason to suspect the presence of the San Jose or any other injurious scale on his trees. It cannot be applied with safety during the summer, but may be used with success in winter or early spring, which is a distinct advantage, as the hours of labor then are not so crowded with work. The ordinary mixture is two pounds of whale-oil soap to a gallon of water. The best soap for the purpose is made with potash, and not with soda.

A third remedy has lately been announced, which it is the object of the writer to bring before the readers of the FARMER'S ADVOCATE. In a recent bulletin Prof. John B. Smith, of the New Jersey Agricultural Experiment Stations, has described his experiments with *Crude Petroleum* as an insecticide. Such a material, it was naturally supposed, would be even more dangerous to vegetation than the coal oil obtained from it, and accordingly the first experiment was tried upon a tree whose vitality was so much impaired by the scale that it was sure to die if nothing was done for it. To quote Dr. Smith's account: The tree selected was a dwarf Duchesse pear fully incrustated with the pernicious scale. On January 19th, 1898, crude petroleum was put on liberally to get the maximum effect upon the tree as well as upon the scale, every twig being separately painted, and the brush being used to the surface of the ground. February 25th the tree presented a curious sight, being very dark brown in color, as if stained. The oil seemed to have penetrated the outer bark layer, water was standing in globules on the surface, and dust was beginning to settle in the crotches. The tree started normally April 4th, blossomed fully, and on May 10th seemed entirely healthy, with a full set of fruit. The discoloration caused by the oil was yet obvious, and the tree could be recognized as far as it could be seen in the orchard. About the middle of June it was one of the finest of its kind on the place, the foliage vigorous and of good color, the fruit set heavy, not a living scale could be found, and there was no trace of that general breeding going on everywhere else. Growth continued throughout the season, and on September 12th the tree was one of the best. At that time only a single fruit had any

scales, and those had evidently come on from the outside, the tree being surrounded by others that were badly infested. The oily appearance had largely disappeared, but it was noticeable that not a single scale had set anywhere on the treated wood. What little was found was on the new shoots, and had doubtless come on from the outside. The change caused by this painting was little short of marvellous. In 1897 every portion of the tree was densely set with scales, layer upon layer; the fruit was crippled, unsalable; the leaves were infested, and the plant was practically abandoned, and given up to a supposedly fatal experiment. In 1898 we had a fine, clean tree, with trunk and branches free from scales, fruit well developed without blemish, foliage perfect, and no trace of injury of any kind. Up to the time when all the foliage was off no trace of injury of any kind developed, and the tree was in much better condition than any other surrounding it."

The same tree was sprayed again, with others surrounding it, in March, 1899, with a 30 per cent. crude petroleum mixture. In August it was about double the size that it was last year, had the rankest growth of any in the section, and set considerable fruit.

The success of this experiment led Dr. Smith to make somewhat extensive trials during the winter of 1898-9, and to try the effect of the petroleum on peach trees, which are so peculiarly susceptible to injury from coal oil. In the bulletin referred to he gives full details regarding a considerable number of the trees thus treated by himself, and in other localities by his suggestion, and the following results have been attained:

"Since January, 1898, nearly 4,000 trees of the ordinary orchard fruits, other than cherry, have been treated with crude petroleum, either undiluted or mixed with from 60 to 75 per cent. of water. The trees varied from stock just out of the nursery row to the trees in full bearing.

"Not a single case of injury to any tree treated in winter has been observed; on the contrary, in a number of cases the oil seems to have acted as a stimulant, and the sprayed trees have shown greater vigor and better foliage than those untreated.

"In no case has there been any injury to fruit buds; but on this point the observations are incomplete, no early winter treatments having been made in bearing orchards. Applications made after January 15th have in no way lessened the crop of apples and pears the year following, and applications made in March have not injured the fruit buds in peach and plum.

"Crude petroleum is not suited for a summer application, either pure or diluted, because of its choking effect on foliage and its persistence. This, however, increases its value for winter work as compared with kerosene; the latter acts at once or not at all, and evaporates very soon after it has been applied; in fact, to avoid injury it must be applied in such a way as to favor rapid evaporation. Crude oil does not evaporate readily; it is penetrating, and if applied with a brush half way round a branch will often soak round the branch completely; it remains an oily or greasy surface coating for many weeks, and no scales can get on this coating within a month of the application and live; it does not ordinarily penetrate through even the surface layer of bark; under the most unfavorable circumstances, if the outer layer is penetrated, the inner layer remains healthy, and there is no progressive injury; it does not seem to interfere with bark functions, and young trees painted with the oil increased in size quite as rapidly and freely as those untreated.

"Crude petroleum will kill the pernicious (San José) scale in winter whenever it comes into sufficient contact with the insect. It is a contact insecticide, and will not injure what it does not touch; but, liberally applied, it will soak through masses of scale, no matter how densely set, as nothing else will.

"A minor advantage is the fact that it gives a greasy brown color to the bark, making it easy to see exactly how thorough the application has been."

It is evident from the foregoing results that crude petroleum is a most valuable insecticide for winter application on orchard trees. Dr. Smith has found it "fully as effective against scale insects as kerosene, and harmless to the most tender varieties and on the youngest trees. As the oil remains on the surface for a long time, it makes no difference whether it is put on undiluted or mixed with water. If mixed with water, the latter evaporates and leaves the oil, so that the material in contact with the tree is as much undiluted as if the water had not been applied with it."

He recommends the use of a fine Vermorel nozzle if it is sprayed upon the trees without being mixed with water, but he considers it well to use an emulsion sprayer and mix with from 60 to 75 per cent. of water, as it will then be possible to use a nozzle of larger capacity, or a group of Vermorels, and the material can be applied until everything is dripping. A gallon of emulsion containing 25 per cent. oil will give a better coating than one quart of oil undiluted.

The discovery of a remedy for scale insects at once so cheap and so easy of application is a very valuable one. It is earnestly to be hoped that every fruit-grower whose trees are infested with scales of any kind will experiment with crude petroleum during the approaching winter and take note of the results. It will not be a serious matter to risk injuring one tree, or to treat all that are likely to die in any case from the attacks of scale insects. It is not to be expected that the results here will be

precisely the same as in New Jersey, but it is evident that good results may be looked for. If experiments made this winter prove successful, we may look for a speedy control of the San José scale in the affected districts of Ontario, and by a united effort its absolute extermination in the near future.
C. J. S. BETHUNE.

Ontario Fruit Growers' Convention.

The convention of fruit-growers to be held in Whitby, Ont., on Dec. 5th and 6th, will prove a helpful meeting to interested persons who attend. Besides a number of valuable papers and discussions on the commercial side of fruit-growing, such popular and practical branches as grafting, spraying, etc., will be debated upon by practical authorities. The cultivation of roses will be a popular theme, especially to the ladies. Such names as Hon. John Dryden; Dr. Saunders, Ottawa; Prof. J. W. Robertson; W. T. Macoun, Ottawa; Prof. H. L. Hutt, Guelph, besides several of the most successful fruit-growers in Canada. The convention opens on Tuesday morning and concludes Wednesday night.

Judging Fruit Exhibits.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—For the past four years we have been using the enclosed system of envelopes and cards, and find that it works admirably. The only trouble I find about it is in getting the superintendent of the respective departments impressed with the absolute necessity of tearing off the envelopes after the judges have made their awards, so that the exhibitor's name and address may be exposed to view. We got the idea, in the first place, from the Winnipeg people.

Yours truly,
E. McMAHON,
Sec. Canada Cent. Exhibition.

[NOTE.—The system of envelopes and entry tickets is similar to that used at Winnipeg, described fully in our November 1st issue.—Ed.]

VETERINARY.

The Tuberculosis Congress.

Under authority of the Minister of Agriculture, Hon. Mr. Fisher, at Ottawa, the report of Edward Farrell, M. D., Halifax, N. S., Canadian delegate to the Congress on Tuberculosis at Berlin, Germany, last spring, has been published. He states that the whole subject was considered under four heads: 1st. Dissemination of tuberculosis. 2nd. Its causes. 3rd. Prevention. 4th. Treatment and Sanatoria. England, Belgium, Sweden, Norway and Italy had the smallest mortality from tuberculosis, and Russia and Austria the highest. The disease was more prevalent in cities and large towns than in the country districts, and the death rate among German soldiers recruited from cities and towns was greater than those from the country. As to occupations, those nursing or having the care of consumptives, persons leading sedentary lives, or those who inhale irritating dust, are particularly liable to the disease. Large mortality was reported among tobacco workers, due to crowded factories, and it was prevalent among employees of Berlin printing offices. Prof. Ballinger, of Munich, reported the disease as found in animals and human beings identical, except in case of poultry. The danger from meat was not great, unless uncooked, but he regarded the main danger from infected milk. It was held to be a fact beyond discussion that *the tubercle bacillus is the direct cause of all varieties of consumption in the human subject and also of bovine tuberculosis*. Tubercle bacilli were parasites which flourished in living animal tissue, but quickly lost their virulence outside the animal organism. Direct sunlight, putrefaction, and disiccation (to dry up) soon destroy them. Hereditary tuberculosis is very rare; it may occur through infection from the genitals of the mother. A tuberculous father does not transmit the disease. In regard to prevention, expectorated matter was reported the great danger, and should be destroyed. Paper spittoons, that could be burned every day, were recommended. Many children contracted the disease through breathing in the germs given off by tuberculosis parents. Children in such homes should be well fed, live much out of doors. Marriage among tuberculous persons spreads the disease from one to another. Better ventilation of factories and homes was urged, and spitting on floors should be stopped, and sleeping cars well cleaned and ventilated every day when in use. The disease in cattle was perpetuated by housing them in dark, dirty, ill-ventilated barns, hence the necessity for strict cleanliness, light, airy and well-ventilated buildings.

In the section dealing with the treatment of the disease papers were read by Curschmann, of Leipzig; Kobert, of Rostock; Bruzer, of Berlin; Sir Hermann Weber, of England, and Dettweiler, of Falkenstein. Among the principal facts brought out in the papers and the discussions which followed were the following: Treatment is more effective since disinfection and open-air treatment are used; recovery can be brought about only when the disease is attacked in its early stages; change of air and scene, and sea voyages, are still considered effective in the early stages of the disease, if combined with careful medical supervision and good diet; the efficacy of open air day and night, good food, disinfection, and the judicious use of alcohol,

stimulating the skin by cold water affusion to the chest and body with brisk rubbing, were recommended very strongly by a number of speakers.

Under the head of Sanatoria treatment mention was made of thirty-three Sanatoria in Germany, the situation and construction of the building was gone into, as well as the character of the disease and its treatment. Tuberculosis germs are living organisms, though microscopic in size, with enormous powers of reproduction in a favorable soil. An advanced stage of pulmonary consumption throws off millions of bacilli in an hour. They are easily destroyed. Direct sunlight kills them, putrefaction destroys them in six or seven weeks, and disiccation in six or ten months. They are only found in the immediate vicinity of consumptive patients, and when their producer is removed they disappear. It follows that they hold their poisoning power longer in dark, damp, ill-ventilated and sunless rooms and houses.

The disease is not truly hereditary; that is, the tubercle germ does not descend from parent to child. Children of consumptive parents are born with symptoms which are weak, with tissues of low vitality, and with less power of resistance. Another source of tubercular infection is the meat and milk of tuberculous cattle. From fully cooked food there is very little danger of infection. The milk of a tuberculous cow is more feared than the meat, which is usually well cooked before being eaten.

It was pointed out that it is now clear that we must deal with this disease as an infectious one, just as we now deal with smallpox and diphtheria. Complete isolation is not so essential as in these other diseases, but much can be done by destroying the germ by burning, boiling, or chemical disinfectants. In considering the means to be taken to stamp out the disease, the axiom, *No tubercle germ, no consumption; an unfavorable soil for the growth of the germ, no consumption*, must be the basis to work from. The point to be kept prominently before the public is that tuberculosis is infectious. In most cases in which many members of a family are attacked and die of the disease, it is not on account of inheritance, it is due to an infected house and to contact.

The Congress dealt fully with the question of prevention and treatment. It is only in the early stages that treatment of any kind promises a good result; when the disease has fully established itself and the lung tissue is breaking down, the case is hopeless. It is easy to sum up the treatment under four heads:

1. Sunlight, open air, rest, dry soil for the home.
2. A good digestion and contentment.
3. An abundance of strong food, which should be taken to the limit of the digestive power.
4. Medication of a constructive character, such as iron, cod-liver oil and the like, with a moderate quantity of stimulants.

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.

INFECTIOUS OPHTHALMIA IN CATTLE.

A SUBSCRIBER, Simcoe Co. Ont.:—"Please advise me concerning a disease of the eye peculiar to cattle of all ages; is very contagious. Out of a herd of forty-five, thirty were smitten, causing total blindness when both eyes were affected. This blindness lingers from six weeks to two months, after which they gradually recover without any treatment. Cause unknown. When in its first stages the eye is swollen and apparently painful. Discharge from the eye is clear and watery, a thick pink and white scum forms over the eyeball, which causes blindness. This gradually becomes smaller towards the center. Please give cause and treatment. Will they be subject to it again? My horses have had a similar trouble, the scum being white or sometimes red. This disease proves serious, resulting sometimes in permanent blindness, when the whole eye becomes white. Have tried them with a solution of sulphate of zinc and other prescribed cures. Please give this your attention."

[The disease spoken of is an infectious disease of cattle called ophthalmia. It has been prevalent in Western Ontario for about five or six years. It is caused by infection, the virus, in all probability, being conveyed in the atmosphere. The first symptoms shown are a swelling of the eyelids, an affection of the mucous membrane of the eye and lids, with a more or less copious discharge of tears from the eyes. The animal exhibits a well-marked intolerance of strong light or sunshine on the eyes by keeping the lids closed when exposed. In rare cases she shows constitutional symptoms by a loss of appetite, and if a milch cow, a decrease in milk supply. Later the eye assumes a reddened appearance, which is usually followed by a whitish and glassy look. In severe cases there is a well-marked bulging of the eyeball, especially marked immediately over the pupil, and frequently in these cases there is an ulcer formed which ruptures and gives the eye a very nasty, raw appearance. When this stage is reached, or even before, there is total blindness for a time. When the disease does not take this form the inflammation gradually subsides, the eye, or a portion of it, having a whitish, glassy look, resembling a scum or film, but it is not a scum. The

change of color is due to an effusion of lymph (the result of the inflammation) being deposited between the layers of the external covering of the eye. In most cases this gradually becomes absorbed from the circumference towards the center. I have never known the disease to occur in horses, but they are subject to a constitutional disease called specific ophthalmia, which simulates the cattle disease. After a few attacks the horse usually becomes blind from cataract.

Treatment.—If treatment is resorted to in the early stages the results are seldom serious, but if neglected it sometimes results in permanent blindness. At the first symptoms the animal should, if possible, be isolated; at all events, she should be put in a comfortable stable, partially darkened; all strong lights and drafts must be excluded. She should be given a laxative of 1 to 1½ lbs. of Epsom salts. The eyes should be well bathed three times daily with warm water and a few drops of the following lotion dropped in after each bathing: Sulphate of zinc, 1 dr.; fluid extract of Belladonna, 40 drops; distilled water, 4 ozs. If an ulcer appears it should be carefully touched once daily with a pencil of the nitrate of silver. If a whitish color remain over a portion or a whole of the eye, after the inflammation ceases, the following lotion should be used twice daily until it disappears: Nitrate of silver, 10 grs.; distilled water, 2 ozs.

J. H. REED, V. S., Guelph, Ont.]

PARTIAL LUXATION OF PATELLA.

SUBSCRIBER, Lewisville, Alberta:—"Have a colt four months old which has a soft lump on its stifles about the size of a hen egg, and when walking can hear them cracking. I just let it follow the mare in the pasture; when driving or working her I leave it in the stable. First noticed them when it was about a month old. Colt is all right every other way?"

[There is a relaxed state of the ligaments which keep the patella (knee cap) in position. Apply the following liniment, with smart friction, once daily for three or four days, or until the skin becomes sufficiently irritated; leave off for a week and repeat. The colt should be kept during winter in a roomy and comfortable box stall.

W. A. DUNBAR, V. S.]

STERILE COWS.

SUBSCRIBER, Sandon, B. C.:—"Would you please state, through the columns of the FARMER'S ADVOCATE, what ails my cows; they do not get in calf. I am running a dairy of about 30 cows; the half of them have failed to get in calf this season, although coming regularly in season?"

[Sterility in cows and other domesticated animals is due to various causes, both physical and organic. Some of the causes are removable, while others produce permanent impotence. Animals in which the sexual organs of both sexes (hermaphrodites) are equally, though only partially, developed; the progeny of different species (hybrids), and animals in which one or more important generative organs are absent or very imperfectly developed, are generally permanently sterile. Bad hygiene, such as filthy, insufficiently lighted, ventilated and drained premises, change of climate, underfeeding or overfeeding (especially the latter), and old age, are conditions which are more or less antagonistic to fecundity. Animals suffering from tuberculosis, or other seriously diseased state of the system, especially when the sexual organs are involved, are very often sterile. Although you did not mention having done so, I take it for granted that when your cows "came in heat" you tried what effect a bull would have on them. Occasionally the fault is in the male animal, and when that is suspected, it is, of course, advisable to make a change.

W. A. DUNBAR, V. S., Winnipeg.]

Miscellaneous.

WHERE WALNUTS CAN BE GOT.

DEAR SIR,—Seeing the enquiry for walnuts for planting, in your Nov. 15th number, am writing to say we think we can gather yet a few bushels, perhaps, say, 4 to 6, perhaps more. We have sold them before for planting, and get 50c. a bushel, delivered free at the station in sacks gratis—that is, with the hulls on. Had we known of it early in the season, could have had almost any quantity to sell. The sooner we get the order now the better, but will await further instructions before gathering. Can ship either by C. P. R. or G. T. R.

ROBERT MOORHOUSE,

Cairo P. O., Lambton Co., Ont., Nov. 21st, '99.

I see in your ADVOCATE of Nov. 15th a gentleman inquiring for walnuts for planting. I think I can furnish him what he wants, as well as young trees (this year's growth) that will do for transplanting.

PHILLIPS BROS., Florence, Ont.

HAY OR STRAW FOR FATTENING CATTLE.

SUBSCRIBER, Headingley, Man.:—"I am about to stall-feed some cattle this winter. I have hay worth \$3 a ton, and straw which costs practically nothing. I should be much obliged if you would give me information as to which would be most profitable to feed: hay, with grain later on, or straw, with grain all through the winter?"

["Subscriber" does not say whether he has any available foods other than those mentioned, or not; nor does he state what kind of straw or grain he purposes feeding. Unless he has a supply of roots,

or other succulent food, to add to his ration, he will not get the best results from either. A test made last winter at the Indian Head Experimental Farm (reported in the ADVOCATE of July 15th, 1899), in which all the steers were given a uniform ration of 24 pounds of ensilage per head per day, and 2 pounds of meal each the first four weeks, with an increase of 2 pounds each four weeks, the balance of the ration being equal weight (12 pounds per day) of oat straw, barley straw, wheat straw, native hay, and Brome hay, showed that the steers getting the wheat straw made an average gain during the four months' feeding of 162½ pounds, against 127½ pounds for native hay and 126½ pounds for oat straw, barley straw giving only a gain of 91½ pounds, while Brome hay headed the list with 180 pounds. This, of course, cannot be taken as a conclusive test; and even if it could, unless "Subscriber" has some succulent food to add to his ration it would be of little use as a guide to him. In any event the cattle will do better if they have some variety and not confined to an exclusive diet of either hay or straw. If the straw is run through a cutter, moistened and piled up till it softens a little, it will be found to give better results. It would be well to mix cut hay and straw together, part of the time at least, giving a light feed of good hay, uncut, once a day. If "Subscriber" will give us fuller information we will be pleased to get all the information for him possible.]

REGISTERING A JERSEY.

READER, Huron Co., Ont.:—"I have a thoroughbred Jersey heifer calf which I would like to have registered. Both her dam and sire are registered in the American Jersey Herd Book. Please inform me how to proceed, to whom must I apply, and what is the fee for registration?"

[Write Mr. O. B. Hadwen, Worcester, Mass., who is the Registrar of the A. J. H. B. for entry forms. The fee is \$1 for registry, and if you are not the breeder of the calf, a transfer from the breeder or former owner to you must be registered, for which the fee is 25 cents. Transfer forms are also supplied by the Registrar.]

TO ENTITLE TO REGISTRY.

SUBSCRIBER, Lambton Co., Ont.:—"Supposing that I or any other individual should undertake to breed up a registered Durham or any other class of thoroughbred stock, what would be the manner of procedure?"

[This question has been more than once answered in these columns during the present year. To entitle an animal to registration in any of the Canadian Herd Books its sire and dam must first be registered, and in order to do that the pedigree must trace to imported ancestors on both the sire and dam's side, which, it will be seen, simply means that it is impossible to breed up an animal from common or grade stock that will be eligible to registry. This is true of all the breeds of cattle of which public records are kept in Canada, except the French-Canadian, and of all the breeds of sheep and pigs of English origin. In the Canadian Clydesdale Stud Book a filly having four crosses of registered Clydesdale stallions in her pedigree is entitled to registry.]

POOR RESULTS WITH HOMEMADE INCUBATOR.

R. S., Wentworth Co., Ont.:—"Last spring I bought a homemade incubator, one that is heated with a lamp by means of hot-water pipes, and put 100 eggs in it, and only got about 20 chicks. About 80 per cent. of the eggs were fertile, but the chicks died in shell at about the end of the second week. The temperature ranged from 100 to 103 degrees. The box had no ventilation, so I bored six ¼-inch holes in the top and put in another lot of eggs. They came along fine until the end of the first week, when the embryo settled in a dark red ring on one side of the shell, and incubation stopped. Tell me the cause, and remedy if there is one. The eggs were turned every day."

[It is difficult to state exactly what is the cause, or causes, of the unsuccessful hatches. Homemade incubators are usually not the most desirable class, but occasionally someone gets a good hatch, which encourages them to try once more. During the first hatch the eggs may have been in need of air, or they did not "dry down" enough. If an egg does not evaporate sufficiently to allow the chick to turn about inside the shell just before hatching it cannot get out. If the temperature was taken from the center of the machine and registered 100 degrees during the last week, there was not heat enough. Did the temperature in the machine keep even all over—that is, were all corners as warm as the center? If the thermometer was not accurate there may have been too much or too little heat. One hundred degrees is not quite warm enough, especially at the last of the hatch. If the infertile eggs were not removed from the machine, the fertile ones would not be all of an equal temperature, as one egg gives off or radiates heat to the air or adjoining egg, and an egg with a live germ in it is several degrees warmer than an infertile one; therefore, when a fertile egg lies alongside another fertile egg there is less heat required to keep up the temperature. It is difficult to say from the letter exactly what was the cause of the poor hatch. I think in the second hatch the temperature must have surely gone wrong during the second week. There should be a regulator on every machine, as it is almost impossible to run a machine at an even temperature where one trusts to the exact amount of blaze in the lamp. Avoid a draft over the eggs or incubator.

W. R. GRAHAM,
Manager Poultry Dept., O. A. C., Guelph.]

KEROSENE EMULSION.

OLD SUBSCRIBER, Bothwell Co., Ont.:—"I notice lately in your esteemed paper, several of your correspondents on cattle feeding advise kerosene emulsion as an insect destroyer on cattle. Could you or some of your correspondents tell me the ingredients of this emulsion, and how it is prepared?"

[Kerosene emulsion. The following ingredients in the following proportions: Kerosene, 2 gallons; rain water, 1 gallon; soap, half pound. Dissolve the soap in water by boiling; take from the fire, and while hot turn in kerosene, and churn briskly for five minutes. Dissolve with nine parts of water before using.]

HARDY FRUITS FOR TEMISCAMINGUE DISTRICT.

R. PARKER, Temiscamingue, Ont.:—"1. We live in Temiscamingue district. We see advertisements of desirable fruit trees which are advertised to stand frost to the extent of 5° below zero. Will the tree be frozen solid at that temperature; and if so, will it stand 50° below zero?"

"2. Please name a few varieties of apples which you think suitable for this northern climate?"

[In answer to Mr. Parker's enquiry re hardy apples, I may say I have had no experience with such low winter temperature as he mentions. Certainly all exposed parts of the tree would be frozen solid during such a temperature. But it would be very important to protect the roots by a heavy mulch, put on in the fall after the ground was frozen, and before snow fell. If snow lies deep on ground during winter, that ought to be a good protection to the roots. The trunks of the trees should be protected from the sun during March and April, and up to the middle of May. Try Duchess, Wealthy, and Gideon, first. If these do not stand the climate, plant Siberian crabs, and top graft them with these varieties. If that fails, you may give it up. Don't be tempted to waste money and time on new varieties that have not been well tested, no matter how much they are lauded.

G. C. CASTON.]

DRIED SWAMP MUCK.

W. J. M., Wellington Co., Ont.:—"Is black muck, when dry, of any value to mix with farm-yard manure in the pile?"

[Black swamp muck, which is found in many places throughout Canada, being composed largely of decayed vegetable matter, is rich in humus, but its fertilizing value depends upon the percentage of nitrogen, and in many samples there is found a large proportion of this valuable element. When dried and mixed with the manure heap or applied to stable floors or gutters as an absorbent, it will prove of great service, preventing losses in various ways and enhancing the value of the original manure. As to actual profit in its use, that would depend largely upon the cost of getting it out and dried for use.

On the above subject, Prof. A. E. Shuttleworth, Chemist of the Ontario Agricultural College, writes: "Dried muck, being a good absorbent, can be profitably used as litter in stables and yards. It adds considerably to the fertilizing value of the manure. In this twofold use muck can be employed profitably. Directly mixed with manure, or spread on fields as a fertilizer only, it would scarcely pay cost of labor."

MR. MEYER QUESTIONED ABOUT CARE OF POULTRY.

READER:—"I was much interested in the suggestive letter from your correspondent, Mr. Meyer, in November 1st issue, and as I have a large flock of hens that are getting up in years, and some of them not in any too good condition, I would like him to suggest a plan of feeding by which I can get them profitably ready for market in a month or so. I would like him to give details as to foods and feeding and the general management of the birds."

[Place your hens in flocks of 20 to 25, in pens about 10 feet square. See that every bird is free from lice, and that the pen is perfectly clean and kept clean. Have a good supply of grit, in the shape of fine gravel or any suitable material, and pure water always before them. The kind of grain you should feed depends upon what kinds you have on hand, as we do not believe in buying much. Ground peas, corn or buckwheat, whichever you have, mixed in equal parts with ground oats and moistened with milk of any sort (sweet or sour), will make an excellent soft food. Do not make it sloppy. Feed this in troughs twice every day and always at night. Once a day feed corn or wheat in the trough, and always at night try to get them to eat some whole grain after they have filled themselves of soft food. The principal thing to avoid is keeping food lying before them too much. Keep them hungry enough to be ready for the next meal. To these foods add table scraps and meat whenever convenient. Keep their pen a little dark and the hens as quiet as possible.

J. E. MEYER, Waterloo Co., Ont.]

A MARITIME SALT MARSH.

CAPE BRETON READER:—"We have a salt marsh, which seems to be running out a little. What would you advise in the way of renovation? Are there any grasses suitable for such? When the tides are high, the water entirely covers it."

[As I understand this question, the land referred to seems to be undyked marsh. If such is the case, it cannot be running out. This land, if left exposed to the tides, is continually building up by

deposits left there by the high tides. Consequently it eventually reaches a stage where it is too high to grow the natural salt grasses, and the occasional tide which overflows it prevents it from growing "English" or meadow grasses. I do not think there is any remedy, except to enclose it. If I have misunderstood this question, I would like to hear from your correspondent again. F. W. FULLER, Provincial Agricultural Farm, Truro, N. S.]

MARKETS.

FARM GOSSIP.

Kent Co., Ont.

We have had an extremely fine fall, cold in September, but followed since with mild weather and occasional showers, that has developed one of the finest crops of fall wheat that we have had for years; in fact, a poor yield is the exception. Farmers are well along with their work. One of the heaviest crops of corn on record will be pretty well harvested by the end of this week, and should the ground remain unfrozen a short time, a large acreage of fall plowing will result.

Wheat is worth 67c. per bush.; oats, 25c.; corn, 27c. to 28c.; beans went up with a rush to \$1.20 per bush., where they remain strong; potatoes, 65c. per bag; butter, 20c.; creamery, 25c.

The bottom fell out of the live hog market; \$3.65 is all that is paid; dressed pork, \$4.75.

Beef cattle seem more plentiful, but milch cows are scarce and dear, at from \$35.00 to \$50.00 apiece.

Because of the scarcity of fall pasture, we have been compelled to feed our stock on winter rations almost since harvest; a great many have one half of their winter feed used already. This will have a tendency to increase prices. Hay already selling at \$3.50 per ton. W. A. MCG.

Oxford County, Ont.

When we had that snow storm in the end of September, we never expected to have such beautiful fall weather as we have had since. Lately, the weather has been delightful, and the most belated farmers are getting their plowing all finished, and there will be no spring grain sown on spring plowing next season. I called on a neighboring farmer yesterday, and he told me that he was never busier in his life; that he was fencing, and was delighted with the great improvements he was privileged to make on account of the fine weather. Farmers hereabouts have gone largely into building what is called the Crab fence, out of the old snake-rail fence. It makes a very neat fence, takes only about half the ground space, and less than two-thirds of the rails required for a stake and rider snake fence. Of course, where material has to be purchased for fencing, it is cedar posts and barbed wire that are sought for, and if proper care were taken to bank up the fence pretty high before the wire is put on, it would save a couple of strands of wire, and prevent the many accidents that happen to horses through getting out by the barbed wire. Farmers who leave their wire fence so that horses can get badly cut on it should be prosecuted for cruelty to animals.

Many farmers are taking advantage of the fine weather in getting ditching and draining done; and by taking advantage of the Drainage laws and Watercourses Acts, where different farmers were interested, the Engineer has been brought on, the proper levels found, and the necessary falls mapped out, and lands that were formerly useless, except for pasture, have been dried and made to bloom and blossom (figuratively speaking) with beautiful crops, and thus the general wealth and prosperity of the country largely increased.

Our root crops did not turn out nearly so well as last year; the turnips especially were being sold for less than \$30 at the time of sale, and it is our purpose not to plow in the spring, but cultivate twice pretty deep, and then sow the seed as early as possible.

Sheep and lambs have done very well this fall, but the latter are lower in price this season, as from \$3.25 to \$3.50 is the prevailing range of prices paid, instead of \$4.00, which was the ruling price last year.

Live hogs have been down in price; some time ago they were as low as \$3.60, but a slight reaction has set in, and \$3.75 has been paid lately; but the price does not rise very fast. Young pigs are still very plentiful and cheap; we have heard of them being sold as low as two for \$1.25. It may not be generally known that when fat enough, little pigs make very nice cheap food to kill at that price; they are just about as nice as spring chicken, and don't cost so much per pound.

Our cheese factory is still making (three days a week), but the flow of milk is very much reduced, and many of the smaller patrons have quit, in order to make their winter butter at home. Our September, October, and November make has been sold at 11 cents, which is a very satisfactory price. But, although the price of cheese is good, cows are not doing very well. Very few bring as high and scarcely any over \$30 at high sales; and many good cows are being sold at from \$20 to \$25. This may be largely attributable to the scarcity of feed. We never feed so much hay and corn as we have done since harvest, and good straw is now worth nearly as much as poor hay was ten months ago. D. L.

P. E. Island.

November has been a very fine month, and plowing has gone on continuously, with the exception of two days when the ground was frozen. All fall work is well advanced. Considerable produce has been shipped, but much more would have found its way to market had it not been for the scarcity of tonnage. Freight rates are high this fall. The only steamer that sailed direct from here to England took about \$57,000 worth of produce, mostly cattle and sheep. Shipments of lambs to the American markets have been large, and the price much better than formerly. There has also been a large export of live geese and turkeys. The dressed poultry trade is just now beginning, with the prospect of extensive shipments. A good number of cattle are being tied up for stall feeding. Feed is plentiful; a good crop of roots has been stored, and hay is plentiful and grain cheap. The winter dairy stations are receiving a greatly increased quantity of milk, and milch cows will be fed liberally so as to do their best. Cheese are about all sold; October brought 10c. The average price of cheese for the season will come up to about 10 cents, and the output has been a half more than any previous season. A large number of hogs have been fattened, and are just now being rushed to market.

Prices.—Oats, 28c. to 30c.; potatoes, 15c.; cheese, 10c.; butter, 20c.; lambs, 3c. live weight; beef, 6c. dead weight; hogs, alive, 17c. to 20c. lbs., 4c.; dressed, 4c. to 5c.; milch cows, at country auction sales, 12 months' credit, \$22 to \$25; cattle for stall feeding, 2c. to 2c. per lb.; turkeys, dressed, 8c.; geese, 6c.

Mr. Gilbert, Poultry Manager at the Experimental Farm, Ottawa, is coming to the Island in January at the invitation of the Provincial Farmers' and Dairymen's Association, to address a number of meetings in different parts of the country. The chickens fed at the Government stations did well and have realized good prices in England. The condensed-milk factory in Charlottetown is about commencing operations.

Taken altogether, this has been the most successful season on the Island that ever we had. Crops have all been up to the average, and some of them above it. Prices have been better than usual for many of our products. The dairy business has been especially satisfactory, and has added greatly to the farmers' revenues. W. S. November 22nd.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

Table with columns: Item, Extreme prices now, Top Prices (Two weeks ago, 1898, 1897). Rows include Beef cattle, Hogs, Sheep, Natives, Western, and Lambs.

The best cattle are the highest since 1884, but the market for unfinished cattle has lately been overstocked, and is just now very slumpy. Cattle receipts at Chicago thus far this year 2,265,800, or 14,800 more than the corresponding period of 1898. Last December the run was small—174,265—so that 1899 will probably run out at least 25,000 ahead of the twelve months of 1898.

At the present time there is \$2.00 per 100 lbs. difference in the price of cattle that might be called pretty fair, and good, well-bred, thoroughly ripened heaves. Present prices for prime cattle are at the high point, barring a few Christmas sales, of the past 11 years. The following are among top sales that show what the right kinds are worth:

Table listing various livestock items and their prices, such as Wyoming grassers, Texas corn fed, Herefords, etc.

There is now no doubt that 1900 will witness the inauguration of a great annual live stock exposition in Chicago. The plan was cordially approved by the American Association of Fairs and Expositions, the Red Polled Cattle Club, the Hereford and Breeders' Association, and the Polled Durham Breeders' Association, the Shorthorn men, the Aberdeen-Angus, Galloway, Cotswold and Shropshire Associations. The Shorthorn men adopted a resolution very similar to the one passed by the Hereford breeders, authorizing the trustees to expend \$15,000 in premiums next year, leaving it discretionary within them as to how much will be spent for the Chicago show and how much affairs and other exhibitions. The Aberdeen-Angus breeders showed the greatest interest in the Chicago show, and appropriated the sum of \$5,000 to be hung up in premiums for that important event. It is proposed to make this show a permanent institution. The Chicago Stock Yards management proposes to turn over the great new Dexter Park amphitheatre, which will soon be completed. The idea seems to be to make the show one for fat stock more than for breeding stock.

Fred. V. Stowe, of Grimes, Iowa, had in 32 head of 1,578-lb. brand Angus cattle of the celebrated V.V. brand. They were bred in Wyoming. Earlier in the season several consignments of the same cattle sold at \$6.40 to \$6.85, but the ones at \$6.95 were supposed to be better finished than to-day's cattle.

Average weight of hogs last week, 218 lbs., the same as the previous week. Average weight a month ago, 236 lbs.; two months ago, 251 lbs.; a year ago, 233 lbs., and two years ago, 253 lbs.

A load of 1,546-lb. high-grade Shorthorn cattle shipped here from Texas sold at \$6.75, being within 5c. per lb. of the highest Texas cattle ever sold here, which was in 1882.

Toronto Markets.

Trade at the Western Cattle Market is still very slow and dull, the quality of fat cattle in need of improvement. The weather mild and uncertain causes dealers to buy only necessary stock for immediate consumption. No export business.

Export Cattle.—Very little export business. Choice lots are sold at \$4.50 to \$4.75 per cwt. Two choice well-bred steers, fed by Mr. Sinclair, of Cambury, Victoria County, Ont., weighed 1,310 lbs. each, bought by Mr. Jos. Gould. With these exceptions, the stock on offer was of very inferior quality.

Butchers' Cattle.—A fair demand for immediate supplies only. Choice butchers' cattle sold easily, weighing 1,100 lbs. each, at \$4.12 1/2 to \$4.25 per cwt. Medium quality at \$3.60 to \$3.75 per cwt.; cows, heifers and steers at \$3.30 to \$3.50 per cwt. \$3.75 per cwt.; cows, heifers and steers at \$3.80; light exporters sold at \$3.25 to \$3.50 per cwt. Mr. Levi Stauffer, of Waterloo, bought one load of heavy feeders at \$3.75 per cwt., average 1,100 lbs. each.

Feeders.—Choice well-bred steers, prime quality, from 1,050 to 1,200 lbs. each, were in good demand; held firm at \$3.75 to \$3.85 per cwt. Rough steers at the same weights were in good supply, but sold at \$3.40 to \$3.60 per cwt. A few very choice short-keep feeders reached \$4.00.

Stokers.—Yearling steers, 500 to 600 lbs. weight, are easy at \$2.60. Black and white Holstein steers sold at \$2.00 to \$2.50. Heifers were in good supply at \$2.00 to \$2.25 per cwt.

Sheep.—Prices for sheep keep very firm; butchers' sheep at cwt. for ewes, and bucks at \$2.50 per cwt.; butchers' sheep at from \$2.00 to \$3.00 per head. Messrs. Kohler Bros. had a lot of 141 sheep, which averaged 145 lbs. each.

Lambs.—Prices firm at \$3.25 to \$3.65 per cwt.; a few export lambs reached \$3.75 per cwt. A bunch of choice handy weights, about 85 lbs. average, sold at \$4.00 for Buffalo. The above lot made \$5.10 per cwt. at Buffalo.

Cattle.—Very scarce. Only choice veals wanted, at prices from \$4.00 to \$10.00 per head. Milk cows.—Not many on offer, and only moderate quality. Prices easier, at \$30.00 to \$45.00 per head.

Hogs.—Deliveries large for the season, over 6,000 this week. Prices quoted at \$4.25 per cwt. for all choice bacon hogs, singers, weighing from 160 lbs. to 200 lbs. live weight, and close-ly culled; thick fat and light, \$4.00; sows, \$3.00; stags and boars, \$2.00.

Dressed Hogs.—A large number of dressed hogs in farmers' loads sold at \$5.25 to \$5.40 per cwt. Over 250 on offer to-day. Purchased by Mr. Wm. Harris, junr., Jarvis street, St. Lawrence Market.

Wheat.—The wheat market easier; 1,200 bushels of white sold at 69c.; 400 bushels of red at 70c. per bushel; 400 bushels of goose at 68c.

Barley.—In good supply. Some choice good color malting sold for 44c. per bushel; 3,000 bushels sold at 41c. to 43c. per bushel.

Oats.—Much easier; 1,000 bushels sold at 29c. per bushel. Rye.—One load sold at 53c. per bushel. Rye straw wanted for poultry packing.

Peas.—Good quality scarce and wanted, at 60c. per bushel. Hay.—The supply of hay very good. Prices firm; 35 loads quoted and sold at from \$10.00 to \$14.00 per ton, and at \$3.00 to \$10 for clover.

Straw.—Clean sheaf straw wanted, at from \$3.00 to \$3.50 per ton. Loose straw at from \$4.00 to \$5.00 per ton.

Poultry.—The killing and dressing 100,000 turkeys is quite a task to undertake, and the question arises, can this order be filled? Four carloads on the market to-day. Price quoted is 7c. to 8c. per lb., one cent advance over last year. Mr. Harris says a small week's business in hogs, but turkeys can be bought and sold for export just at the time when hog business is quiet. Two carloads each day since Wednesday; 15,000 turkeys killed and cold stored for shipment next week.

Butter.—For some reason butter is very scarce and poor in quality; price easier. The wholesale quotations are as follows: Choice tubs, 18c. per lb.; medium, 14c.; dairy, lb. rolls, 19c. per lb.; creamery, lb. rolls, 23c. per lb.; creamery, boxes, 21c. per lb.

Cheese.—A large number of the cheese factories have closed down for the season, and stocks are now stored, quoted at 11c. per lb., with holders asking an advance.

Hides.—The hide market still shows some strength. The competition is still very keen amongst buyers, quoted as follows: No. 1 green, per lb., 9c. to 9c.; No. 1 green steers, 9c. to 10c.; No. 2 green steers, 8c. to 9c.; cured, 8c. to 9c.; calf-skins, No. 1, 10c.; lambskins, 7c. each; pelts, 75c.; wool, per lb., 8c.; wool, pulled super, 16c.

Eggs.—New-laid eggs are open to suspicion when grains of salt are attached. Quoted at 17c. to 18c. per dozen; warranted new laid, 20c. per dozen.

Seeds.—There is a good demand for all classes of seeds at quotations as under: Red clover, per bushel, \$5.00; alsike, \$7.30; alsike, No. 2, \$6.25; white clover, \$8.00. Flax seed wanted on this market.

Buffalo Markets.

Hogs.—Market steady; mixed selling at \$4.15; light stuff, \$4.20 to \$4.25; roughs, \$3.50 to \$3.70.

Prime to Fancy Steers..... \$ 6.50 to \$ 7.00
Good to choice..... 5.75 to 6.25
Good, ripe, corn-fed, 1,100 to 1,250 lb. steers..... 5.40 to 5.65

Native Feeders, fair flesh, good quality..... 4.00 to 4.15
Fair to good quality..... 3.60 to 3.90

Stockers, good quality and good color..... 3.90 to 4.00
Common to fair, off-colors..... 3.20 to 3.30

Prime to Fancy Heifers..... 5.25 to 5.50
Good to choice heifers..... 4.50 to 4.75

Bulls, Prime to Fancy..... 4.25 to 4.50
Bulls, good, fat, butchering..... 3.85 to 4.25
Good heavyologna butchers'..... 3.60 to 3.75

Springs, Fancy Heavy..... 50.00 to 55.00
Good to choice cows and calves..... 55.00 to 60.00
Common to fair milkers and spring-ers..... 20.00 to 32.50

Calves, Extra Fancy..... 7.75
Good to choice..... 7.25 to 7.50
Heavy fat veal calves, weighing from 200 to 300 lbs..... 4.50 to 5.50

Canada Stockers and Feeders.—
Good to choice, 400 to 500 lb. average, good colors and good quality..... 3.90 to 4.10

600 to 700 lb. average, do., good to choice..... 4.00 to 4.15
750 to 900 lbs. average, do., do., do..... 4.10 to 4.30

Stock bulls, well bred and good quality..... 3.25 to 3.50
Poor quality and bad colors..... 2.50 to 3.00

Lambs.—
Good to choice ewe and wether lambs, fat, 75 lbs. and up..... 5.00 to 5.05
Feeding lambs, 55 to 60 lbs., ewes and wethers..... 4.25 to 4.50
Culls and throwouts, bucky, half-fat and poor..... 3.75 to 4.25

Sheep.—
Strictly fat yearling wethers..... 4.35 to 4.50
Good fat handy wethers..... 4.00 to 4.25
Fair to good mixed butchering sheep..... 3.85 to 4.10
Fat ewes, common to choice..... 3.25 to 3.75
Bucks, common to choice..... 2.75 to 3.25

Pork Packing at Brantford.

The Farmers' Co-operative Packing Company of Brantford, Limited, have secured their ground, ten acres of the farm of Mr. Edward Hopkins, directly on the G. T. R., and T., H. & B. tracks. The plans for the whole plant are being gotten out by Mr. Wilson, the architect of the Collingwood factory. The general superintendent of this movement has been called to come at once from England. The intention of the Company is to construct for a killing capacity of 2,000 pigs a week, with a cellaring for four thousand. Over \$50,000 stock has already been subscribed, and this is to be raised to \$100,000. The charter has been secured, and work on the buildings is to be commenced at once.

Montreal Markets.

There were about 500 head of butchers' cattle, 40 calves, and 1,200 sheep and lambs offered at the East End Abattoir to-day. Mr. G. Martel bought eight prime heaves at 44c. per lb., and a number of other sales were made at about 44c. per lb.; pretty good stock sold at from 31c. to 4c., and the common animals at from 2c. to 3c. per lb. The good calves were bought up before reaching the market, at prices ranging from 5c. to nearly 6c. per lb.; the others sold at from 3c. to 4c. per lb. Shippers paid 3c. per lb. for good large sheep; good lambs were rather scarce, and sold at from 3c. to 4c. per lb. Fat hogs sold at from 4c. to 4c. per lb. for straight lots, weighed off the cars.

November 27th.

U. S. Beef for British Army.

Chicago packers are receiving large orders for corned and roast meats for use of the British army. Recently the packers had orders for at least 5,000,000 pounds, to be shipped within a week. Armour & Company shipped fifty carloads in one day, and twenty-five to go forward in a few days. Armour's shipments go to New York merchants, who stipulate in their orders that the consignments are "for use in Africa." The Libby, McNeill & Libby Company have several large orders for roast and corned beef.

British Cattle Market.

Liverpool, Nov. 27.—Market steady, at 51d.; sheep, 51d.
London, Nov. 27.—Supply of cattle short, demand is good, market firm. States cattle, 61d.; Argentine, 61d.; Argentine sheep, 51d.

Live Stock Exports.

The following is report of live stock shipments for week ending Wednesday, November 22nd, as prepared by R. Bickerdike, of the Live Stock Exchange, Montreal: Cattle, 1,491; sheep, 1,976.

THE QUIET HOUR.

Sandals of Peace.

"Thou layest Thy hand on the fluttering heart,
And sayest, "Be still!"
The silence and shadow are only a part
Of Thy sweet will;
Thy presence is with me, and where Thou art
I fear no ill."

In these warlike times our thoughts naturally turn to the warfare in which we are all engaged, for if we are not on active service, there is something wrong with our Christianity. No one will question the necessity of the Christian soldier needing the girdle of truth, the breastplate of righteousness, the shield of faith, the sword of the Spirit, and for an helmet the hope of salvation. In theory possibly it may be admitted that the feet should also be shod with "the preparation of the gospel of peace"; but how often do people persist in walking with unshod feet over the rough and stony paths of life. They say, "There is rest for the weary," but they only expect to find it "On the other side of Jordan."

A soldier should be well shod, not only for his own comfort, but that he may be in better condition to fight the enemy. One whose feet are cut and bleeding, whose every step is painful, can hardly be alert, active and vigorous. This rule applies just as truly to the Christian warfare. One who is careful and troubled about many things, who is worried and anxious about the future, or irritable and touchy in the little everyday trials of life, is wasting the strength which ought to be spent on a real battle against evil. Over and over again God has promised the blessing of peace to His servants, not only in the next world, but in this.

"There is no peace," He says, "to the wicked." But all who keep His commandments shall have "great peace," and one of His commandments is "Fear thou not, for I am with thee: be not dismayed, for I am thy God."

WORRY.

Worry is both wrong and foolish. It is wrong because God has expressly forbidden it. Like little children, we are commanded to cast all our care on our Father. It is foolish because worrying never does any good. It only upsets the nervous system of the worrier and makes his friends very uncomfortable. Besides, as we all know, most of a worrier's troubles are imaginary. He fears that things may go wrong, and bears, or, rather, doesn't bear, all the future possible burdens at once. It would be folly to shiver in August because you may be cold in December. We never do that, of course, but don't we often make ourselves miserable beforehand about future troubles: staggering along under their weight long before they reach us? God has faithfully promised "As thy day, so shall thy strength be," but He does not give strength or patience for *to-morrow's* burden. There was a deep lesson in the daily supply of manna in the wilderness. God gives *daily* bread—we may trust Him for that—but He does not allow us to store it up. We must look to Him for it every day.

THE GIFT OF PEACE.

"Thou wilt keep him in perfect peace, whose mind is stayed on Thee, because he trusteth in Thee." Peace is not a thing of outward circumstances. Think of the majestic peace of Christ our Lord, which torture and insult could not shake. Compare it with the unhappy restlessness of Pilate or the despair of Judas. We may all have a share in his peace if we are willing to put our lives unreservedly into His keeping. "My peace I give unto you," He says, and again, "My presence shall go with thee, and I will give thee rest." The trifles which might fret and irritate us are hardly noticed if the soul is filled with God's presence. We shall not worry about the future, for He holds that in His hand. The Present is filled with joy which far exceeds the pain. The Past is all forgiven, and it would be ungrateful to brood over what God has blotted out. The secret of rest, then, is *trust*. Certainly if God cannot order aright the world He has made, we cannot. If we do not trust Him, then want of faith is at the root of the unrest which cripples us so terribly, and want of faith is sin.

Outward circumstances may vary, but inward peace should remain unshaken always. How can we fear when God is near us. Through the wildest storm we may, if we will, hear our Saviour's voice saying, "It is I, be not afraid."
"Trust ye in the Lord forever: for in the Lord Jehovah is everlasting strength."

THE VALUE OF THE GIFT.

Christ said, "My peace I give unto you," and surely no other king could bestow such a valuable gift. It was not only given then. He still gives peace, as He has always done to those who will hold out their hands to receive the gift. Who would not desire earnestly the peace which made the face of the first Christian martyr shine like that of an angel in the face of pain and death? St. Paul meant what he said when warned that bonds and afflictions awaited him. He exclaimed, "None of these things move me, neither count I my life dear unto myself, so that I might finish my course with joy." And these are no solitary instances. The peace of the first Christians, which made them go forward joyfully to meet terrible tortures which we can hardly bear even to read of, amazed their persecutors. They often ascribed it to obstinacy or witchcraft, but they could not understand it. "The secret of the Lord is with them that fear Him."
If we too would enjoy this peace, we must not

only once for all surrender ourselves to God—we must remember every day,—

"Just to leave in His dear hand
Little things,
All we cannot understand,
All that stings,
Just to let Him take the care
Sorely pressing,
Finding all we let Him bear
Changed to blessing."

Our business here is to witness for Christ. If we go about with gloomy faces and doleful forebodings of evil to come, we need never hope to draw others nearer to Him. It is dishonoring to our Master to make the world think that His service does not fill the heart with joy and gladness. HOPE.

Travelling Notes.

VANCOUVER TO SAN FRANCISCO.

Leaving Vancouver, on a glorious October early morning, we ran up the main line of the C. P. R. to Mission Junction (42 miles), then branched off for Seattle and Portland, Oregon. Almost our first halt was for lunch, which was served at a wayside shanty, just at the boundary before we crossed into Washington State. The old woman who served us with sandwiches, coffee, cake, and sudden-death pie, not being able to make the correct change for a "cart-wheel" (American silver dollar), suggested giving the balance in hard-boiled eggs; but as they looked feathered, even on the shell, we declined, with thanks, otherwise might not have lived to tell these little tales of our travels!

If our readers could but see these giant trees in British Columbia and the Western States, some of them 50 and 60 feet in girth! The velvety green moss hangs its banners everywhere between you and the far-off sky, and the plains and mountain-sides are covered with ferns and brakes from three to ten feet high. Accompanying this is the photo of a tree living and growing—with a roadway cut clean



GIANT TREE WITH A ROADWAY CUT THROUGH IT.

through it. The horse and carriage passing beneath its towering height look absurdly small, but it is just a *bona fide* photograph. We reached Seattle about 5 p. m., remained a few hours in that busy and booming railway terminus, and the next morning reached Portland, Oregon. This is one of the leading cities and commercial ports of the country, with a population of 100,000, and having direct connection with San Francisco, Alaska, China, and Japan. We were fortunate in having most delightful weather during our stay there, for we hear it rains so much in the State of Oregon that the Oregonians are called "web-foots." I must add that the people in British Columbia are called "moss-backs"—as it rains there *sometimes* in winter. If the moss would but cling to people as it clings to the branches and trunks of trees, there would certainly be no necessity for clothes. We hear of people "being wrapped in thought" and "wearing a smile"; but they would be tame compared to those robed in moss! Well, these "web-foots" have a beautiful city in Portland, with a profusion of flowers everywhere, and they bloom in the open every month of the year. Roses are as plentiful there now as they are with us in Ontario in June. Having no extreme heat, the roses and buds last weeks and *months* even, and as for the geraniums and fuchsias, they are like trees, and grow half as high as the houses. All plants and deciduous trees grow very big out here; but *not the chickens!* Such dreadfully skinny chicks, which sell at \$1.00 and \$1.50 a pair. In Vancouver, turkeys are 23 cents a pound, but they are our good Ontario turkeys shipped there; so one gets something for one's money; not so, however, with the native chickens. Fresh eggs are usually 50 cents a dozen (often dearer). Think of this, good sister-farmers. If you only could get such

a price for yours; but the hens here say they can't do it any cheaper.

We have wandered off from Portland, but before leaving it entirely must speak of a view from Portland Heights. For variety, grandeur, and beauty, it rivals any view to be obtained in the country. Five unending snow-capped peaks rise a mile above the great forest-covered ranges which form their base, while two glistening rivers and the fair city of Portland stand out in strong relief almost at your feet. Between Portland and San Francisco, on the Southern Pacific Railway, one passes over some of the grandest scenery in America. With two puffing and snorting engines, in eleven miles (from Ashland to Siskijon) we gained an altitude of about 4,000 feet. The wonderful engineering of this road—curving round and round the mountain—opens to one's vision the most exquisite scenery, absolutely bewildering in its gorgeousness. At last San Francisco is reached, and what a city it is!

[TO BE CONTINUED]

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

Yesterday the sky was leaden gray, the wind sang funeral dirges through the bare and sombre trees; the very grass, now faded and brown, added to the cheerlessness of the aspect, and we mournfully quoted from Thomson's "Seasons":

"Fled is the blasted verdure of the fields;
And, shrunk into their beds, the flowery race
Their sunny robes resign,
And woods, fields, gardens, orchards, all around
The desolated prospect thrills the soul."

But—
"All night the snowflakes sought the earth—the snowflakes
big and white—
They covered up the meadows brown, they bent the bushes
slight!
At morn the sun with wondrous pomp came climbing o'er the
hill,
And lent a thousand beauties to the world so fair and still."

The view that filled our hearts with melancholy yesterday has become to-day a thing of beauty, upon which our eyes linger lovingly, such a depth of magic lies in the first fall of snow. Not only by the schoolboy (who at its advent joyously resurrects his sled) is it hailed with delight; it seems to have effected as great a transformation within us as it has upon the outer world, for gone is all the gloom and repining of yesterday, and new life invades every breast as we merrily join in the children's chorus:

"Fair as a rose is our Lady of the Snows,
As she walks down the valley with the winter in her train,
And the skaters laugh and sing, and the merry sleigh bells
ring,
From the ice upon the river and the snow upon the plain."

The snow brings with it the remembrance of the rapidity with which the years are passing by—so short a time it seems since the Christmas chimes gladdened our ears, and now it is almost time to hear their sweet music again. A solemn thought it is, that all the months which have elapsed since then are part of the irrevocable past, and all our deeds for good or ill are gone beyond recall. Although this thought may make us mournful, we should not permit it to unduly sadden us, but rather give heed to the inspiring words of James Russell Lowell:

"Build on resolve and not upon regret
The structure of thy future. Do not grope
Among the shadows of old sins, but let
Thine own soul's light shine on the path of hope
And dissipate the darkness. Waste no tears
Upon the blotted record of past years,
But turn the page, and smile, oh, smile to see
The fair white pages that remain to thee."

"Build on resolve and not upon regret" are the words of a brave heart, and give advice worthy of being followed by everybody. Why worry and fret that we did not act thus, or thus, at some time past—the time we now waste in useless repining will surely become a source of future grief.

Has the past been bleak and barren? Then let honest endeavor patiently cover it, as the fair snowflakes the dreary landscape, that when the future sun shines forth, our lives, warmed into nobler being by the vivifying beams, shall, like the earth around us, bud and bloom into greater beauty and usefulness. Let us but have courage to *resolve*, and the strength to carry out our good resolutions will surely be granted us. Courage is an attribute all should strive to possess; that is, real courage, for much that bears the name is spurious coin; but we shall have a talk on this subject some other time.

It may be rather early for Christmas greetings, my dear boys and girls, but the knell of the last of the nineties will have sounded before our next chat, so here and now let me wish you all a joyous Christmaside.
Your loving, UNCLE TOM.

Recipes.

STALE-BREAD CAKE.

Two quarts of stale bread, soaked in water, and squeezed dry. Put 3 parts of bread to 1 of flour; 3 dessert spoonfuls of baking powder, 1 lb. of currants, 2 lbs. raisins, 2 cups of sweet milk, 2 cups treacle (dark kind), 2 cups (rather large) of sugar, 2 cups of dripping, or lard and butter mixed; spices to taste, and candied peel, if liked.

SCRAPPLE—A NICE BREAKFAST DISH.

Boil any kind of meat until tender; separate from bones, and chop fine. Season with pepper and sage (if desired), and salt the liquor in which the meat was boiled. Put the chopped meat back into the liquor, and while boiling, stir in meal until about the consistency of mush. Pour into a crock, and when cold, slice and fry.

"The Absent-minded Beggar."

RUDYARD KIPLING'S HANDSOME CONTRIBUTION IN VERSE TO THE FUND FOR FAMILIES AND DEPENDENTS OF SOLDIERS ON SERVICE.

The accompanying poem is Rudyard Kipling's contribution to a fund for the wives and children of the British army recruits sent to South Africa. He sold it to the London Daily Mail for \$1,250; of all the proceeds Mr. Kipling receives nothing.

I.
When you've shouted Rule Britannia! when you've sung God Save the Queen,
When you've finished killing Kruger with your mouth,
Will you kindly drop a shilling in my little tambourine,
For a gentleman in khaki ordered south?
He's an absent-minded beggar, and his weaknesses are great,
But we and Paul must take him as we find him.
He is out on active service wiping something off a slate,
And he's left a lot of little things behind him.

Chorus:
Duke's son—cook's son—son of a hundred kings—
Fifty thousand horse and foot going to Table Bay.
Each of 'em doing his country's work (and who's to look after their things!)
Pass the hat for your credit's sake, and pay—pay—pay!

II.
There are girls he married secret, asking no permission to,
For he knew he wouldn't get it if he did.
There is gas, and coals and vittles, and the house rent falling due,
And it's more than rather likely there's a kid.
There are girls he walked with casual; they'll be sorry now he's gone,
For an absent-minded beggar they will find him;
But it ain't the time for sermons with the winter coming on,
We must help the girl that Tommy's left behind him.

Chorus:
Cook's son—Duke's son—son of a belted Earl—
Son of a Lambeth publican—it's all the same to-day;
Each of 'em doing his country's work (and who's to look after the girl!)
Pass the hat for your credit's sake, and pay—pay—pay!

III.
There are families by thousands far too proud to beg or speak,
And they'll put their sticks and bedding up the spout;
And they'll live on half o' nothing paid 'em punctual once a week,
'Cause the man that earned the wage is ordered out.
He's an absent-minded beggar, but he heard his country's call,
And his regiment didn't need to send to find him;
He chucked his job and joined it! So the job before us all
Is to help the home that Tommy left behind him.

Chorus:
Duke's job—cook's job—gardener—baronet—groom—
Mews or palace or paper shop—there's someone gone away!
Each of 'em doing his country's work (and who's to look after the room!)
Pass the hat for your credit's sake, and pay—pay—pay!

IV.
Let us manage so as later we can look him in the face,
And tell him—what he'd very much prefer—
That while he saved the Empire his employer saved his place,
And his mates (that's you and me) looked out for her.
He's an absent-minded beggar, and he may forget it all;
But we do not want his kiddies to remind him
That we sent 'em to the workhouse while their daddy hammered Paul.
So we'll help the homes our Tommy's left behind him!

Chorus:
Cook's home—Duke's home—home of a millionaire—
(Fifty thousand horse and foot going to Table Bay!)
Each of 'em doing his country's work (and what have you to spare!)
Pass the hat for your credit's sake, and pay—pay—pay!

Two Prudent Girls.

The following account of how two girls went to study in one of our large cities is interesting, and may prove useful to any other girls contemplating the same thing. They had just \$25 a month for rent, food, laundry, and sundries. Their college fees were paid for them. They took a nice large room at \$10 per month. To use their own words: Our first purchase was a small gas stove, with two places for cooking. This, with the tubing, cost us \$1.25. A combination steamer, that would cook half a dozen things at once, small tea and coffee pot cost another \$1. We had brought dishes from home. Now, for the eight months we were in Toronto, our table cost us about \$2 per week, and we did not starve either.

This was our usual list, varied with fruits and vegetables, according to the season:

Coffee.....	\$0 17
Tea.....	10
Butter.....	20
Cereals.....	10
Condensed milk.....	10
Sugar.....	5
Flour.....	10
Potatoes.....	10
Salt and pepper.....	5
Vegetables.....	15
Eggs.....	15
Fresh meat.....	20
Fresh milk.....	28
Total.....	\$1 68

We used three loaves of bread a week, which cost us 12 cents; this left us 10 cents for fruit.

Our breakfast consisted of a good cup of coffee, a dish of oatmeal or some other breakfast food, with milk, bread and butter, a banana, apple, or whatever fruit was in season. Lunch was generally made from whatever was left from the dinner of the evening before.

At dinner we always had soup, five cents' worth of soup meat being the basis.

Monday we had beef soup, boiled beef, potatoes and one other vegetable, with rice, and a cup of tea.

Tuesday's dinner, the soup left over from Mon-

day, with a few vegetables added; hash made from the boiled beef, macaroni and cheese, with rice pudding, bread and butter, and tea.

Wednesday we had for dinner bean soup, boiled beans, stewed tomatoes, and lettuce, with sliced bananas and milk.

Thursday we had potato soup, lamb stew and dumplings, mashed potatoes, stewed tomatoes, and some kind of dried fruit.

Friday we always had a pick-up dinner, made from the odds and ends left over. If no meat was on hand, we had ham and eggs, with bread pudding.

Saturday we generally had some kind of hot roast, so as to have cold meat for Sunday.

Sunday we had noodle soup. We made the noodles, and one egg was all that was necessary, with a quart of milk to cook them in. This dish, with cold meat, cup custard, bread and butter, and a cup of tea, was all we wanted.

To be sure, we varied the meals each week, and once in a while we had a nice porterhouse steak. We kept within the \$2 limit, and had all we wanted of good wholesome food. One pound of coffee would last us two weeks, and we paid 17 cents a pound for Java and Mocha. Ten cents' worth of tea would last us two weeks; ten cents' worth of breakfast foods the same; a can of condensed milk would last us ten days, and five cents' worth of salt and pepper lasted us three months. The weeks we did not need to get these things, we bought rice, beans, codfish, dried beef, etc.

Dried beef, cooked in milk and thickened with a little flour, makes a nice dish; also, codfish prepared the same way. We ate no pies, cakes, or hot bread, and very little fried food, hence we had no touch of indigestion.

Our laundry cost us \$1 a month. We had it done every two weeks, and kept as neat and clean as anyone could wish.

At the end of the term we had lived within our income, and had \$20 left. The next term will find us in our places, ready to take up the work again.



A Dream of Santa Claus.

I dreamt last night of Santa Claus,
That he took me up in his sleigh,
And wrapped me warm in his great fur robe,
As we started off and away.

The Northern Lights flamed up in the sky,
The white ice shone below,
And on the galloping reindeer went,
As far as they could go.

The sleigh was packed all under the seat
With games, and candy, and toys;
You never saw such lovely things
To give to girls and boys;

And Santa drove straight to our front gate,
And then—I woke! O, dear!
I wish it was Christmas, really true,
And Santa Claus was here.

Grandma's Dolls.

The children were restless and troublesome, and Grandma had to tell them a story to keep them quiet.

"Well," she began, "when I was a little girl there were no toy-shops, and my mother used to make my dolls herself. I remember one Christmas eve she was called away to see a sick neighbor, and left my big brother to keep house. 'I have nothing finished for Patty's Christmas stocking,' she said, as she drove away. 'It's too bad.'

"That evening my brothers were in a great hurry to get me off to bed, and after I had gone upstairs I could hear them whispering and fussing about a long while. Next morning, when I put my hand into my stocking, what do you think I found? First, a little doll cut out of a potato; its face was painted black, and with bead eyes and a bit of wool from our black sheep, it made the most comical little darkey that you ever saw. Then I pulled out a pretty little figure, whittled from a shingle. My brother Ralph was something of an artist, and he had given her the blackest of hair and eyes, and the reddest of lips and cheeks. And last of all came an Indian doll made of corn cob and husk. The corn leaves were the Indian's long flowing blankets, his head was covered with bright feathers, and his ink features were very fierce indeed. My brothers were quite proud of their work, and really," said Grandma, "I have not seen any toys since that seemed to me so pretty as those queer little dollies."

The Meaning of Christmas.

"And what is the meaning of Christmas?" I ask
Of the boys and girls at my side,
"Oh, a holiday-time, without lesson or task,
And plenty of presents," they cried.

"With just the best dinner of all the year through,
And the jolliest kind of good times;
Nice toys, and a plenty of fairy books, too,
With pictures, and stories, and rhymes."

"There's more!" said a little one close at my feet,
When the others for breath took a pause,
'Tis the time when, in spite of the dust and the heat,
Down the chimney comes old Santa Claus."

"All right, little children, if we were the world,
And Christmas for us all alone,
But what of the hundreds of boys and girls
Who have no good times of their own?"

"While we have such blessings that others have not—"
"I know," two or three quickly cried,
"It means, if we're lucky, whatever we've got,
Christmas is the right time to divide."

A Visitor.

"Has anybody been here to-day, mother, while I was gone?"
Effie had been away all day, since breakfast.
"Let me see," said mother, "yes, I had one visitor."

"Oh, had you, mother? Who was it?"
"She did not tell me her name," said mother, with a queer little smile.
"Well, where did she come from?"
"She did not say."

"What did she come to our house for?"
"Oh, for several reasons. She brought me a letter from a dear friend; she gave me a new book to read; she finished a piece of sewing for me, and gave me some sweet, new thoughts."
"What a strange visitor!" murmured Effie. "Was that all?"

"No, she wanted me to do many things for her. She asked me to make broth for a sick girl, to write two letters offering to help people, to make a pudding, and several other things."

"And did you do them for her?"
"I did some of them, and some I left undone. I wish now that I had done them all."
"I would give anything to see her, mother. Will she ever come again?"

"No," said mother, "she cannot come again, because she died at sunset."
"Died, mother? How dreadful! and yet you are



THEY ALL WATCH FOR THE "FARMER'S ADVOCATE."

The New Subscriber.

The taste for reading often develops early, but one is not always sure that the youngsters will choose the right kind. Now, just look at Master Tommy's round-eyed interest. He's got the right thing at all events—and they all watch for the FARMER'S ADVOCATE, bless 'em.

Start of the London Money Order Office.

The London Money Order Office was set on foot by three enterprising Post Office clerks in 1792, who hired premises outside the Post Office, the firm being known as Stowe & Company. From this small beginning—the main idea being first to afford facilities for the transmission of small sums to our soldiers and sailors—has arisen that system under which it is now possible for the Chinese living in New Zealand to send money orders to their mother country by way of London.

"Frances," said that little girl's mamma, who was entertaining callers in the parlor, "you came down stairs so noisily that you could be heard all over the house. You know how to do it better than that. Now go back and come down the stairs like a lady."

Frances retired, and after the lapse of a few minutes re-entered the parlor.

"Did you hear me come down stairs this time, mamma?"

"No, dear. I am glad you came down quietly. Now don't let me ever have to tell you again not to come down noisily. Tell these ladies how you managed to come down like a lady the second time, while the first time you made so much noise."

"The last time I slid down the banisters," explained Frances. *Exchange.*

smiling. I think you are joking, somehow, are you?"

"Not joking, exactly, Effie dear, but I am talking in a little parable, which I think you can guess, when I tell you her little sister is coming to-morrow at sunrise, her twin sister, so like my visitor that no one could tell them apart, though some of her gifts and some of her desires will be different from to-day's guest."

"You say you don't know her name, mother?"

"I didn't say that. I said she did not tell me her name. But I do know it—it is Thursday."

"Thursday!" cried Effie, laughing, "you just mean to-day, then?"

"Yes, to-day."

"And your visitor to-morrow will be named?"

"Friday, of course."

Effie was very much amused at the idea of the Thursday visitor and the Friday visitor; but, when she woke up the next morning, she said, softly to herself: "How do you do, Mrs. Friday? I wonder what you have brought me to-day? At any rate I am going to do all the things you ask me, 'cause you've got to die at sunset, you know."

And right away, Mistress Friday asked the little girl to get up and dress in time for morning prayers.

How Do You Measure?

"I'm just as tall as my brother Joe, For all he'll tell you it isn't so. Often and often he has said: He's taller than me by half a head; If you count that way, perhaps he is, But, my feet go down as far as his; So, whether our heads may be, I say, I'm exactly as tall the other way." —Youth's Companion.

The Dragon Tamers.

There was once an old, old castle. It was so old that its walls had crumbled to ruins, and there were only two little rooms left. It was here that John, the blacksmith, had set up his forge. He was too poor to live in a proper house, and no one asked any rent for the rooms in the ruin, because all the lords of the castle were dead and gone this many a year. The two rooms were warm, but not very large; so the blacksmith got into the way of keeping his old iron, and his fagots, and his coal in the great dungeon under the castle. It was a very fine dungeon, with big iron rings, whose staples were built into the wall for tying captives to, and at one end was a broken flight of steps leading down no one knew where.

John, the blacksmith, had a wife and a little baby. When his wife was not doing the housework she used to nurse the baby and cry, remembering the happy days when she lived with her father, who kept seventeen cows and lived in the country. As for the baby, it cried a good deal at odd times; but at night, when its mother had settled down to sleep, it would always begin to cry, quite as a matter of course, so that she hardly got any rest at all. The baby could make up for its bad nights during the day, if it liked, but the poor mother couldn't. One evening the blacksmith was busy with his forge. Presently over the noise he was making there came another sound. The blacksmith looked at his wife.

"I heard nothing," said he. "Neither did I," said she. "But through the hammering the noise came louder and louder, and the more they tried not to hear it, the more they had to. It was like the noise of some great creature purring, purring, purring, and the reason they did not want to believe they really heard it was that it came from the great dungeon down below.

"It can't be anything in the dungeon," said the blacksmith, wiping his face. "Why, I shall have to go down there after more coals in a minute."

"There isn't anything there, of course. How could there be?" said his wife. And they tried so hard to believe that there could be nothing there that they very nearly did believe it.

Then the blacksmith took his shovel in one hand and his hammer in the other, and hung the old stable lantern on his little finger, and went down to get the coals. Half the dungeon was empty as usual, except for the old iron and odds and ends. But the other side was not empty. It was quite full, and what it was full of was Dragon.

"It must have come up those nasty broken steps from goodness knows where," said the blacksmith to himself, as he tried to creep back up the winding stairs. But the dragon was too quick for him. It put out a great claw and caught him by the leg, and as it moved it rattled like a great bunch of keys, or like the sheet iron they make thunder out of in the pantomime.

"No you don't," said the dragon. "Deary, deary me," said poor John, "here's a nice end for a respectable blacksmith!"

The dragon seemed very much struck by the remark.

"Do you mind saying that again?" said he, quite politely.

John said it again.

"I didn't know," said the dragon. "Fancy now! You're the very man I wanted. I should like you to do a job for me. One of my wings has got some rivets out of it just above the joint. Could you put that to rights?"

"I might, sir," said John, politely; for you must always be polite to a possible customer, even if he be a dragon.

"You can see in a minute what's wrong," the

dragon went on. "Just come round here and feel one of my plates, will you?"

John timidly went round when the dragon took his claw away; and, sure enough, the dragon's off wing was hanging loose, and several of the plates near the joint certainly wanted riveting.

The dragon seemed to be made almost entirely of iron armor, and under it he seemed to be covered with something furry.

"You could certainly do with a rivet or two, sir," said John: "In fact, you want a good many."

"Well, get to work then," said the dragon. "You mend my wing, and then I'll go out and eat the whole town; and if you make a really smart job of it, I'll eat you last. There!"

"I don't want to be eaten last, sir," said John. "Well then, I'll eat you first," said the dragon. "I don't want that, sir, either," said John.

"Go on with you, you silly man," said the dragon: "You don't know your own silly mind. Come, set to work."

"I don't like the job, sir," said John, "and that's the truth. Now, if you'd just let me fasten you up?"

"It's all very well," said the dragon, "but how do I know you'd untie me again when you'd riveted me? Give me something in pledge. What do you value most?"

At this moment the baby in the room above began to scream.

"Whatever's that?" said the dragon, starting so that every plate on its body rattled.

"It's only the baby," said John. "What's that?" asked the dragon—"something you value?"

"Well, yes, rather," said the blacksmith. "Then bring it here," said the dragon, "and I'll take care of it till you've done riveting me, and you may tie me up."

"All right, sir," said John, "but I ought to tell you that babies are poison to dragons. It's all right to touch, but don't you go putting it into your mouth. I shouldn't like to see any harm come to a nice-looking gentleman like you."

The dragon purred at this compliment, and said: "All right, I'll be careful. Now go and fetch the thing, whatever it is."

So John got the baby—his wife was asleep—and took it down and put it between the dragon's front paws. "You just purr to it, sir," he said, "and it'll be as good as gold."

So the dragon purred, and his purring pleased the baby so much that it left off crying. John rummaged among the heap of old iron and found some heavy chains with which he fastened the dragon safely. Then he set to work to find out how many rivets would be needed. "Six, eight, ten, twenty, forty," said he. "I haven't half enough rivets in the shop. If you'll excuse me, sir, I'll step round to another forge and get a few dozen."

And off he went, leaving the baby between the dragon's fore paws, laughing and crowing with pleasure at the very large purr of it.

[TO BE CONTINUED.]

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-BEHINDINGS.

Can anyone tell us Total friend Dick's gone. 'Tis not very long since Second he shone; With his puzzles bright and his puzzles gay; Why! Oh! why, did he go away!

We know that science you do not lack, Come back, Dick, then do come back, And work again with your old shipmates, Last you find it is too late. "ARRY 'AWKINS."

2-NUMERICAL.

My 18, 2, 9, 13, 4, is short. My 17, 20, 16, 10, 7, 3, please do not take. My 12, 15, 8, 19, 21, has a warm coat. My 14, 11, 1, 1, 6, we do to the horse. My whole is good advice for ADVOCATE readers. "ARRY 'AWKINS."

3-NUMERICAL.

Something we would all like to be; consists of twenty letters.

8, 7, 16, is a wild animal. 2, 9, 11, 17, is very annoying in dry weather. 1, 6, 20, is a melody. 2, 10, 7, is a loud sound. 12, 16, 4, 18, is an exclamation that commands quiet. 3, 19, 5, 15, is a very small quantity. 14, 16, 13, 5, is a song in two parts. L. B. FORCE.

4-DOUBLE ACROSTIC.

(Words of the same number of letters.)

1-To make a motion as with wings. 2-A girl's name. 3-To assert. 4-A corner. 5-A friend. 6-A thought. 7-The fore part of the leg. Primals and finals spell a famous author. L. B. FORCE.

5-DROP-LETTER PUZZLE.

1- * l-e-f-n-e-n. 2- P-o-e-m-t-b-r. 3- a-c-o-o-y. 4- a-a. 5- o-a-n-s-u-g. 6- P-e-o-i.

These are important places in South Africa—two cities, two countries, and two cities. The six asterisks will be found to spell the name of a person on whom rests the responsibility of the war. F. L. S.

6-NUMERICAL.

An epigram of 41 letters, defines a millionaire.

21, 41, 11, 4, 29, 2, 23, is abashed. 24, 9, 40, 19, 34, 15, 31, is state of the atmosphere. 38, 17, 22, 36, 12, 37, is a girl's name, spelling backward and forward the same. 5, 27, 7, 26, 33, is a hard substance. 3, 35, 30, 14, is meat and vegetables chopped up and mixed. 10, 1, 25, 33, is which. 6, 30, 8, 18, is part of the day. 13, 32, 16, 28, is tidings. F. L. S.

7-CHARADE.

Strangers One when their eyes meet, If on the Two that's passing down street, My precious Three was in the way When my grand Whole came yesterday. ROLLY.

8-DOUBLE ACROSTIC.

In "kingfishers" on the sea, In "robin on toast" for tea, In "the cat-bird" has a pea, In "sky rockets," oh, gee, How they fix for you and me.

In "soldiers" who halt, In "bacon" full of salt, In "Canucks," perhaps from Galt, Without a fault.

In "horses" that bolt, In "Dave's colt" a dolt, In "poultry" that moult, Belonging to Sam Holt.

A well-known author, His latest book, 'Tis what you'll find, If long enough you look. "ARRY 'AWKINS."

9-DOUBLE ACROSTIC.

(1) against; (2) to guide; (3) an absurd act; (4) true; (5) used by painters; (6) to decorate; (7) a Canadian city; (8) a fairy; (9) clean; (10) heard on the farm; (11) a kind of lock; (12) an English island; (13) a river in Asia; (14) a girl's name; (15) hearty. Primals and finals name a famous poet and one of his finest poems. "ARRY 'AWKINS."

10-A PUZZLING QUESTION.

If 4 cows are equal in value to as many sheep as the number of cows that can be exchanged for 100 sheep, how many sheep must be sold to get money enough to buy one cow? F. L. S.

Answers to Nov. 1st Puzzles.

1-Nightingale. 2-Turn paper upside down when subtracting. 3-Sedan-Dane, star-rat, sloop-pool, sugar-gaur, cedar-dare, ling-gin, merlin-liner, sole-Leo. 4-Easing, dago, undergo, crabbid, Arabic, tear, into, out-crop, niches. Finals and primals=good crops, education. 5-The white man's burden. 6-Air, ere, e'er, heir.

7-A s i n i n e a n t e n n a s l a v e r y s w e l t e r s t r a y e r i d o l i z e i m a g i n e 8-Slaking, taking, making, l i k - i n g, c o o k i n g, l o o k i n g, j e r k - i n g, t h i n k i n g, t a c k i n g.

SOLVERS TO NOV. 1ST PUZZLES.

M. R. G., "Arry 'Awkins," Maggie Kidd, "Rolly."

ADDITIONAL SOLVERS TO OCT. 16TH PUZZLES.

"Pansy" (also for Oct. 2nd), J. F. L., "Rolly."

COUSINLY CHAT.

L. B. F.—Some of the puzzles recently sent by you are so nearly like some that have appeared before that we do not care to use them. Try to give greater variety—you can if you wish. "Mal"—Your illustrated rebus has been returned to me, as such puzzles have to be engraved, at considerable expense, and so are scarcely worth the trouble. Besides, they take up a lot of room, and space is always at a premium in our column. I hope the "Mater" is better, Girlie, and that I may hear from you soon.

"Arry 'Awkins"—Your puzzle to "Dick" reminds me that he is not the only deserter. Where are "Toledo" and "Muggins" our old-time friends?

Maggie K.—Your answers were correct. You are very welcome to our circle, and we hope you will remain.

"Rolly"—You got the "f" all right; the line is not familiar to me. We have some snow, too, Rolly, but not very much. You live in Carleton Co., do you not? I do, although my post office is in Lanark.

Poetical city maiden, rustivating for a while—"Can you not show me some lovely sylvan dell, the quiet haunt of nature, or lead me to some wild Arcadian pastures?"

Country child—"We ain't got none of them things round here, ma'am. We had a suicide last week, but he's done been buried now."

MR. W. D. FLATT'S COMING SALE OF IMPORTED AND CANADIAN-BRED SHORTHORNS.

Having seen the catalogue and the cattle listed for the great sale of Shorthorns to be held at Hamilton, Ont., December 20th, we are confident it is safe to say that no such collection of cattle has been offered at public sale in Canada in the last twenty years. Mr. Flatt's ambition, evidently, has been to excel in this regard, and to this end he has spared no expense in procuring the best that could be bought in Great Britain; 43 animals imported this year go into this sale, besides 17 choice Canadian-bred animals of high-class quality and breeding.

Mr. Flatt has, we think, been unduly modest in seeking to leave the impression that the cattle are in only very moderate condition. Those who have seen them agree that the animals are, as a rule, in the very best possible condition from a breeder's standpoint, being robust looking, well covered with natural flesh and hair, and looking the pictures of health, thrift and usefulness, while a large proportion of them in symmetry of form, style, and quality, combine all the properties necessary to make high-class show animals, fit to compete with the best in any country. In breeding they are up to the standard of the most approved type, the great majority being bred in Scotland, in herds of recognized merit, and all having the benefit of the blood of the most noted herds in Britain, as an analysis of their pedigrees will abundantly attest.

A detailed reference to all the individual animals in the sale would be impossible in the space at our disposal, but among a long list of good things special mention may be made of a few, and turning first to the bulls to be sold we find a prominent figure in the handsome and level roan two-year-old, Precious Stone (illustrated in this issue), bred by Mr. Gordon, of Newton, Aberdeenshire, and sired by the Cruickshank bull, Touchstone. He is thus half-brother to Corner Stone, also bred by Mr. Gordon, winner of first and championship prizes at the Highland Society's Show, 1898, defeating the Royal winner, Count Beauty, and the Queen's heifer, Cicely, which was champion at the Royal the same year. It is said that Mr. Gordon has refused \$5,000 for Corner Stone, and good judges have given it as their opinion that Precious Stone is a better bull than his brother the champion was as a two-year-old. He is certainly a bull of very fine presence and promise, having very straight lines, level quarters, strong loins, and a grand quality of flesh and hair. He is certain to find favor with discriminating breeders, and has in him the qualities of a winner.

Closely following him, if not his equal, is the strong, low-set, level, and well-proportioned Duthie-bred yearling, Master of the Clan, a roan by the Marr-bred Chief of the Clan, by Captain of the Guard, and selected by Mr. Duthie for service in his herd, a sufficient indication of his excellence. He is of the favorite Missie family; which produced Marengo, the Royal champion of 1896, and many other famous prize winners, and is choke-full of quality from stem to stern; just the sort for a superior stock bull and a show animal in combination.

Proud Crescendo, a rich red bull, just 14 months old on the day of sale, is one that is sure to find favor with good judges and has everything in his make-up that is necessary to make a successful show bull, while his breeding is rich in the blood of the best, being sired by Crescendo, an extra well bred Cruickshank bull by Prince of Fashion, and his dam by Proud Duke, by the Cruickshank Nonpareil bull, Norseman, bred by Mr. Duthie, his dam being the daughter of a William of Orange cow. He is a perfectly level, straight, and true young bull, with handsome head and crest, long, straight quarters, and ideal handling qualities. There is sure to be keen competition for his possession, and we tender our congratulations in advance to the one lucky enough to bid last for him.

Among the other imported bull calves is Prince Louis, a roan of March last, of the favorite Lancaster tribe; Quarantine King, a son of the Duthie-bred Wrestler by William of Orange, and of the fine cow, King's Magic 4th, by a son of the Cruickshank sire, Scottish Archer; Sittytton Style, of the Cruickshank secret family, by another son of Scottish Archer, out of a Missie cow by William of Orange; and Royal Archer, a nine months son of Lady Lincoln 5th, by Belted Knight by Clear the Way, a grandson of the great Champion of England. The Canadian-bred bulls to be sold are of equally good breeding, of exceptional individual merit, and good enough to head first-class herds, coming from such as the Missie, Duchess of Gloster, Mima, Claret, and Cicely tribes—all of which are standard sorts.

Prominent among the females is the massive and shapely roan cow, King's Magic 4th, in her four-year-old form, a daughter of Lord Harry, bred by Mr. Duthie, and sired by Scottish Archer, purchased when a yearling by Mr. Willis, of Bapton Manor, for 300 guineas, and now one of the chief stock bulls at Collynie. King's Magic 4th is a show cow, broad, deep, smooth, and well balanced, and shows a shapely udder, which indicates the heavy milk she is, and which is attested by the lusty roan bull calf she is nursing, a son of Wrestler, bred by Duthie, and sired by William of Orange, which will prove a prize for somebody.

Jenny Lind, a roan two-year-old heifer by Matadore, by the Duthie bull, Prince of Fashion, by Scottish Archer, and out of Missie by Nairn, by the Cruickshank Spicy bull, Dauntless, is one of the most excellent of the lot; and Craibstone Baroness, another roan two-year-old by Craibstone, a son of the noted William of Orange, is of the Miss Ramsden family, which produced the Royal winner, Challenge Cup, Proud Archer, and Lady Douglas, imported by Mr. Flatt, and sold at a long price. Linda, a Cruickshank Lustre, calved in March, 1897, is a handsome and stylish red and little-white heifer of great promise; sired by Lord Douglas, a Cruickshank bull of note, and sire of Lady Douglas, above mentioned. Linda was a winner at the Scottish shows in 1898, having gained second at the Royal Northern, and first at Insch and Tyrie. Two of the Inverquhomery Augustas, bred by James Bruce, a red and a roan, calved in February and April, 1898, and sired by Waverley, a Highland Society winner, are very excellent representatives of that fine family; the dam of one being by the Duthie-bred Royal Robin by Roan Robin; and of the other by the

The Farmer's Advocate CHRISTMAS NUMBER.

THE 1899 Christmas number of the FARMER'S ADVOCATE will be more attractive in appearance and more valuable and interesting in contents than any previous issue, containing about half a hundred beautiful engravings; and amongst its wealth of contributions are the following:

"The Agricultural Situation and Outlook for the Dominion."

Contributed by the HON. SYDNEY FISHER, Minister of Agriculture in the Canadian Government.

"Agriculture in the Maritime Provinces."

By SENATOR DONALD FERGUSON, Prince Edward Island.

"Log Cabin Times."

This will be a vivid recalling to mind of days and nights in the "slashing," when the "logging bee" was in its glory, and the wolf howled outside to the music of the roaring back-log fire within, by REV. W. A. MACKAY, B. A., D. D., author of "The Pioneers of Zorra."

"The Twentieth Century Farmer."

The horoscope of the successful farmer of the future will be graphically cast by PROF. JAS. W. ROBERTSON, Canada's Progressive and Aggressive Agricultural Commissioner.

"The Beginning of a Cure."

A Christmas Eve sketch, by the gifted Canadian authoress, JEAN BLEWETT, whose poetic and prose writings touch with a delicate hand the chords of humor and pathos.

"Woman's Influence on Farm Life."

By MRS. AGNES SPENCER, "Dorset Farm," Ontario Co., author of "The Log Cabin's Lament."

"Pioneer Agriculture in the Red River Valley."

By J. J. GUNN.

"Canada at the Paris Exposition."

One of the most experienced of CANADIAN JOURNALISTS will picture what our great Dominion will present before the world's critical eyes at the World's Fair of 1900 in the French capital.

"The Future of British Agriculture."

A masterly review is given of the present condition of British agriculture. Two great menaces confront the British farmer and also two paths of deliverance, both of which are described by MR. ARCHIBALD McNEILAGE, one of the ablest and foremost of British agricultural editors.

"British Shorthorn Sales of 1899."

By MR. JONAS WEBB, of John Thornton & Co., London, Eng.

"Outlook for the British Sheep Industry."

By MR. ALFRED MANSELL, of A. E. Mansell & Co.

"Agricultural Education in the 20th Century."

"Standing on the threshold of a new century, the time is opportune, the conditions are right and the duty imperative for beginning the work of agricultural education in the public schools in a rational and thorough manner." By CHARLES C. JAMES, M.A., Deputy Minister of Agriculture for Ontario, formerly Professor of Chemistry at the Ontario Agricultural College, and author of the text-book "Agriculture."

"A Bright Chapter for Stockmen."

A reasonable article of special interest to stockmen, by the head of the great Iowa Experiment Station and Agricultural College, PROF. C. F. CURTISS.

"Best Results on a Prairie Farm."

Written by one of the very foremost authorities on the subject, based on personal experience and wide observation as Superintendent of the Indian Head Experimental Farm, Northwest Territories, ANGUS MACKAY.

And there will be many other features just as good.

The beautiful and valuable number, to be issued on December 15th, goes free to every new subscriber for 1900. To non-subscribers the price is 50 cents. Any present subscriber sending us the name of one new subscriber will receive one extra copy of the Christmas number as a premium. Nothing more appropriate to send as a Christmas greeting to a friend or relative.

Every issue for 1900 of the FARMER'S ADVOCATE will be full of helpful, practical and timely matter. It is the best agricultural paper on earth for the Canadian farmer, and only \$1.00 per year. Send for a free sample copy.

The WILLIAM WELD CO., Ltd.,
LONDON, CANADA.

noted Cap-a-pie by Clear the Way, out of Augusta 11th by Cateway. Nonpareil 5th, a roan yearling, bred by Mr. Campbell, Doystone, is a capital scion of that excellent Cruickshank family, by Kintore Hero by Emancipator, and her dam by Clan Alpine. Clipper 2nd, by Christmas Cup, is a handsome and well-formed representative of the favorite Sittytton tribe of that name. Avarice is a good roan two-year-old heifer of the Avarice tribe, that has done so well in the north of Scotland. One of the most desirable things in the sale is the nine-months Imp. Belladonna, by the Cruickshank bull, Crescendo, and out of Bella 3rd, by Martin, by the famous Star of Morning, who was by Pride of Morning, the sire of Butterscotch, dam of Corner Stone, the Highland Society breed champion of the present year. It is believed that if this heifer goes into good hands she will make a champion.

Among the Canadian-bred females are a number of really excellent young cows and heifers of such fine families as the Missie, Duchess of Gloster, Crimson Flower, Village Girl, and other useful sorts, of which space forbids further mention.

Mr. Flatt has been exceedingly generous in the selections from his herd which he allows to go into the sale, and has put nothing in the list that is below par. He hopes for, and confidently expects, a large gathering of farmers and breeders at this sale, and those who know him best will need no assurance that he will fairly represent everything, use his patrons well, and conduct the sale on strictly honorable principles.

THE CARGILL SHORTHORNS.

The largest and one of the very best herds of imported Scotch-bred Shorthorns in America at the present time is that of Messrs. H. Cargill & Son, of Cargill, Ont., whose importations of over 75 animals during the present year, in addition to those of their last year's importation remaining, gives them a herd of about 100 imported cattle, besides some 20 head of other high-class animals bred directly from imported Scotch-bred sires and dams of first-class families. This firm has special facilities for securing the most desirable class of cattle, Mr. Cargill, Jr., having visited the Old Country last year, making valuable selections in person, and was fortunate in negotiating an arrangement with that excellent judge and reliable breeder, Mr. S. Campbell, of Kinellar, Aberdeenshire, to select, purchase, and ship in successive consignments, the best class of Shorthorns available, with the result that up to the present date 75 choice animals have been landed in good condition this year, under the charge of careful and competent herdsmen. The importations of this year include a selection of 20 two-year-old heifers in calf, from the noted herds of Mr. Duthie, of Collynie, and Mr. Marr, of Upper Mill, a privilege which has rarely, if ever, been granted to any other buyer. These are an exceedingly uniform lot of typical Aberdeenshire Shorthorns, but a selection of some 30 heifers of the same age and of similar breeding, from other well-known Scotch herds, are quite as good individuals, and are richly bred in the blood of the leading herds, all being of the low-set, thick-fleshed, early-maturing sort at present so much in demand. The purpose is to retain the 20 heifers first mentioned in the herd, and these are not being offered for sale; but the balance of the herd is open for sale, and parties requiring choice-bred foundation stock, or fresh blood to add to their herds, will find in the Cargill cattle just what they want, either among the imported animals or those bred on the farm from imported stock.

There are a number of excellent young bulls, imported and home-bred, now on hand which are good enough to head first-class herds. Among the former is Count Amaranth, a rich roan yearling, calved in February, 1898, bred by Mr. Duthie, and sired by Count Arthur, a Cruickshank Victoria bull by Count Lavender. His dam is by Master of the Realm, a Sittytton Brawth Bud bull by Commodore, a grandson of the great Princess Royal by Champion of England, and is of the same family as the noted Field Marshal, Count Amaranth was bought from Mr. Duthie by Mr. Campbell when a calf for 100 guineas, and used in his herd the past season. He is a model Shorthorn bull, straight in his lines, smoothly-fleshed, and showing strong character.

The roan three-year-old, Orange Duke, bred by the Duke of Richmond and Gordon, was sired by the richly-bred Missie bull, Musgrave, who was by the Cruickshank Clipper bull, Criterion. His dam was by Strongbow, used for three seasons at Sittytton, who was out of a daughter of the great Champion of England. This bull has developed into a grand, thick-fleshed animal, full of quality, true in his lines and long and level in his quarters, and is proving a capital sire.

Beauchamp, a roan yearling, bred by Geo. Bruce, of Heatherwick, is an excellent young bull, sired by Prince of Archers, by Scottish Archer, and his dam by the Nonpareil bull, Norseman. He is a very straight, well-proportioned bull, with well-sprung ribs, and full of quality.

Count Sarcasm is another excellent roan yearling, bred by Mr. Duthie, and sired by Count Arthur, a Cruickshank Victoria, and his dam is a Sittytton Secret of the best of breeding.

Prince Cruickshank, a roan yearling, bred by Mr. John Marr, is a straight, smooth, well-formed bull of capital quality; sired by Emperor, by the Cruickshank Coldstream, and out of Diamond 11th by the Clipper bull, Standard Bearer. The dam of Prince Cruickshank was by the Mina bull, Master of the Mint, by Masterpiece by Field Marshal.

Prince William is a straight, stylish red yearling, by Reveller by Allan Gwynne, by Star of the Morning, one of the best of modern sires. The sire of his dam, Red Prince, is an excellently-bred Lancaster by the Missie bull, Match Him.

A number of nice bull calves of equally good breeding, imported and home-bred, make up as fine a lot of young bulls as can be found anywhere. The Cargill herd has taken a leading place on this continent, and it is the intention of the owners to keep it in that position by breeding only from first-class individuals of the best blood. They are first-class men, who treat their patrons right, deal fairly, represent everything as it is, are satisfied with reasonable profits, and aim to give good value to those who favor them with their trade and their confidence.

For Sale.

The Samuel Hanna Estate,
at Griswold.

As this estate must be closed out, it has been decided to offer for sale all those splendid farms owned by the late Samuel Hanna, and comprising about seventeen hundred acres within a few miles of Griswold. The land will be sold in parcels. It is highly improved with buildings, fences, and cultivation.

A great opportunity is here offered to any one desiring a first-class farm.

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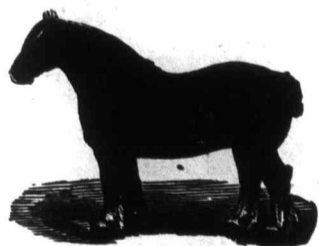
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We have on hand several Hackney Stallions, both imported and Canadian-bred; all of the best strains, and all prizewinners at our best shows. The right time to buy stallions is during the fall and not when spring comes along. At the latter time all entire horses have their routes laid out, and owners cannot afford to disappoint their patrons. Apply now and get reasonable quotations. Send for catalogue and particulars to **HORACE N. CROSSLEY,** Rosseau P. O., Dist. Parry Sound, Ont.

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Ayrshire bulls and heifers from imported stock. Best milking strains, with good teats. Terms reasonable. A visit to Thorncliffe will well repay you.

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stallions and mares just arrived, also Hackneys and Shires, including several prizewinners in Scotland. Ages ranging from 2 yrs. to 6; weighing up to 2,400 lbs. No exorbitant prices asked. Small profits and quick returns.

GOSSIP.

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

Hon. M. H. Cochrane, of "Hillhurst Farm," P. Q., has received advice of the arrival on Nov. 18th of an importation of 13 Scotch Shorthorns at St. John, N. B. Among them is the dark roan bull calf, Joy of Morning, from Collynie; highest-priced bull imported this year to the United States or Canada. All the rest are heifers, yearlings and calves, selected at Uppermill, Cairnbrogie, Shethin, Waterton and Cromley Bank, being the pick of these well-known herds.

D. J. Gibson, Bowmanville, Ont., writes, under date of November 21st: "Please change my ad. in the next issue of the Advocate. My Tamworths are in excellent form at present, and sales are numerous, the purchasers being well pleased with the stock I send them. I have twenty sows and boars, from six weeks to four months old, from prizewinning stock, that I wish to dispose of at once. My Mammoth Bronze turkeys are June hatched, the cocks weighing from 17 to 20 lbs.; they are large-boned, strong, vigorous fellows, with beautiful plumage."

Intelligent interest in fine poultry is becoming more general from year to year. Evidence of this is the marked improvement of the poultry press and the attention paid to the subject by the more general farm papers. No small credit for this is due to the breeders of poultry who have for years advertised their stock, maintained exhibits, and contributed in many ways to arousing and stimulating the attention of the public at large. One of the names familiar to poultrymen is John Bauscher, Jr., of Freeport, Ill., whose card appears in another column. Mr. Bauscher has an immense establishment, and makes a specialty of farm-bred stock. He publishes a very complete and expensively prepared manual at a nominal price, and solicits correspondence. Intending purchasers should write him before buying.

MR. ARTHUR JOHNSTON'S IMPORTATION.

Mr. Arthur Johnston, of Greenwood, Ont., writes to say that his newly-imported Shorthorn cattle have just arrived safely home from quarantine, where they have very greatly improved in flesh and appearance. The young bulls in particular have done exceedingly well, and they are now in very nice breeding form. The "Scottish Archer" Marr Missie bull has grown immensely, though still only in fair, moderate breeding condition. He is practically the same blood as Marango, and he is full brother to Lord Lovett's great show and breeding bull, Merry Archer. We think him fully as good a bull and quite as well-fleshed as Indian Chief was at the same age, and, indeed, he is very like him in all but color. Chief of Stars, the son of the great show and breeding bull, Star of Morning, has also developed wonderfully. He is a great, big, massive, thick-fleshed, good bull of the famous Cruickshank Clipper family, a family excelled by no other tribe in that great herd. While Mystic Archer and Chief of Stars have done exceedingly well, Merryman, the beautiful red son of Mr. Duther's Reveller, has unquestionably gone on better than either of them. He is now a most attractive bull, lengthy, smooth and beautifully finished at both ends. His head, horns, neck, shoulders and breast are faultless. He belongs to the grand old Cruickshank-bred tribe of Marigolds or Milkmaids, one of the oldest tribes in Aberdeenshire. The females have also come out of quarantine in splendid form, though by no means fat. Catalogues are now ready, and will be mailed on application. Our home-bred heifers, of which we have a beautiful lot, have just been brought in from the fields and are in only fair keeping condition. We have 15 beautiful yearlings, many of them from imported cows and by imported bull.

Western Dairy School, STRATHROY, ONT.

School will reopen for Factory Courses, Jan. 4th to March 31st. Special Creamery Course, Dec. 4th to 22nd. Instructors: Chas. O. Luton, cheesemaking; G. R. Johnson, separators and buttermaking; Arch. Smith, milk-testing and home dairy. The best of attention will be given to matters and other who want instruction. Send at once for circular and forms of application to

ARCH'D SMITH,
Superintendent Dairy School,
Strathroy, Ont.

Edward R. Hogate Company

IMPORTERS OF
English Shire and Clydesdale Stallions.

We have them on hand from 3 to 5 years old, weighing from 1,800 pounds upwards. Write now for particulars and where you can buy the cheapest. We expect our next importation from England to arrive about January 1st, 1900.

EDWARD R. HOGATE,
10 Millland Street, TORONTO, CAN.
Barns: 84 and 86 George Streets.

A Few Choice Durham Heifers In Calr.

Two bulls; two bull calves; all of choice breeding. Berkshire boars; brood sows and sow pigs. Prices right.

A. J. C. SHAW & SONS,
THAMESVILLE, ONT.

THE ELWOOD FENCES

are the Standard Woven Wire Fences of the World. Standard in quality of spring steel wire, standard in heavy galvanizing, standard in efficiency, durability and economy. Standard for every fencing purpose, for horses, cattle, hogs, pigs, sheep, poultry and rabbits. **STANDARD OF ECONOMY**—More of our fences sold and put up in 1899 than of all other woven wire fences combined. Sold by our agents everywhere. If no agent in your town write to

AMERICAN STEEL & WIRE CO., Chicago or New York.

SIXTEENTH ANNUAL ONTARIO PROVINCIAL Fat Stock, Dairy and Dressed Poultry Show

WILL BE HELD IN THE City of London,
December 11th to 15th, 1899

Reduced rates on all lines of railroad.

F. W. HODSON, Secretary.

SHORTHORNS

Crimson Flower and Minnie Strains. A number of very choice young bulls; also Cotswold sheep.

DAVID BIRRELL,
Greenwood, Ont.

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872.
Such sires as imported Royal George and imported Warfare have put us where we are. Imported Blue Ribbon now heads herd.

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

Shorthorns.

Six bulls from 3 to 12 months old; one choice 4-year-old stock bull; eight 2-year-old and yearling heifers and heifer calves of choice quality and breeding.

R. MITCHELL & SON,
Burlington Jct. Station, Nelson P. O. -o

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. The Baron at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON,
-om DENFIELD, ONT.

Shorthorns and Shropshires.

I have a few promising young bulls on hand, and am booking orders for Shrop. ram lambs for fall delivery; well covered. -o

GEORGE RAIKES, - BARRIE, ONT.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

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

Wm. Grainger & Son, - Lonsdale, Ont.

River Bow Stock Farm.

B. SNARY & SONS, CROTON, ONT.,
Breeders of
Shorthorn Cattle, Poland-China and Chester White Swine.

We offer for sale seven good young bulls, from seven to twelve months old; eight heifers of choice quality and breeding. Sired by Chief Captain. Pigs of both sexes and all ages at moderate prices, quality considered. -om

PLEASE MENTION FARMER'S ADVOCATE.

Shorthorns and Leicesters.

HERD ESTABLISHED 1855.
A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 2880, and Duncan Stanley =16364-. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS,
-o CALEDONIA, ONT.

SPRINGFIELD FARM

HERD OF
Shorthorns, Oxfords, AND Berkshires.
Young bulls and heifers on hand. Also a few choice Berkshires.

CHAS. RANKIN,
Wyebridge, Ont.
SIMCOE CO. -o

SPRINGHURST SHORTHORNS

The famous sire, Abbotford =1946-, and the crack young show bull, (imp.) Knuckle Duster (72793), head the herd, which is largely of Cruickshank blood. Twelve good young bulls (some toppers), and a choice selection of females for sale. Address,
Exeter Station, G. T. R., **H. SMITH,**
half mile from farm. -om HAY, ONT.

Scotch Shorthorns FOR SALE.

100 head to select from; 23 grand young bulls by Valkyrie =21906-, and cows and heifers of all ages, of the most approved breeding, served by (imp.) Diamond Jubilee =22861-, now at the head of our herd.

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

JOHN DRYDEN.

BROOKLIN, ONTARIO.
BREEDER OF
Scotch Shorthorns, AND Choice Shropshire Sheep, SHORTHORNS

I have six young females for sale—three are in calf and three old enough to be bred. These heifers have four or more crosses of the finest Booth sires, on imported Marr and Gorton Castle foundation, a desirable and needed line of breeding.

-om **D. ALEXANDER, Bridgen, Ont.**

BUYING FROM THE U. S.

We are advertising for business, and are just as certain of selling you here as we are doing to-day in South Africa and Australia.

Our 304 page General Catalogue of everything to eat, use and wear, contains over 10,000 illustrations and quotes wholesale prices to consumers on 100,000 different articles.

Our Lithographed Catalogue shows Carpets, Rugs, Art Squares, Portiers and Lace Curtains in their real colors, so by looking at the colored plates, you can tell exactly how the goods would look at your window or on your floor.

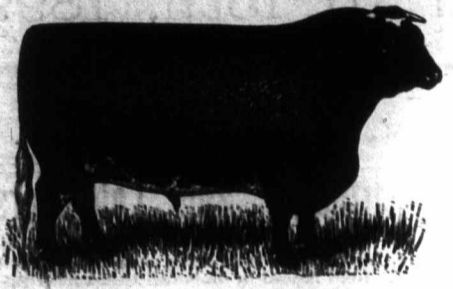
Our Made-to-Order Clothing Catalogue with samples of cloth attached offers Suits and Overcoats guaranteed to fit, from \$5.95 to \$50.00.

You will never know how much money you can save until you see our Free Catalogues. Which do you want? Address this way.

JULIUS HINES & SON, BALTIMORE, MD., U. S. A. Dept. 227.

ARTHUR JOHNSTON

Greenwood P. O. and Telegraph Office,



OFFERS FOR SALE, AT MODERATE PRICES, 13 IMPORTED AND HOME-BRED SHORTHORN BULLS, 17 IMPORTED COWS and HEIFERS, 22 HOME-BRED COWS and HEIFERS.

F. BONNYCASTLE & SONS

BREEDERS OF Shorthorns, Cotswolds, and Berkshires. Have for sale cows, heifers, and heifer calves; a choice lot of ram lambs, ewe lambs, and breeding ewes; 40 Large English Berkshires, of the long bacon type, from six weeks to nine months old.

25-Shorthorn Bulls-25

From 6 to 18 months. Also a limited number of females, among which are grand, thick-fleshed and choicely bred animals, mostly solid red colors. Speak quick, for they will not last long. G. A. BRODIE, STOUFFVILLE STATION, BETHESDA, ONT.

John Miller & Sons, BROUGHAM P. O. and TELEGRAPH OFFICE.

OFFER FOR SALE... 4 Imported Clydesdale Stallions, 10 Scotch-bred Shorthorn Bulls. PRICES REASONABLE.

Claremont Stn., Pickering Stn., C.P.R. G.T.R. Correspondence Invited.

MOUNT ROSE STOCK FARM

Young Shorthorn bulls, heifers and cows for sale. Prices right.

J. W. Hartman & Sons, Elmhedge P.O., Ont.

GOSSIP.

The Toronto Poultry Show will be held on December 18th to 22nd.

A. P. Alton & Sons, Appleby, Ont., advertise in this issue two Shorthorn bulls and a number of females.

The next annual meeting of the American Leicester Breeders' Association will be held in the parlors of the Tecumseh House, London, Ont., on Tuesday, December 12th, at 2 o'clock, p. m., which is during the Provincial Fat Stock Show. Mr. A. J. Temple, of Cameron, Ill., is the secretary.

J. Miller & Sons, Brougham, Ont., write on Nov. 27th: 'Our first importation for 1899 of Shorthorns arrived home from quarantine Nov. 1st, all in good condition, and since arrival Rosa Hope 15th, bred by the Duke of Richmond and Gordon, has calving a nice red bull calf by the Dutchie-bred bull, Royal Standard. We have heard of the safe arrival in quarantine of our second importation, six heifer calves, from the herd of W. S. Marr, Uppermill. We are offering some good bull calves from 8 to 12 months old at good value to make room.'

T. DOUGLAS & SONS' SHORTHORNS.

The two Shorthorn heifer calves portrayed on page 659 of this issue are representatives of the extensive herd of Messrs. T. Douglas & Sons, at Strathroy, Ont. On the left of the picture is Maple Bank Beauty, sired by Maple Bank Daisy, by Young Abbotsburn's Heir, and on the right is Roan Girl, out of Wachusetta, by same sire. They are sired by Messrs. Douglas' late stock bull, Valkyrie, by Abbotsford, and out of Vanity, by Village Hero. Roan Girl won 2nd prize at the last Western Fair, London. The herd numbers about 100 head, 45 of which were imported from the herd of Messrs. Douglas & Sons, established, but the foundation of the present lot was laid in 1836, when 20 head of useful females were purchased. From these much useful stock was produced from the service of imported Mariner - 2720-, a bull bred by Campbell, of Kinellar, that was used for several years, bringing much uniformity to the herd. Mariner was followed by Young Abbotsburn's Heir - 15947-, who gave place to Valkyrie - 21896-, by Abbotsford, and out of Vanity, by Village Hero. Each of these sires added improvement, but the prepotency of the latter is most conspicuous in the herd at the present time, as the 17 bulls, from six to eighteen months old, and the 35 females, from a few months old to breeding heifers, are thick, straight, maturely fleshy, and grandly-coated beasts, bearing a strong family resemblance to the type shown in the illustration. At the time of our visit, November 22nd, a large proportion of the herd had not yet been stabled, and while they were on short pasture, they presented a thrifty, thick appearance. Many of the calves not yet weaned have had only what their dams have given them, but they are well-grown and thrifty. Early in the present year the bull, Diamond Jubilee, bred by J. Marr, of Cairnbrogie, Scotland, and imported by H. Cargill & Son, Cargill, Ont., was purchased. He is about thirty-two months old, and while he is in just nice breeding form, he weighs some 2,300 pounds, although he does not appear nearly so heavy on account of his compact, smooth form. He is well down in body, full and even at either end, and has an even, corresponding middle. His back is particularly well-fleshed and straight, and his docile disposition and tendency to put on flesh are among his strong characteristics. He was used in Messrs. Cargill's herd on a number of Royal prize females before he was imported, and a number of heifers and cows, some of which will have dropped their calves early in December. Diamond Jubilee was sired by Sigmund 2nd, and out of Jenny Lind, by Patient. Among the older cows are 8 by Mariner, and 2 by Scottish Victor, a bull bred by Amos Cruickshank, and sired by Roan Giantlet. Apart from these is the prolific matron, Bella Dorn, by Young Abbotsburn's Heir - 15947-. She has produced many good ones that still remain in the herd. The condition of all the animals, except a few heavy milkers that have suckled calves, would do credit to any herd, and as there are so many to select from, a purchaser would be hard to please if he could not be suited in this herd.

NOTICES.

American Leicester Record.—Vol. 2 of the American Leicester Record has been issued by the secretary, A. J. Temple, Cameron, Ill. It contains constitution and by-laws of the Association, rules governing entries, etc.; a report of the 1898 annual meeting, held in Brantford, Ont.; and pedigrees of sheep Nos. 801 to 2,800; besides several cuts of superior specimens of the breed; appendix, transfers, etc. The volume is well prepared and bound.

Central Business College.—The Central Business College, of Toronto, is enjoying unusual prosperity this term, and while it is constantly sending out capable young men and women into business positions, it has been found necessary to enlarge its premises and increase its equipment to accommodate the steadily increasing attendance, which last week brought in representatives from Delhi, Thessalon, Listowel, Islington, Georgetown, Brampton, Guelph, Sundridge, Newcastle, Fenelon Falls, and St. Johns, Nfld. This is truly a representative Business School.

Prizes for Dairy Essays.—At a meeting of the Committee of the Western Ontario Cheese and Butter Association, in Brantford, it was decided to increase the value of the prizes, and to offer \$200 for essays on cheese and butter making, as follows: For essays on butter-making—1st prize, \$50; 2nd prize, \$25; 3rd prize, \$15; 4th prize, \$10. Judges—Aaron Wenger, Ayrton; H. H. Dean, Professor of Dairy Husbandry, O. A. C., Guelph; Arch. Smith, Butter Instructor for the Association and Director of the Strathroy Dairy School. For essays on cheesemaking—1st prize, \$50; 2nd prize, \$25; 3rd prize, \$15; 4th prize, \$10. Judges—R. M. Ballantyne, Stratford; J. N. Paget, Canboro', and James Morrison, Cheese Instructor for the Association. It was decided that professors, instructors, or anyone in the employment of any of the judges should be ineligible to compete for the prizes, and also that the essays should be forwarded to the secretary not later than Saturday, January 6th.

IMPORTANT AUCTION SALE OF Imported Scotch Shorthorns

Having decided to establish an Annual Sale of Shorthorn Cattle, I will sell at public auction, in the City of Hamilton, Ont., on WEDNESDAY, DECEMBER 20th, Commencing at 12 o'clock noon:

60 HEAD OF SCOTCH SHORTHORNS, 43 of which were imported during the present year, including my entire importation of 37 animals now in quarantine, making 35 IMPORTED COWS AND HEIFERS AND 8 IMPORTED BULLS. Also 9 females and 8 bulls, Canadian-bred, all of which are good individuals of choice breeding.

Catalogues will be mailed on application to: Auctioneers—COL. F. M. WOODS, Lincoln, Neb. CAPT. T. E. ROBSON, Ilderton, Ont. W. D. FLATT, Hamilton, Ontario, Can.

10 Imported Shorthorn Bulls ALL SCOTCH.

Advertisement for 10 Imported Shorthorn Bulls, featuring a central illustration of a bull and text: 21 IMPORTED HEIFERS. ALL SCOTCH. ROYAL MEMBER (64741).

Heifers all in calf to imported bulls. Also a number of first-class home-bred animals of either sex. The oldest home-bred bull we have was calving in April last. Correspondence or a personal visit solicited. Catalogues on application.

H. CARGILL & SON, CARGILL, ONT. Cargill Station and Post Office on G. T. R., within half a mile of barns.

20 - Imported Scotch Shorthorns - 20

2 BULLS, 1 and 2 YEARS OLD; 14 HEIFERS, 2 YEARS OLD; 4 YEARLING HEIFERS.

THIS importation came out of quarantine on the 12th July, and representatives of many of the leading Scotch families are amongst them, including Minas, Brawith Buds, Secrets, Mysies, Beauties, Lady Mays, Lustres, etc. The home-bred herd contains Indian Statesman - 23004-, and 15 young bulls from 6 to 18 months old, and 30 cows and heifers of all ages. Registered Shropshires, yearling rams and ewes, ram lambs from imp. Flashlight. Any of the above will be sold at reasonable prices. Correspondence or a personal visit solicited. Catalogues on application.

Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm. W. G. PETTIT & SON, FREEMAN, ONT.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstakes at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Imported Blue Ribbon - 17095- and the famous Money-tuffel Lad - 20521-. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply on T. E. ROBSON, Ilderton, Ont.

I am prepared to offer at reasonable prices, for a short time, a few very choice young registered Shorthorn Bulls and Heifers in good health and fine growing condition. Simcoe Co., Coldwater Station. SAMUEL DUNLOP, Eady, Ont.

SPRINGBANK FARM.

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale. JAS. TOLTON, WALKERTON, ONT.

FIVE SHORTHORN BULLS

Will be sold to make room. Good quality and breeding. Also Mammoth Bronze turkeys. Inspection invited on H. C. GRAHAM, Ailsa Craig.

BONNIE BURN STOCK FARM

Forty rods north of Stouffville Station, has for sale three excellent young Shorthorn Bulls, yearling and two-year-old Heifers in calf. Shropshire Lambs, both sexes; also Berkshires. At very moderate prices. D. H. RUSSELL, Stouffville, Ont.

Maple Lodge Stock Farm

ESTABLISHED 1854. SHORTHORNS.—A grand lot of young bulls, got by the great Caithness and Abbotsford. Choice heifers in calf to imp. Knuckle-Duster and Abbotsford—milkling strains. LEICESTERS.—A splendid lot of ram lambs, ewes and ewe lambs for sale. Our flock has won first prize for pen—1895, '96, '97, '98, '99—at Toronto and London. Write us for prices. ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

SHORTHORNS

Two choice young bulls, 17 months old; also a number of young cows and heifers. A. P. ALTON & SON, Burlington Jct. Station, Appleby P. O., Ont.

Ingleside Herefords

First prize herd and medals for best bull and best female, Toronto, London, Ottawa. Send for prices and illustrated catalogue.

TAMWORTHES

One boar six months old, and choice sows two months to a year old. H. D. SMITH, COMPTON, QUE.

Dairymen !!!

Your PROFIT is in the MILK.



Do you want it increased? The Woodward Water Basins will do it. Will pay for themselves in two seasons. Write Ontario Wind Engine and Pump Co. (Ltd.), TORONTO, ONTARIO.

F. W. STONE ESTATE, GUELPH, ONTARIO.

The first Hereford herd established in Canada by importations in 1859 of the best prizewinners of England, followed by repeated further importations...

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.

Jersey Cattle MONEY IN YOUR POCKET. Mrs. E. M. Jones, Box 324, BROCKVILLE, ONT., CAN.

GLEN ROUGE JERSEYS. WILLIAM ROLPH, Markham, Ont.

Meadowbrook Jerseys, Tamworths.

BRAMPTON JERSEY HERD. Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves...



Do you want a Snap? \$200 Now is your chance. One good Jersey cow, 7 years old; one good Jersey heifer, 3 years old; and one bull, 3 years old...

Deschenes Jersey Herd. HEADED BY DAVID'S ROTTER OF ST. LAWRENCE 47570.



4 young bulls fit for service—registered. Also Tamworth swine from diploma herd, Canada Central Fair, Ottawa, 1898.

MAPLE HILL HOLSTEIN-FRIESIANS The Gold Medal Herd of '97 and '98.

A few choice cows and heifers now for sale, mostly bred to the butter bull, De Kol 2nd's Paul De Kol Duke. See my herd at the big fair.

The Big 4 at Brookside

THEIR HOLSTEINS: Netherland Hengerveld... Official test, 26.65 lbs. DeKol 2nd... 26.57 "

Maple Glen Stock Farm. Special. For immediate sale, Quality Tops...

Lynnfield Holstein Herd. DO you want to buy young cows that are great milkers, also two-year-old heifers, bred to our stock and show bull, Homestead DeKol Belle Boy.

C. M. KEELER, GREENBUSH P. O., ONT. PLEASE MENTION FARMER'S ADVOCATE.

Oh, Yes! We sell Holstein Bulls. Sold 7 in May. Have 12 now on hand; oldest 9 months old; bred, right and are right.

Galloways Shropshires

2 BULL CALVES by the sweepstakes bull of '98 at Toronto. In Shropshires we have about 30 ewes and 20 ram lambs for sale.

Choice Ayrshire Bulls THE IMP. Jock Morton.



A few young bulls fit for service, and bull calves under a year. Also a few heifers and heifer calves.

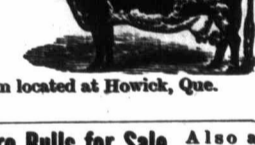
JAS. McCORMACK & SON, ROCKTON, ONTARIO.

CHOICE AYRSHIRE BULLS

I offer for sale 1 Ayrshire bull, calved Aug., 1898; 1 Ayrshire bull, calved Oct., 1898; 1 Ayrshire bull, calved April, 1899; 1 Ayrshire bull, calved Aug., 1899; 1 Ayrshire bull, calved Nov., 1899.

Trout Run Stock Farm. To reduce stock, will sell, this month, choice Ayrshire bull calves, 2 mos. old, bred from 1st prize bull at Toronto...

W.M. WYLLIE, 228 BLEURY ST., MONTRÉAL, OR HOWICK, P. Q.



Breeder of high-class Ayrshires. Young stock always for sale; bred from the choicest strains procurable.

FOR SALE. 1 Three-year-old Ayrshire Bull; 4 Ayrshire Bulls, one year old; 3 Ayrshire Bulls, 8 months old; Bulls and Heifers under two months, and Cows of all ages; 3 Shropshire Ram Lambs, also Ewes; 1 Berkshire Boar, 1 year old; 2 Boars under one year, also Sows, pairs not akin. Plymouth Rock Hens and Chickens; a few fine Cockerels left.

HICKORY HILL AYRSHIRES. A few choice dairy bulls for sale, or will exchange for first-class fresh milk cows, if taken at once.

Ayrshire Bull Calves of 1899

3 YET on hand, and more to come within the next month, from some of our best imported cows. Will sell at reasonable prices. Address: ROBT. HUNTER, Manager to W. W. Ogilvie. LACHINE RAPIDS, QUE.

Estate James Johnston, Importer and breeder of AYRSHIRE CATTLE.

MAPLE CLIFF Dairy and Stock Farm. FOR SALE: A number of TAMWORTHS of fall litters.

R. REID & CO., HINTONBURG, ONT. Five minutes' walk from Cen. Expl. Farm, Ottawa.

GOSSIP.

Messrs. E. Gaunt & Son, Lucknow, write as follows:—"Our sheep have all, with the exception of about 20 of our breeding ewes, been sold at fair prices. We had intended keeping these ewes, which are especially good, but owing to continued ill-health of the owner they will all be disposed of by private sale."

The Buenos Ayres Standard of 5th October contains a paragraph which will not be at all pleasing to British exporters of cattle. It says: "Advice from Montevideo say that in future all fine stock (cattle) imported into the B. O. will have to be submitted to the tuberculin test. This will be unpleasant news for Argentine importers, who have hitherto had the B. O. as a market for the animals which have failed to pass the test here."

Mr. W. S. Hawkshaw, Glanworth, Ont., who arrived home from his importing trip from England on November 15th, called at our office on his way to the quarantine station, where he was going to relieve his 60 head of choice yearling Shropshire in-lamb ewes. These were selected from breeders after the sale season, and include chiefly animals that had been retained in the flock for breeding purposes.

The bulls advertised by H. C. Graham, Ailsa Craig, Ont., he writes, are from good milking cows of fashionable breeding, and are got by such sires as Calithness and his half-brother, Caliph; and by Dane, a bull of our own breeding, which gave such excellent satisfaction to Mr. Fred Baker, of Dashwood, before going to Manitoba. Among the lot are bulls as good as can be found anywhere; they range in age from six weeks to seventeen months, two being over one year. The turkeys are from well-marked, large hens, and a male bred by Beattie, of Wilton Grove, whose name so often appears as a prizewinner. Among the lot are young birds, which won first prizes with many competitors.

John H. Jull & Sons, Mt. Vernon, Ont., write:—"Our Oxforde are doing fine. We will winter 60 breeding ewes, 30 ewe lambs, and 15 ram lambs. They are in good demand this year; had many orders we could not fill. Sales this season, up to date, November 17th, are as follows: To New York State, 3 ram lambs, 1 aged ewe, 2 yearling ewes; Michigan, 1 aged ewe, 1 aged ram, 2 ram lambs, 1 aged ewe, 2 yearling ewes, 2 ewe lambs; British Columbia, 3 yearling rams, 8 ram lambs; Northwest Territories, 1 yearling ram, 1 ram lamb; Ontario, 2 yearling rams, 13 ram lambs, 6 aged ewes, 2 yearling ewes, 9 ewe lambs. We had good success at fall fairs; showed at seven leading and county fairs, took 40 first, 34 second, and 14 third prizes. Yorkshires are also doing well. We do not show, but sales are good."

Jos. Yuill & Sons, Carleton Place, Ont., write:—"Our recent sales of Ayrshire cattle have been: Amanda M., -2462-; to W. W. Tremble, Munster, Ont.; Clara M., -3036-; to John McVeaty, Ottawa; Hector M., -1055-; to Hugh A. McMillan, Avonmore, Ont.; Alida M., -10217-; to Mr. McCabe, Almonte, Ont. Shropshire sheep: Ram lambs to J. H. Gould, Smith's Falls, Ont.; John Caswell, McKenzie Lake, Ont.; Charles McPherson, Barry's Bay, Ont. Berkshires: Boar to Hugh A. McMillan, Avonmore, Ont.; and one to Benjamin Hillier, Carleton Place, Ont. We are selling our stock cheap this fall. On account of the wet weather it is impossible for us to cut our wild hay, and it left us about fifty tons of feed shorter than we had last year, so we are compelled to reduce the stock in numbers."

Wm. Thorn, Lyndoch, Ont., writes:—"My Ayrshires are going into winter quarters in fine condition, and my cows are all milking extra well. I have a few choice cows, heifers, and calves for sale yet, at moderate prices. Royal Star of St. Annes, the first prize two-year-old at Toronto, first and sweepstake at London, in 1895, has grown to be a large, fine bull, and has proved himself a sure getter of fashionable colors and dairy type, as seen in the superiority of his young calves. I have 3 nice bull calves for sale; one three months old, sired by Royal Star, its dam having a milk record of 47 1/2 pounds per day as a four-year-old. My poultry is doing well, and please anybody in quality and prices of the varieties I breed. I have had numerous sales the past season in cattle and poultry; have shipped to United States, Manitoba, and all parts of Ontario."

MR. T. E. BOWMAN'S CHESTER WHITE SWINE. Mr. T. E. Bowman, whose advertisement adorns the columns of the FARMER'S ADVOCATE, in which he offers Chester White swine, lives in that splendid section of Waterloo County three miles from the town of Berlin. The result of industry and thrift is everywhere visible, and with Mr. Bowman's facilities and experience, little fear need arise as to his success. Chester White swine were some years ago selected as being the most suitable for his section, and selections were made from the L. B. Silver Stock Co., Cleveland, Ohio. Two boars and one sow have thus far been imported. Wakefield 1307, by Gov. Bushnell 1157, 1, and out of Anna Lee 10811, 1, did two years' good service, and from him their owner retained some useful young matrons, to which he is now employing the young sire, Duke of Centerville 1391, by Sir Archer 11637, 1, a pig of splendid quality and rugged type, possessing great length and immense bone. The imported sow, Daisy 1360, by Oscar 11711, 1, and out of Beauty 11721, 1, has also proven herself a wise purchase, and at the time of our visit was nursing a bunch of thrifty youngsters. Mr. Bowman usually carries half a dozen fresh young sows, the choice of the crop, and rears them in good, vigorous, growthy shape. At our visit we were shown about 25 young things, under six months, which are held for disposal. The nucleus of a Shorthorn herd was selected from Mr. W. Platt last season, and we may look for further development along this line in the near future. The bull carries Northern Light (imp.) and Strathallan blood, while the cow is a Duchess: so that Mr. Bowman has certainly started right. Watch his offerings.

CANCER CURED WITHOUT KNIFE OR PLASTER. FULL PARTU-LARS FREE. F. STOTT & JURY, Bowmanville, Ont.

HIGH-MILKING AYRSHIRES. Descended from some of the most noted prizewinners at the World's Fair, Chicago, and other important competitions. None but the best are bred from. Young stock of both sexes for sale. Leicesters. DONALD CUMMING, LANCASTER.

EUROPEAN ADVERTISEMENTS. Hampshire Down Sheep.

SPLENDID GOOD GREAT MUTTON. WOOL. WEIGHT.

This highly valuable English breed of sheep is unrivalled in its Rapid and Wonderfully Early Maturity, possessing, too, a hardness of constitution adapted to all climates, whilst in the quality of MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UNSURPASSED.

Full information of JAMES E. RAWLENCE, Secretary, Hampshire Down Sheep Breeders' Association, SALISBURY, ENGLAND.

HENRY DUDDING, RIBY GROVE, GREAT GRIMSBY, LINCOLNSHIRE, has always for inspection and sale from the largest and most noted flock of pure Lincoln Longwool Sheep in the country, both Rams and Ewes of all ages. Representative specimens from this flock have secured for many years past at the Royal Shows champion and other prizes; whilst they have also at both the Paris Exhibitions, Vienna, Amsterdam, Chicago, Palermo, secured champion awards, and at all the leading shows in Australia, New Zealand, Canada, and the States. Riby sheep and their descendants have secured the highest honors: Wool is a leading feature in the flock, its quality being amply testified by the fact that wherever exhibited it has each time secured the premier prize including that at Windsor in 1895. The record of its careful breeding and consistent success is world-wide, and the present members of the flock are fully equal to any that have preceded them during the past 120 years in which it has been in existence, descending from father to son without dispersal. The flock holds the record for the highest price ram of 1896 (i. e., 1,000 gu.), and for the highest recorded average for an auction sale of fifty-two rams (i. e., 296 lbs.) at the annual sale in July, 1895. A grand selection of yearling and other sheep on offer, sired by the most carefully selected sires obtainable, in which are contained all the best strains of the present day. Telegrams: "Dudding, Keelby."

FAMOUS ALL OVER THE WORLD. ALFRED MANSELL & CO., LIVESTOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Secretaries of the Shropshire Sheep-Breeders' Association, Shrewsbury, England.

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 1735, 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 1895 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: Billingboro, G. N. R.

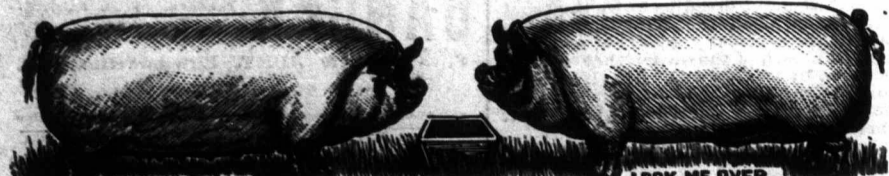
The Danesfield Pedigree Stock

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 1895 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.

Summer Hill Herd

HEADQUARTERS FOR THE IDEAL BACON HOG.



ROYAL BUSINESS.

LOOK ME OVER.

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 1898. 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.

Ayrshire Cattle and Berkshire Pigs.

The bull Tom Brown and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester sheep & Berkshire swine.

D. BENNING & SON,

Glenhurst Farm, Williamstown, Ont.

YOU CAN BUY A FARM WITH YOUR RENT.

We will sell you a farm of 40 acres, 6-room house, and barn, in our great Chocoma Colony, in the South, on a cash payment of \$250; balance, \$5 monthly. Send for particulars and our Real Estate Journal— all free. D. L. RUSSEL, 311 S. 10th St., Philadelphia, Pa.

SHROPSHIRE SHEEP AND COLLIE DOGS.

300 Bronze Turkeys, the Farmers' Daughter strain. 100 White Holland Turkeys.

W. H. BEATTIE, Wilton Grove, Ont.

J. H. & E. PATRICK,

IMPORTERS AND BREEDERS OF

LINCOLN SHEEP

AND SHORTHORN CATTLE.

"Fairfield Stock Farm," Iderton, Ontario.

Ten miles north of London, or One mile from Iderton, L. H. & B. Railroad.

SHROPSHIRE SHEEP

Shall have a fine lot of choice early lambs for the fall trade. We import and breed only the best.

J. P. PHIN, Hespeler, Ont.

Shropshires, Tamworths,

AND

American Bronze Turkeys.

We keep on hand a full line of each to supply our numerous customers. Correspondence solicited.

W. S. HAWKSHAW & SON, Glanworth, 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.

SHROPSHIRE

SEVENTEEN SHEARLING RAMS.

Also our two-shear stock ram, from John Miller and Son's flock, with twelve ram lambs. Have for sale two Shorthorn Bulls, one fourteen months and one five months. Prices moderate.

PUGH BROS., Whitevale P. O.

DORSET RAMS.

We won three first and two second prizes at the largest shows of Ontario and Quebec with three rams; will sell from \$10 to \$20, our prize two-shear ram included. Address, **JAMES BOWMAN, Elm Park, Guelph, Ontario.**

OXFORD SHEEP

Foundation stock composed of choice Canadian and first-prize imported stock; won 1st on ewe lamb (twelve in competition) at Ontario Fat Stock Show, 1898. Have a number of ewes, rams and lambs for sale. Also fine Bronze Turkeys and Collie Dogs. Express office, London. **ANDREW ELLIOT, POND MILLS, ONT.**

BRANT STOCK FARM

Oxford Downs.

Two imported rams (first and second prize winners at Toronto, 1898) at head of flock of selected breeding ewes. Choice young stock for sale. Come and see our stock.

J. H. JULL & SONS, BREEDERS AND IMPORTERS, Burford Station, -o Mt. Vernon P. O., Ont.

Oxfords Galore....

WE have 300 to select from this fall, of all ages; bred up from the best English flocks. We employed the 1st and 2nd prize imported rams last fall.

PETER ARKELL & SONS, TEESWATER, ONT.

Oxford Down Sheep

Flock Established in 1881. Have for sale 120 registered ram lambs, and 53 ewes of different ages. Singly or in car lots. Prices reasonable.

HENRY ARKELL, ARKELL P. O., ONT.

Guelph: Telegraph and Telephone.

IN COTSWOLDS WE HAVE TO OFFER

100 RAM LAMBS

AND 50 EWE LAMBS,

Selected from Snell and Miller bred ewes, and by Snell-bred sires, from imported foundation.

YOUNG BROS., Binkham, Ont. Erin Station, C. P. R.

LEICESTERS.

Breeding stock for sale, of different ages.

C. & E. WOOD, FREEMAN, ONT.

ENGLISH BERKSHIRES.

FOR SALE at moderate prices: Two stock boars, 2 yearling sows, and a lot of spring sows, also a few choice Shorthorn heifer calves.

JOHN RACEY, Jr., Lennoxville, Que.

SNELGROVE

BERKSHIRES AND COTSWOLDS.

We can supply singly, in pairs, or trios, not akin, or in larger numbers, registered Berkshire pigs and Cotswold sheep of the highest class. Young boars fit for service, sows old enough to breed. Young pigs 6 to 8 weeks old. Ram lambs and ewe lambs. Write for prices and particulars.

SNELL & LYONS, Snelgrove, Ont.

LARGE ENGLISH BERKSHIRES.

Herd headed by five first-prize boars of large size and fine quality. First-five young sows and ten boars for sale, bred from prizewinners. Pairs supplied not akin.

GEORGE GREEN, - FAIRVIEW P. O., ONT.

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Large English Berkshires.

WE offer for sale the imported boar, Nora F's Duke, first prize winner at every fair exhibited in 1898. Young boars and sows bred from imported prize-winning stock. Write for prices.

H. BENNETT & SON, ST. WILLIAMS, ONT.

W. R. BOWMAN,

MT. FOREST, ONT.

YORKSHIRE BOARS, 200 LBS., \$15.00.
YORKSHIRE SOWS, IN FARROW, 12.00.
SIX-WEEKS PIGS, 5.00.

These are all of the most approved strains, being good growers and easy feeders.

SHROP. AND SUFFOLK shearing rams and ram lambs, \$10 to \$15. One **JERSEY COW**, one **YEARLING HEIFER** and **HEIFER CALF** for \$100. Registered in the A. J. C. C.

PINE GROVE FARM HERD OF LARGE YORKSHIRES.

Imported and Canadian-bred, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America. Young boars and sows fit for breeding for sale. Correspondence solicited, which will receive prompt attention.

JOSEPH FEATHERSTON, Streetsville, Ont.

GOSSIP.

SOME CHANGES IN WINTER SHOW PROGRAMME.

At a meeting of committees of the Provincial Winter Show at London on the 27th ult., vacancies in the list of judges were filled as follows: On the cattle classes, instead of Thomas Crawford, M.P.P., who declined, J. T. Gibson, Denfield, was appointed. On the classes of long-wooled sheep, Jos. Gaunt, Lucknow, was appointed to take the place of James Gaunt, who, owing to ill health, could not accept; and T. Harby Shore, White Oak, was named as reserve judge.

Judging will commence, if possible, at 3 o'clock on Tuesday, the 12th December, in order to provide for the carcass competition.

Mr. J. W. Westervelt, Principal of the Forest City Business College, London, will give a silver cup valued at \$50 for the best cow or heifer in the dairy department, judged by the rules of the milking test, to be won by the same exhibitor 2 years in succession, or on three separate occasions.

The public meeting, at which eminent speakers will deliver addresses, will be held on Wednesday, December 13th, at 7.30 p.m., in the City Hall, instead of on the 12th, as formerly announced. The Sheep Breeders will meet on December 14th, at 7.30; Cattle Breeders, Monday, December 11th, 7.30 p.m.; and the Swine Breeders, Tuesday, December 12th, at 7.30 p.m., instead of 13th. All the breeders' meetings will be held in the Farmers' Pavilion, on the grounds.

American Oxford Down Record Association.

The annual meeting of the American Oxford Down Record Association was held at Springfield, Ill., November 15th; President McKerron in the chair. The Treasurer's report showed a balance of \$712.33 on hand. Since the last meeting 251 copies of Vol. 7, containing 4,602 pedigrees, have been printed, at a cost of \$74.65; and \$735.00 has been paid in special prizes on Oxford Down sheep at State and Provincial Fairs in the U. S. and Canada. On motion it was decided to offer special prizes to Oxford Downs at State and Provincial Fairs and Fat Stock Shows in 1900. The amount to be left to the executive committee. It was decided to hold the next meeting in Chicago, provided a Fat Stock Show is held there next year. If not, the time and place of next meeting to be decided by the President and Secretary. The following officers were elected for the ensuing year: President, George McKerron, Sussex, Wis.; First Vice-President, H. J. DeGarmo, Highland, Mich.; Secretary and Treasurer, W. A. Shafar, Middletown, O.; one Vice-President from each State and Province represented in the capital stock of the Association. Directors: John C. Williamson, Xenia, O.; B. F. Miller, Flint, Mich.; A. Bordwell, Fargo, N. Y.; Henry Arkell, Arkell, Ont.

American Shorthorn Breeders' Association.

The regular annual meeting of the above Association was held in Chicago, November 22nd, 1899, at which the following officers were elected: President, C. E. Leonard, Bell Air, Mo.; Vice-President, J. F. Prather, Williams-ville, Ill.; Sec. Treas., J. H. Pickrell, Springfield, Ill. Directors: H. K. Boyden, Delhi Mills, Mich.; H. F. Brown, Minneapolis, Minn.; J. W. Burgess, Fort Worth, Texas; Emory Cobb, Kansas, Ill.; J. B. Dinsmore, Sutton, Neb.; W. A. Harris, Linwood, Kan.; C. E. Leonard, Bell Air, Mo.; S. F. Lockridge, Greencastle, Ind.; J. F. Prather, Williamsville, Ill.; Abram Renick, Sycamore, Ky.; J. A. Gerlaugh, Harshman, Ohio; N. H. Gentry, Sedalia, Mo.

The following appropriations to shows were made for the year 1900: \$5,000 to Kansas City, which will be duplicated by the Kansas City Show Association; \$5,000 to Chicago Fat Stock Show; and at all State fairs where the offerings for Shorthorns reaches \$500, up to \$1,000, the amount will be duplicated by the Shorthorn Association.

There was present at the meeting a deputation from the Canadian Shorthorn Breeders' Association, consisting of H. Wade, Toronto; Jas. Russell, Richmond Hill; Arthur Johnston, Greenwood; Robt. Miller, Stouffville; Richard Gibson, Delaware; and John I. Hobson, Guelph. This committee was commissioned to arrange matters with the American Association so as to facilitate a ready interchange of stock by a mutual recognition of the Records. Their mission, however, was fruitless, as the representatives of the American Association opposed their efforts.

American Aberdeen - Angus Breeders' Association.

The regular annual meeting of this Association was held at the Leland Hotel, Chicago, Ill., on November 22nd, with a large attendance of breeders and others interested in Angus cattle. The following general officers were elected for the year 1899-1900: President, L. McWhorter, of Illinois; Vice-Pres., W. F. Dickinson, of Minnesota; Secy. Treas., Thos. McFarlane, of Illinois. And the following named gentlemen as directors for three years: L. McWhorter, of Illinois; H. W. Elliott, of Missouri; W. E. Reynolds, of Illinois.

Full reports of the year's work were given by the Sec. Treas. and the Executive Committee. The total receipts reported were \$10,449, with expenditures of \$6,586; receipts in excess of expenditures were \$3,863. There was an increase of 25 per cent. in the business over the previous year, with entries upon the record numbering 4,200; there were over 4,000 recorded transfers, showing conclusively that there was a demand for all the Angus cattle that could be had. Volume IX. of the Herd Book had been issued during the year, and one-fifth of the edition sold, with a lively demand for the earlier volumes. The large and constant increase of the business requires an enlargement of office facilities the coming year. Fifty-six new members were received, as follows: 16 from Iowa; 8 each from Illinois and Missouri; 5 from Indiana; 4 each from Ohio and Kansas; 3 from Minnesota; 2 from Nebraska; and 1 each from Wisconsin, Michigan, North Dakota, Kentucky, Texas, and Canada. On account of special premiums, \$1,337 has been expended upon State Fairs and Fat Stock Show awards.

Horse Owners! Use

GOMBALD'S

Caustic

Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action.

Removes all Bunches or Blisters from Horses and Cattle. SUPERSEDES ALL GAITHERS OR PAINING. Especially for diarrhoea or colic.

Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. BOARS FOR DESCRIPTIONS CIRCUITS.

THE LAWRENCE WILLIAMS CO., TORONTO, CAN.

Yorkshires, Holsteins, & Cotswolds

Boars and sows not akin for sale, of the bacon type. Thoroughbred and high-grade Holsteins, also a three-sheared ram for sale.

R. HONEY, WARKWORTH, ONT.

OAK LODGE HERD

of Large Yorkshires.

The oldest established and largest in America. Look up the record of this herd at the larger exhibitions—more prizes won than all others combined, sweepstakes over all breeds in class for bacon hogs two years in succession; winner of championship and gold medal at the Royal; also several prizewinning boars and sows personally selected from noted English herds. Oak Lodge Conqueror and Oak Lodge Challenge, two of the best boars in Canada, are in the herd. Stock from these boars are winners. Improve the quality of your pigs by securing some of the Oak Lodge blood.

J. E. BRETHER, BURFORD, ONT.

I am offering for the month of October

a grand lot of IMP. YORKSHIRE BOARS

Sows ready to breed, and fall pigs not akin.

Also LARGE ENGLISH BERKSHIRES and five choice SHORTHORN BULLS of the best breeding.

Write for prices. **H. J. DAVIS, BOX 290, WOODSTOCK, ONT.**

A SNAP IN YORKSHIRES

FOR NOVEMBER AND DECEMBER.

Eight Yorkshire boars and 4 sows, 175 to 200 lbs., \$12.00. Boars and sows, 2 months, \$5.00. Boar, 12 months, a first prize winner, \$18.00. F. O. B. at Port Elgin Stn., G. T. R., and registered.

WILLIAM HOWE, North Bruce, Ont.

YORKSHIRES AND BERKSHIRES.

Yorkshire boars fit for service and sows ready to breed; extra quality. Berkshire boars fit for service and sows ready to breed; boars and sows 3 months old, large size, extra quality. Satisfaction guaranteed. Write for prices.

JAS. A. RUSSELL, Precious Corners, Ont.

Improved Large White Yorkshires.

Good ones at a reasonable price. Also some splendid B. P. Rock Cockerels, well-bred, large and vigorous.

THOMAS BAIRD & SON, Chesterfield, Ont.

OXFORD HERD OF POLAND-CHINAS

The home winners of the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox. Has won 64 out of a possible 69 first prizes. Stock of all ages for sale. Write for prices or come and see.

W. & H. JONES, OXFORD CO., -om MT. EGIN, ONT.

Springridge Poland-Chinas

Now offering the 2-year-old sire, Blackmoore, and a few of his young females, and booking orders for young stock from the royally-bred Goldbug, lately added to the herd.

WM. J. DUCK, MORPETH, ONT.

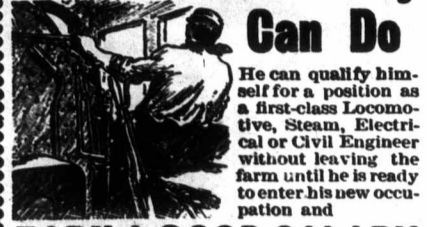
DUROC-JERSEY SWINE.

We have a fine lot

First-Class Stock

of all ages and either sex. Address, **TAPE BROS., Ridgetown, Ont.**

What a Farmer's Boy Can Do



He can qualify himself for a position as a first-class Locomotive, Steam, Electrical or Civil Engineer without leaving the farm until he is ready to enter his new occupation and

EARN A GOOD SALARY

Our system of teaching by mail will give any boy a technical education. Write for pamphlet and state what you wish to study.

International Correspondence Schools, Box 300, Scranton, Pa.

FOR SALE - 5,000 ACRES OF FINE LAND

for stock-raising, near our great Chicora Colony, S. Carolina. Near railroad, convenient to markets for milk, butter, or beef. Price, \$3 per acre to quick buyer. D. L. RISLEY, 211 S. 10th St., Philadelphia, Pa.

REGISTERED CHESTER WHITE PIGS,

Eight weeks old, at \$5.00 each. Prizewinning Shorthorn and Jersey bull calves. Prices reasonable. F. BIRDSALL & SON, -o BIRDSALL, ONT.

OHIO IMP. CHESTER WHITE PIGS

Boars fit for service. Sows ready to breed. Also November pigs. Write for prices. T. E. BOWMAN, Berlin, Ont.

I HAVE A FEW

FIRST-CLASS CHESTER WHITE BOARS

(any litter), sired by one of the longest Chester boars in Canada, for sale; also Dorset ewes any age, and Shropshire ewes and ram lambs. For further particulars write

R. H. HARDING,

Mapleview Farm, THORNDALE, ONT.

OAK HILL HERD OF TAMWORTHS.

2 sows in 2 boars, 6 mos. old (prizewinners). Also young pigs, S. and W. Wyandottes, P. and R. ducks for sale. Prices reasonable. R. J. & A. LAURIE, Wolverton, Ont.

Spring Brook Herd of Tamworths.

Great opportunity for choice stock. A number of choice young pigs sired by British King, first prize Toronto Industrial, 1899, and also by Royal winner, Whitacre Crystal. Pairs and trios not akin. Now is your time. Send for catalogue. Stock of all ages for sale. A. C. HALLMAN, NEW DUNDEE, ONT.

Coldspring Herd Tamworths.

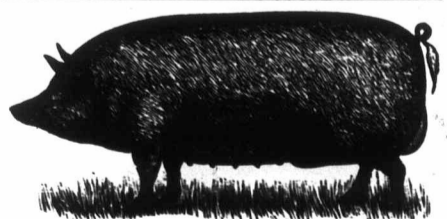
First prize herd at Toronto, 1899, was bred at Coldspring. Young boars and sows out of Dells and Blain's Sunshine, fit for service. Will quote special prices for the next six weeks. Young stock for sale at all times. NORMAN M. BLAIN, Coldspring Farm, St. George, Ont.

Chatham HERD OF Tamworths

2 two-year-old boars, 3 six-months-old boars, 10 six-months-old sows, 9 four-months-old sows, 11 four-months-old sows, 7 three-months-old sows, 6 three-months-old sows. Four litters fit to wean October 1. Orders booked. Write for prices. J. H. SIMONTON, Box 304, Chatham.

TAMWORTHS AND COTSWOLDS.

I have a few very choice things to offer this season, fit to show, by Spruce Grove Model and Dorchester Hero, both Toronto winners, and out of my sweepstakes sow. Also a choice bunch of splendid, strong, well-covered Cotswold lambs. R. O. MORROW, Hilton, Ont.



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.

Hurrah! Hurrah!

For Victoria Hogs.

Now is your time to buy imported and prizewinners. Boars from 2 to 6 months and up to 4 years. This will be a grand opportunity only for a short time. Thanking my customers for past favors. CHRIS. FAHNER, CREDITON, ONT.

GOSSIP.

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

At the adjourned meeting of the American Southdown Breeders' Association, held at Springfield, Ill., November 14th, the rule adopted at the recent meeting of the Association, providing that on animals "not bred in the United States and Canada" the entry fees shall, after January 1st, 1900, be on rams \$5.00 each, and on ewes \$2.50 each, was so rescinded that the rule will not take effect until after the next annual meeting of the Association in May, 1900.

The Illinois Live Stock Breeders' Association, the Illinois Horse Breeders' Association, the Illinois Cattle Breeders' Association, the Illinois Sheep Breeders' Association, and the Illinois Swine Breeders' Association held their annual sessions in Springfield, Ill., November 14th to 16th. One of the best features of the programme was the "Practical Lessons in Stock Judging." Horses, cattle, sheep, and swine, several of each breed, were brought before the audience and the gentlemen, Prof. J. A. Craig, John G. Imboden, and Prof. W. J. Kennedy, acting as judges and lecturers, explained point by point the superiority of one animal or the inferiority of another, so that insight to things in these lines was given. An excellent programme was fully carried out.

THE ONTARIO EXPERIMENTAL UNION MEETING.

The 21st annual meeting of the Ontario Agricultural and Experimental Union, at Guelph, on December 6th, 7th and 8th, during the time of the Fat Stock Show in that city, promises to be a notable occasion, as it is made the occasion of the quarter-century celebration of the O. A. C. Beginning on Wednesday evening, 6th, there will be a public meeting in Convocation Hall, with Hon. John Dryden in the chair; addresses to be given by Dr. A. E. Shuttleworth, Prof. Jas. W. Robertson, Nelson Monteith, B. S. A., M. P. P.; Dr. James Mills, Prof. C. C. James, Hon. Chas. Drury, Jno. I. Hobson, James McIntosh, Dr. Wm. Nairn, G. C. Creelman, B. S. A., H. L. Beckett, B. S. A., Prof. G. E. Day, E. C. Drury, and others.

On Tuesday morning the Poultry, Dairy, and Farm Depts. of the College will be visited, and at 10.30 President Beckett, of Hamilton, will deliver his annual address, followed by the results of experiments given by Mr. C. A. Zavitz, B. S. A.; Prof. H. L. Hutt; and an address on "The Possibilities of Intensive Farming," by Mr. Geo. T. Powell, of Ghent, N. Y.; Prof. Robertson leading the discussion. In the evening there will be a students' reunion at 8.30, and at 8 o'clock the Fat Stock Show will be visited; on Friday morning Mr. W. M. Doherty, M. A., will report on economic botany (Ontario weeds), and Mr. Zavitz will continue his report on the results of experiments, followed by discussion and speaking by ex-students and experimenters on the benefits of co-operative experiments. In the afternoon Prof. Reynolds will speak on "Co-operative Experiments in Soil Moisture," and Mr. Geo. T. Powell on the "Philosophy of Soil Tillage"; Prof. Day leading the discussion. In conclusion, President Mills will emphasize the more important points brought out in the meeting. Single fare rates have been secured, so that there will no doubt be a very large gathering on this very interesting occasion.

The International Exhibition of the Poultry Association of Ontario will be held in Peterborough, Canada, on January 9th to 12th, 1900.

Major John A. Logan, who managed the Chicago Horse Show of 1897, has met death serving his country as a faithful soldier in the Philippine Islands. It was on November 11th, while leading a charge of the 33rd Infantry at San Jacinto, that the blighting stroke came which severed the vital thread. Major Logan made a mark in the horse world as a breeder of Hackneys, having sired the champion, Bonfire. He leaves a devoted wife and several children.

DAVID REA'S SHORTHORN SALE.

The dispersion sale of the Shorthorn cattle, and other stock and effects, of Mr. David Rea, at Fergus, Ont., November 22nd, brought together a large crowd of people, who were treated with the characteristic hospitality of the vendor, who is very popular where he is best known, and general regret is felt by his neighbors that he is giving up farming. The Shorthorns were readily taken at fair prices, and were mostly bought by farmers and breeders in the surrounding counties. Following are the names of purchasers, their addresses, and the prices:

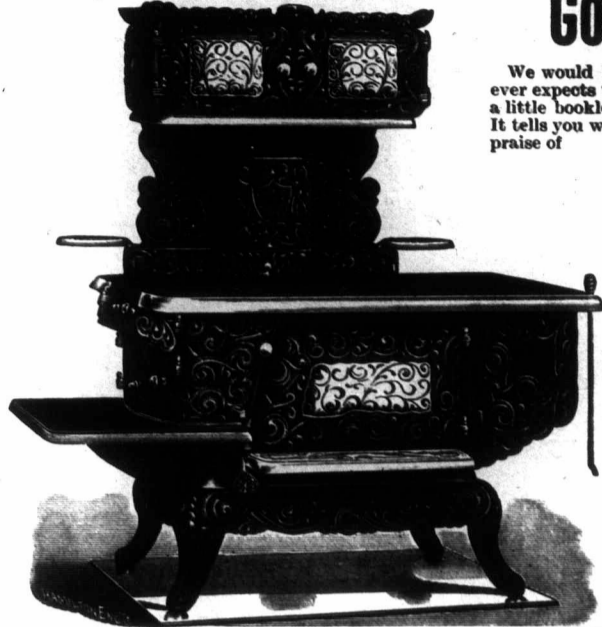
Cows and Heifers.

- Oxford Rose 9th, D. McGregor, Mimosa, \$198.
- Oxford Rose 7th, R. Curtis, Hereward, \$100.
- Oxford Rose 8th, Alf. Farrow, Speedside, \$100.
- Samantha 2nd, Jas. Alexander, Belwood, \$105.
- Oxford Rose of Fergus, W. L. Gordon, Elora, \$88.
- Samantha 3rd, Alex. Park, Hereward, \$100.
- Samantha 4th, 1 year, Henry Arkell, Arkell, \$45.
- Jessamine 26th, Robt. Talbot, Everton, \$100.
- Jessamine 27th, Jas. Oakes, Oustic, \$98.
- Jessamine 28th, 1 year, Jas. McLennan, Orton, \$85.
- Oxford Rose 10th, W. Tookey, Mimosa, \$75.
- Oxford Rose 12th, Allan Ramsay, Eden Mills, \$74.
- Hebe 3rd, C. McMillan, Erin, \$90.
- Oxford Rose 13th, calf, Henry Arkell, \$71.
- Jessamine 29th, Henry Arkell, \$50.

Bulls.

- Oxford Chief 31460, W. D. McLennan, Harriston, \$90.
- Oxford Chief 2nd 31461, Thos. Manderson, Harriston, \$75.
- Oxford Chief 3rd 31462, T. Mainland, \$55.
- Oxford Chief 4th 31463, William Scaife, Hereward, \$83.
- Jessamine Chief 2nd 31458, Jas. Turner, Orton, \$90.
- Samantha's Hero 31464, Ed. Doughty, Eramosa, \$50.
- Wellington Chief 31466, Alf. Townsend, Belwood, \$74.
- Wellington Boy 31465, John Marshall, Fergus, \$49.
- Jessamine's Chief 3rd 31459, C. McInnes, Yeovil, \$50.
- Jessamine's Chief 31457, Robt. Talbot, Everton, \$78.

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For next 30 days we are going to sell our surplus stock of Tamworths and Yorkshires at very low prices to make room for young litters. They include half a dozen Tamworth Boars from 5 to 12 months old, most all prizewinners. Some grand sows. Also half a dozen Yorkshire Boars and Sows; all of excellent quality and breeding. Write us for prices and particulars at once. COLWILL BROS., Newcastle, Ont.

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STOCK WON 216 PRIZES THIS FALL. J. C. LYONS, "Lucknow Poultry Yards," Lucknow, Ont.

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Two sufficient securities will be required for the due fulfillment of each contract. Specifications and forms of tender can only be had by making application to the bursars of the respective institutions.

N. B.—Tenders are not required for the supply of meat to the Asylums in Toronto, London, Kingston, Hamilton, and Mimico; nor to the Central Prison and Mercer Reformatory, Toronto.

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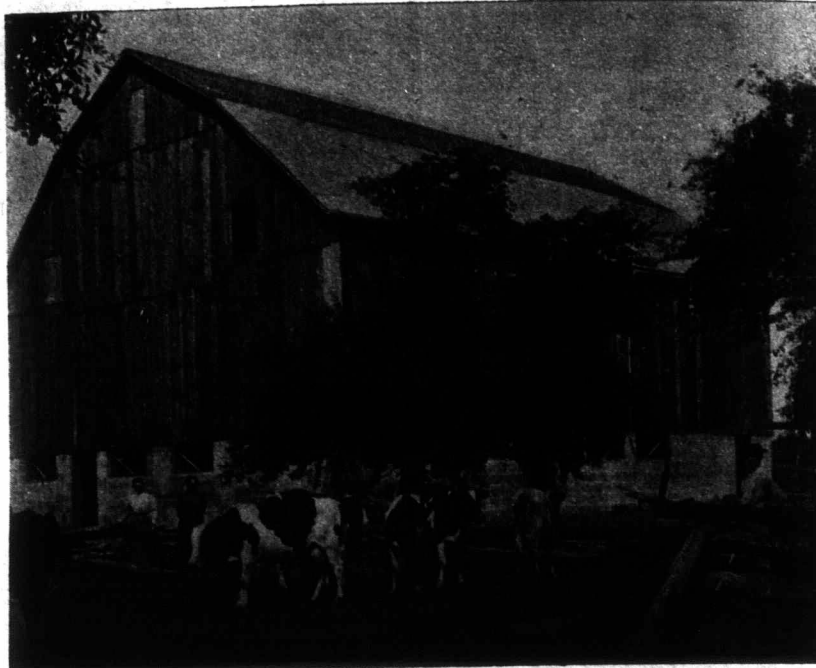
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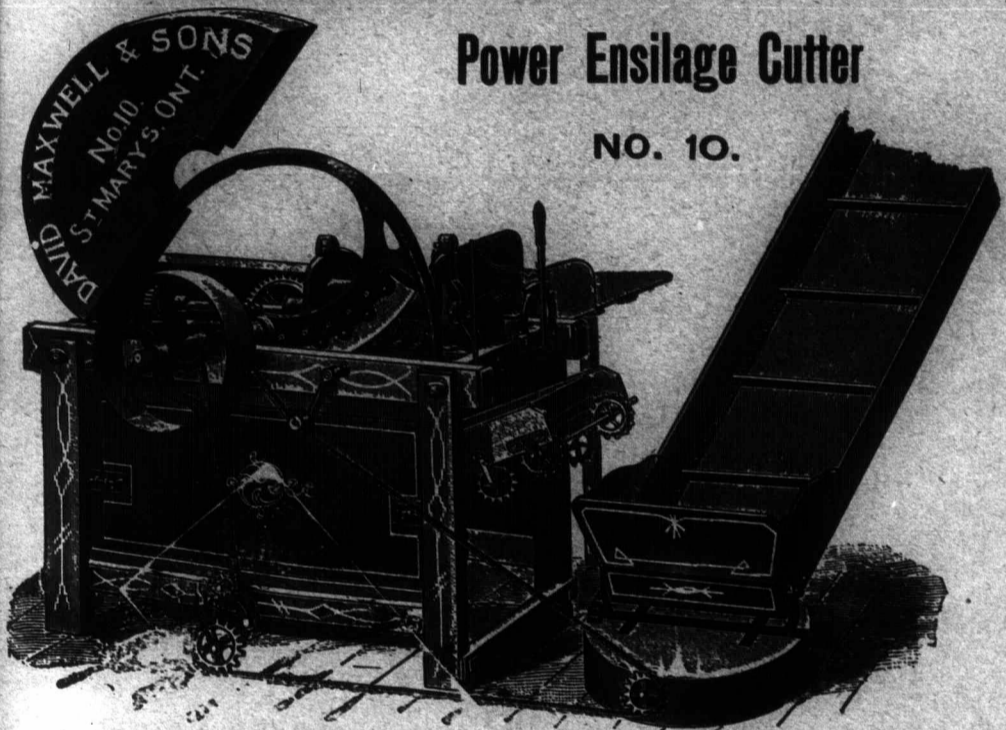
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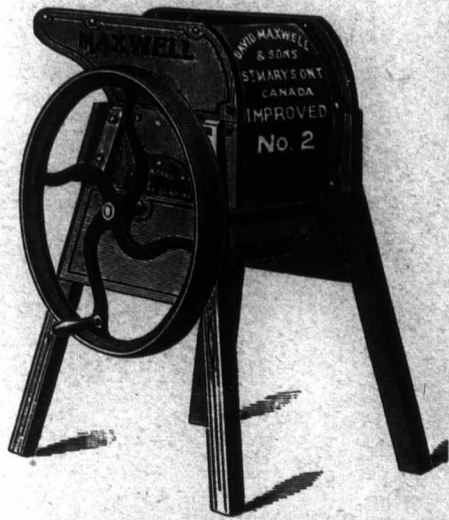
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A trial of the "National" is all that we ask in order to ensure a sale to an intending purchaser. The sale of this machine for the Province of Ontario is in the hands of

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whose exhibit at the Toronto Industrial show this year, including the "National" Separator, took first prize. For further particulars enquire of

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Prof. of Chemistry and Public Analyst, Montreal.

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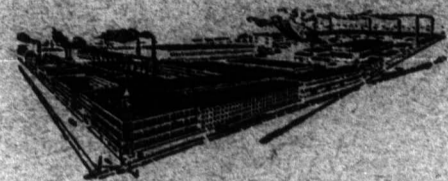
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