

Vol. XXXIV.

LONDON, ONTARIO.

JANUARY 2, 1899.

WINNIPEG, MANITOBA.

No. 469

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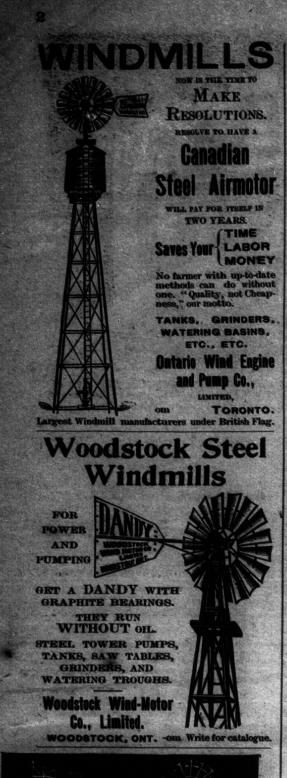
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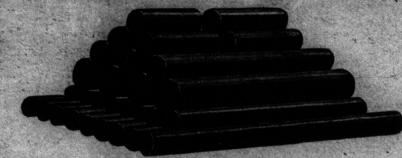


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Vol. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., JANUARY 2, 1899.

No. 469.

EDITORIAL.

Starting Right.

Success or failure in any undertaking depends largely on the character of the start we make. "Well begun is half done" is an old axiom with a considerable amount of truth in it, and applies with a good deal of force in matters agricultural as well as in those of other industries. The importance of a right beginning is frequently made painfully apparent when the discovery that a mistake has been made comes too late to prevent loss and dissatisfaction. It is well, if possible, to be sure we are right before going ahead, and while it is true in relation to farming as well as to other matters that "the best laid plans of mice and men gang aft aglee," yet it is well to look ahead and lay plans for future work, counting the cost as nearly as we can, but above all things remembering that what is worth doing is worth doing well. The beginning of the new year is a favorite time for making good resolutions, and it is certainly better to make them at this time than not to make them at any time, and it is wise to resolve to be thorough in all we undertake to do. Among the matters which may well engage the attention of the farmer at this season is the construction of such farm buildings as are necessary to the better and more economical handling of his crops and stock, or the improvement of the buildings he has so as to make them more suitable for these purposes. In this connection it pays in the long run to be thorough in the methods employed, making all improvements of a permanent and enduring nature. Sanitary conditions favorable to healthfulness of the farm stock, affording ample supplies of fresh air and sunlight, should be among the first considerations in the plans for stock barns. Durability and economy of material in the work of construction should be kept in view, and economy of space and of time and labor in storing the feed and in the feeding and care of the animals is important, as time properly used is equivalent to money, and in these days of close competition the labor bill is a considerable factor in the cost of production of meat and milk as well as of grain and other crops, and must be taken into

Starting right in the selection and breeding of the different classes of farm stock is of paramount importance. As the security and endurance of a building depends largely on the character of its foundation, so does the success of a herd or flock depend upon the quality and character of the individual animals constituting the foundation of the family. Given a sound constitution and good feeding qualities in the dam, and a wise selection of sires having and inheriting the same qualities, it is reasonable to expect that with proper care and treatment each successive generation will be at least equal in individual merit to the preceding one, and by skillful and judicious selection and mating of parents may show distinct improvement. But in order to attain this it is important that the offspring get a right start in life, as not only its own individuality but also that of future generations in which its blood may play a part depends largely upon the feeding and treatment of the youngster during the early days of its life. We have an idea that a much larger share of the breeding than breeders are willing to admit depends on the kind, quality and quantity of food which goes down the throat of the animal in its young days, and on its general treatment with a view to proper development of bone, muscle and tissue, and of the vital organs, which tells for good, not only on itself, but on its descendants of future generations. An animal that has been stunted by insufficient nourishment in its early life, or has been overfed without sufficient exercise, may never recover the ground that has been lost, and many an animal which had within it the potentialities of greatness has been doomed to obscurity by injudicious early treatment.

Desirable Types.

The illustrations in other pages of this issue of prizewinning animals at the recent fat stock shows in Ontario, and of representative animals in many herds in all the Provinces portrayed in our Christmas number, may well serve as model types of the classes of stock to which they belong, and, we trust, may have a good influence on all the farmers and feeders who see them and read of them, giving inspiration and inciting ambition to excel in breeding and raising animals of the approved type. The cattle of the beef breeds and crosses, it will be noticed, are uniformly of the short-legged, thick-fleshed sort, smoothly turned in their conformation, and calculated to mature at an early age, some of them weighing 1,600 to 1,800 lbs. while under three years old, free from roughness or excess of fat, but wellcovered with natural flesh of approved quality. Probably these animals have been liberally fed from the time of their birth, and have been kept constantly gaining in weight, and they represent heavier weights than are required even for the export trade; but good, well-bred grade steers of this class may, by such a course of feeding as the average farmer can readily adopt, be made to weigh 1,300 to 1,500 lbs. at the same age, which is heavy enough to meet the demands of the best markets and to secure the highest prices.

It is only by good breeding and good feeding combined that such results can be attained, and it is only by these that the best returns can be secured for the labor and food expended in raising and fattening cattle. It is worthy of note that enquiry into the breeding of the prizewinners at the fat stock shows reveals the fact that nearly all of them were sired by prizewinning bulls, or by the sons and grandsons of bulls made famous by having many prizewinning sons and daughters in the breeding classes at the leading exhibitions in the country. The inference, therefore, is that the best is none too good even for producing steers and heifers for the block, but that the better the bull used, the better, as a rule, will be his descendants, and the lesson is apparent that it is unwise to use a sire that is deficient in quality and character, even if he has a fashionable pedigree, or to be content with a cheap bull, or one whose services can be secured for a low fee, if your judgment tells you he is not, individually, as good as you ought to use. It is true that all cannot have the best, but if an honest search is made it will be found that there are more good, useful bulls than we had thought, and, as a rule, a fairly satisfactory one can be secured at a price which the general farmer can afford to pay.

Essentials to Business Success.

"The success of any article of merchandise, any publication, any movement, depends entirely upon the manner in which it is given publicity. Its fate is ever in the hands of the advertising agent." So asserted a prominent advertising expert not long since.

We cannot accept this sweeping statement. No amount of advertising can insure the permanent success of any article or undertaking without merit of its own. A transient, ephemeral advance may be effected by tricky methods, false claims and lying advertisements, but ultimately these resorts defeat their own object. Substantial inherent value is necessary to hold the purchasing public for any length of time. Honest methods are the only safe methods. The business man who dupes a customer once will not do so again. He loses him, and sooner or later will be doomed to failure. It is astounding the number of rascally adventurers who prey upon the public. In the past we have taken occasion to expose the bogus character of a good many designs against the agricultural community particularly, in the face of vexatious legal and other proceedings, and have also rejected many thousands of dollars' worth of advertising, which

we had good reason to believe was questionable in character, or which we proved to be so by actual investigation. Thirty-three years' experience has fully demonstrated the safety and wisdom of this policy of shutting out the spurious, not only as a protection, so far as practicable, to the reader, but to the honest advertiser as well. In the development of modern business, advertising has become indispensable. It is now both a science and an art. Advertisements are scrutinized as they never were in times past. They are the great means of communication between the seller and the buyer. Properly-placed and well-worded announcements bring replies. A recent advertisement that cost \$5,000 brought \$50,000 worth of business. On the part of the public there was a generous response that bespoke confidence in the house. Assuming that a business has the necessary backing of capital and enterprise, its self-perpetuation is then dependent upon fair profits, reasonable prices, and square

Quality and utility are to-day, as never before, essentials in what is placed before the public, whether merchandise, live stock, or publications. In discussing these points lately, a writer in the Philadelphia Saturday Evening Post, a remarkably successful journal, reached the following conclusion:

"The world has reached a high plane in business dealings. The self-respecting business man or publisher lets nothing leave his establishment that is not as represented. So far as he can make it, the goods or the publication is absolutely 'the best value for the money.' In merchandise there is more chance for adulteration and deception than in literature. Goods may look well and wear poorly. But the quality of a publication is apparent at a glance. Periodical literature is multiplying endlessly, and the paper which is intrinsically good is receiving its share of support proportionately as the people know of its existence and the quality of its material. It is not a question of the passing of the monthly, the weekly, or the daily. It is but the inevitable rule of the survival of the fittest. In the long run, public taste is not at fault. It recognizes the good in literature; it expresses recognition by practical support."

A Two-Cent Postal Rate.

Following the inauguration on Christmas Day of a two-cent postal rate on letters between Canada and Great Britain and all other portions of the British Empire, comes the announcement from Ottawa that the Postmaster-General, Hon. Wm. Mulock, has, under authority vested by an Act passed at the last session of the Canadian Parliament. authorized the reduction of the rate for letters within the Dominion from three to two cents, beginning on New Year's Day. By the terms of the postal arrangement with the United States the reduction will also apply to letters from Canada to that country. This new rate will undoubtedly have the effect of very largely increasing the rapidly growing volume of correspondence in the Dominion, especially in business matters. It may involve a temporary reduction in revenue, but we believe the history of such reforms has always been in the end very large increases. The proclamation of the Governor General inaugurating the reduced domestic rate appeared in the Official Gazette of Saturday, December 31st, 1898.

Prof. Haecker, of the Minnesota Experiment Station, remarks that there is no one rule of feeding that has led astray so considerable a number of American experimenters and destroyed the practical value of their work so often as the one declaring that animals should be fed according to their size. It is not true of any species of animals, but least of all is it true of the milch cow. With all and every one, the amount of food required must depend in part upon the nervous energy—the force required to keep up the system to the work it has to do—modified, of course, by the digestive power.

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THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONTARIO, AND WINNIPEG, MANITOBA.

LONDON, ENGLAND, OFFICE:
W. W. CHAPMAN, Agent, Fitzalan House,
Strand, London, W. C., England.

JOHN WELD, MANAGER.

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of each month.

It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.

men, gardeners, and stockmen, of any publication in Canada.

TERMS OF SUBSCRIPTION—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscriptions, 6s., or \$1.50. New subscriptions can commence with any month.

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We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the Advocats, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address - THE FARMER'S ADVOCATE, or

THE WILLIAM WELD CO., LONDON, CANADA.

Rev. John Robertson's Death.

In the death of Rev. John Robertson, at Ingersoll, Ont., on Saturday, December 17th, Canada lost a worthy citizen who has for many years been identified with the work of dairy instruction. Mr. Robertson was born at Dunlop, Ayrshire, in 1828. Away back in the fifties he became closely associated with the Rev. Mr. Gebble, the parish minister of Dunlop, noted throughout Scotland for the fervor and zeal of his religious life. From that time Mr. Robertson gave himself heartily to the advancement of the Christian cause. In 1863 he sub-let his farm in Scotland for three years and devoted himself as a missionary among the coal miners and iron workers at Ardeer. In 1875 he brought his family to Canada, and settled on the Maple Grove farm, London Township, Ont. He had a practical knowledge of the farming methods and dairying of his native country, Ayrshire, and was of course at once interested in the agriculture of Ontario. He associated himself in various ways with the development of the Canadian dairy industry, acting as an official instructor for the Western Ontario Dairymen's Association, and subsequently for several years as superintendent of the dairy industry in the Province of New Brunswick. For a lengthy period he was a valued contributor to the columns of the FARMER'S ADVOCATE. At a later date he devoted some of his spare time to Farmers' Institute work. In addition to his many other duties, he ministered acceptably to several churches in Middlesex County, mainly in connection with the Baptist denomination. His first wife was Mary Wilson, of Langton, Scotland, and his second Louise Edwards, of Ingersoll, Ont. His family of children included Prof. Jas. W. Robertson, Dominion Agricultural and Dairy Commissioner; Mr. John Robertson, who was for several years dairy instructor in the southwest of Scotland, and now engaged in the dairy produce trade for probably the largest firm in Scotland; and Mr. Robert Robertson, for some time on the staff of Hodgson Bros., of Liverpool, Eng., importers of Canadian dairy produce. At the present time he is the British Columbia representative of J. Y. Griffin & Sons, of Winnipeg, Man., extensive pork-packers and dealers in butter and cheese. Deceased was not only a man of many attainments and great capacity for work, but with a high sense of personal integrity as becoming a Christian gentleman.

CHRISTMAS FARMER'S ADVOCATE.

STRIKES A POPULAR CHORD ALL OVER THE CON-TINENT - WILL PROVE A GREAT STIMULUS TO CANADIAN AGRICULTURE AND DO THE DOMINION GOOD. SO WRITE THE

READERS. FROM THE PRINCIPAL OF QUEEN'S UNIVERSITY.

Dear Sir,—The Christmas number of the FARM-ER'S ADVOCATE has reached me in good order, and I am delighted and astonished at its uniform excellence of paper, type, illustrations and descriptions. Such a paper should be widely circulated to show the varied agricultural resources of Canada and their highly developed condition. Wishing you a Yours truly, G. M. GRANT. happy Christmas.

Queen's University, Kingston, Ont., Dec. 24, 1898.

MAGNIFICENT.

Dear Sir,-Allow me to congratulate you on the magnificent Christmas issue of the FARMER'S ADVO-CATE. Every subscriber should keep his own copy and get another to send to some friend in Great Britain as a souvenir, and also to make our great agricultural industry known.

Yours very truly, C. C. JAMES, Deputy Min. Agr. for Ontario. Toronto, Dec. 28th, 1898.

DELIGHTED WITH IT.

Dear Sir, On my return from the School of Agriculture I found the Christmas number of the FARMER'S ADVOCATE on my desk. It is really a work of art, and to this art are added many valuable and practicable articles. I am delighted to see such wonderful growth in every direction in the FARM-ER'S ADVOCATE. I. P. ROBERTS, Director. Cornell University, Ithica, N.Y., Dec. 23rd, 1898.

SHOULD BE SCATTERED BROADCAST IN BRITAIN.

Dear Sir.—I have to thank you for the holiday number of the FARMER'S ADVOCATE just received. Its artistic make-up, as well as the high literary quality of its contents, are certainly most creditable alike to the enterprise of the publisher and the resources of Canadian journalism. The engravings and descriptions of the fine series of beautiful homesteads make one, as he looks on them, envious of the prosperous Canadian farmer, affording the readers, in imagination, a delightful trip from ocean to ocean across the most productive belt of the continent. What a valuable immigrant agent this number would prove if scattered broadcast among the ambitious young farmers of Great Britain. While all the articles and departments are firstclass, yet I lingered longest at the fine poem by Mr. Robt. Elliott, entitled the "Yeoman's Path," to which you give the well-deserved place of honor.

Yours very truly, John Dearness, Public School Inspector.

London, Dec. 26th, 1898.

NO PAPER LIKE IT IN AMERICA. Dear Sir,—The Christmas number of the Advo-CATE has just reached me. Am delighted with it. It is the most interesting holiday agricultural paper I ever saw, and proves what I have many times said, in public talks and private, that no agricultural paper in America has made such wonderful and rapid advances as the FARMER'S ADVO-CATE. I congratulate you on your up-to-date enterprise, and your subscribers as well on having such a practical agricultural paper to use.

Yours truly, 1 Mount Morris, N. Y., Dec. 26th, 1898. F. S. PEER.

THE BEST.

Sir,—The Christmas number of the FARMER'S ADVOCATE is to hand. Without doubt, it is the finest paper I have ever saw. We take four agricultural papers, but think more of the ADVOCATE than all the other three. Every number seems to be more interesting and instructive. Allow us to compliment you on this Christmas number.

F. C. Elford. Holmesville, Ont., Dec. 28th, 1898.

A SUPERB PRODUCTION.

Dear Sir,-The Christmas number is to hand, and although our opinion may count but little, we think it is really superb, and a splendid production of Canadian literature. Canadian farmers should be proud of their grand ADVOCATE. Enclosed please find fifty cents, for which please send another copy of the Christmas number for a friend. GEO. CUSHING.

Yours truly, Kenilworth, Ont., Dec. 24th, 1898.

WILL HELP AGRICULTURE.

Dear Sir,-Your Christmas number received. It is certainly very fine. Such a journal as the FARM-ER'S ADVOCATE should be carefully read by all those engaged in agricultural pursuits. I think it has a tendency to arouse our energies and elevate us to a higher sphere of work; and, considering that Canada must depend on agricultural pursuits, her people should aim at a point of excellence, and her people should aim at a point of the prepared to meet any and all competition in the markets of Great Britain.

W. D. FLATT. Hamilton, Dec. 20th, 1898.

AN INSPIRATION.

Dear Sir,-The Christmas number of the FARM-ER'S ADVOCATE is certainly a great credit to its publishers. We are sure it will do incalculable good in inspiring young men to put forth every effort to win the enviable, but attainable, success achieved by the leaders in a noble calling.

J. E. CREALY, Western Dairy School.

A SURPRISE.

R. G. STRACY, Brockville, Ont., writes under date of Dec. 22nd, 1898: "With pleasure I congratulate you on your fine Christmas number of the FARMER'S ADVOCATE. I had but little idea that vou could execute such choice workmanship. As an instructor your paper is my choice. Wishing you the compliments of the season, I am, sincerely."

CONTINUED SUCCESS.

Andrew Pattullo, M. P. P., editor Sentinel-Review, Woodstock, Ont.: "I have always admired the FARMER'S ADVOCATE, and sincerely congratulate you on the many evidences of its continued success.

FACTORY PATRONS WANT IT.

GEO. H. BARR, Sebringville, Ont., Dec. 23rd: "The Xmas number of the ADVOCATE received this morning. It is a dandy. One of our factory patrons gave me his subscription when he saw it. I enclose amount. I received the binder also a few days ago and am greatly pleased with it."

IMPROVES WITH AGE.

C. W. PICKART, Kent Bridge, Ont.: "The FARM-ER'S ADVOCATE has been in our home since 1869. We cannot do without it. It gets better all the time.

THE CALL FOR EXTRA COPIES.

W. W. OGILVIE, Montreal, P. Q. (telegram): "Please forward me one hundred and fifty copies of your Christmas number at rate stated.'

WILL BENEFIT THE WHOLE DOMINION.

Dear Sir,—I received the special Christmas number and was more than pleased with the effort you have made, and exceedingly gratified with the results. It cannot fail to have a stimulating influence throughout the whole Dominion. I sincerely appreciate the work performed, and take much pleasure in showing it to my friends. Please mail a pleasure in showing it to my Irienus. Flease Hall Copy to Rev. Ralph Trotter, Victoria, B. C. Enclosed please find amount. Yours, etc.,

Archaret Nova Scotia. T. R. BLACK.

ABLY REPRESENTS CANADIAN AGRICULTURE.

"The FARMER'S ADVOCATE has issued a Christmas number of exceptional merit in design and execution. In the artistic frontispiece, and in many of the articles, Canada's pre-eminent agricultural importance is fittingly emphasized. The special articles are well written, and cover a wide range. There are illustrated descriptions of representative farms in the different Provinces, and a complete resume of the experimental farm system. ADVOCATE was founded in 1806, and this excellent Christmas number shows that it has grown and expanded with the leading Canadian industry it so 22, 1898.

BETTER THAN A ROMANCE.

(From the London Free Press.)

The Christmas FARMER'S ADVOCATE, of London, Ont., a copy of which we have just received, is a graphic revelation of the agricultural progress of Canada during the past fifty years, and of its capacities as a food producer for the British Empire. The articles reviewing these and other subjects read equal to a romance, but, like the half hundred engravings illustrating its 72 beautiful pages, they are the faithful portrayal of realities in every part of Canada, from the humble home of the settler to the mansions of those who have risen to a competence. Our old contemporary modestly says little or nothing about its own 33 years' service on behalf of the farmers' advancement, which, in the opinion of many best competent to judge, has been probably the most effective for good of all agencies.

This number contains the most complete survey ever given of the Dominion Experimental Farm system and the Ontario Agricultural College. There are sketches of German Agriculture, by Prof. Shuttleworth; the English Country Gentleman, by Richard Gibson; Reminiscences, by Wm. Miller; Agricultural Education, by Rev. Principal Bryce; Starting Right on a Prairie Farm, by Supt. Bedford; and Canada's Resources, by the Dominion Statistician; any one of which is alone worth the price (50 cents) of the number, which is being supplied gratis to all new subscribers for 1899 at the old rate of \$1.00 per year. The design on the front cover represents Canada as the Empire's Rising Hope, and the poem, "The Path of the Yeoman," by Mr. Elliott, and John Bull's Christmas Dinner, by J. W. Bengough; "Ramshackle Farmin'," by Frank Stockton, are among the many features that will catch the popular fancy in this splendid issue of the ADVOCATE, which will not only be a benefit, but a surprise and delight to its

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STOCK.

Lessons from Smithfield.

EARLY MATURITY AND GAIN PER DAY.

A correspondent of the London Live Stock Journal has tabulated the results of the weighing of the prizewinning animals in the principal cattle classes at the late Smithfield Fat Stock Show in regard to daily gain at different ages, from which we give the following summary. This live weight gain was obtained by dividing the present live weight by the age, not counting the weight of the weight by the age, not counting the weight of the calf at birth. A table is given in another column showing the percentage of dressed to live weight in the case of animals entered for the carcass competition:

NOT EXCEEDING TWO YEARS OLD.

	DIAM'S CHAP'S
	Average live weig gain per day from birth in lbs.
Cross-bred	2.32
Shorthorn	2 24
Hereford	2.13
Aberdeen-Angus	2.03
Devon	1.96
Galloway	1.90
Average	2.12
ABOVE 2 BUT NOT EXCERDING	21 YEARS OLD.
Cross-bred Aberdeen-Angus (only one prizewin Shorthorn	ner) 2.03
Hereford Devon	1.90 1.66
Average	
ABOVE 21 YEARS BUT NOT EXCEED	ING 3 YEARS OLD
Cross-bred	1 00
A Derueen-Angus	1.00
Shorthorn	2 00
nerelord	1 79
Devon	1.77
Average	1.70
	1.10

These figures serve to confirm and emphasize what has been known to advanced feeders for many years—that young animals gain weight much more rapidly than older ones, and there is a great advantage in producing young beef.

The same point is made even more apparent by the results of the prizewinning animals over three years old, which show an average gain per day from birth of only 1.21 pounds.

Regarding the teaching of the carcass competition at the show, there are no special features to report, saving that in the endeavor to present animals showing a large percentage of lean, some of the contestants sent animals in a really unfinished state, a feature which was also noticeable in the carcass test of pigs at the Brantford Show. This is undoubt-

edly a mistake, and judges will no doubt take measures to prevent a lapse into the marketing of ill-fed animals; but, on the other hand, it was remarkable that only in four instances were the animals that won first prize alive placed first when dead, so that judges have yet something to learn before they can estimate with certainty by handling the live animal what will be the quality of the flesh when dressed.

Our Scottish Letter.

THE SMITHFIELD AND OTHER SHOWS.

We have just got over our annual fat stock shows, and feel happy, because it has throughout been a case of Scotland first and the rest nowhere. On hoof the champion of the year is, as so often before, an Aberdeen-Angus heifer. In carcass the Galloways have made a clean sweep, taking all before them. The cross-bred classes have been led throughout by cattle bred in Ross-shire. And in the sheep department the Scottish mountain breeds have done well as carcasses, although the best mutton was declared to be that of a Suffolk lamb. There can be no doubt at all that the future belongs to the breed or cross which can break the record, not on hoof, but in carcass. There are now five great fat stock shows in the United Kingdom-Norwich, Inverness, Birmingham, Edinburgh, and London—occurring in the order above indicated. At the Norwich Show the champion was a Scots cross-bred heifer named May, in many respects a most level, well-furnished and beautiful animal. She was bred by Mr. John Ross, Meikle Tarrel Easter Ross, and was got by his famous stock bull Ringleader, bred at Collynie, and without doubt the most extraordinary sire of cross-bred cattle the history of stock-breeding has known. How successful he is may be inferred from the fact that out of five classes of cross-bred cattle at the Smithfield Show he was sire of five, all of which were bred by Mr. Ross, and another animal, a pure-bred Shorthorn heifer named Silence, was also got by

Ringleader, and bred by Mr. Ross. She was beaten by May at Norwich, but turned the tables at London, where Silence beat everything except the supreme champion of the Show, the A.-A. heifer, Ju-Ju of Glamis, bred and owned by the Earl of Strathmore, and also winner throughout at Bir-mingham. One of the most notable animals at Norwich and Smithfield was the champion steer Master Harbinger, a great big, massive red, bred by Mr. Ross, and got by Ringleader. He was the heaviest bullock at the show, scaling 19 c. 1 qr. 6 lb. at three weeks less than three years old. It is significant of the change in public taste that in spite of his victories, which include the steer chamiltonia is a significant of the change in public taste that in spite of his victories, which include the steer chamiltonia at the steer chamilto pionship at Norwich, Birmingham, and London, Master Harbinger was one of the last of the prize animals to find a customer. All the lighter weights animals to find a customer. All the lighter weights were sold early, but by the middle of the third day he had not been sold. Mr. Ross' cattle, which thus distinguished themselves, are got from black cross cows, whose sire was an A.-A. bull named Carol, from the Castlecraig herd, and their dams were ordinary unpedigreed Shorthorn cows. These ordinary and the castlecraighest and the company to the condition of the castlecraighest and t ordinary unpedigreed Shorthorn cows. These celebrated cattle are thus practically three-parts-bred Shorthorns, and wonderfully level, well-finished animals they are. At all of the shows in question they were in the front rank, and were only beaten at Inverness and Edinburgh by the exhibits of another Ross-shire breeder, Mr. J. Douglas Fletcher, of Rosehaugh. Mr. Fletcher is one of the most spirited of Scottish landlords. Possessed of great wealth, he has acquired an extensive tract of land in the Black Isle—the peninsula lying between the Moray and the Cromarty. sula lying between the Moray and the Cromarty Firths. Mr. Fletcher keeps a fine Shorthorn herd on one farm, an Aberdeen-Angus herd on another, and a herd of feeding or cross cattle on a third. He has also a fine Clydesdale stud, and a rising flock of Border Leicester sheep. Whatever he does he does well, and everyone was delighted when in 1894 he won the Smithfield championship with an Aberdeen-Angus heifer, Pride of the High-lands. He tries all kinds of crosses, and this year

months this heifer weighed 15 c. 3 qr. 5 lb., or, to put it otherwise, 1,709 pounds. The victory of Ju-Ju, alike at Birmingham and London, was very popular, and if Lord Strathmore wins the cups again they become his absolute property. He has a heifer in training for the purpose, and will likely prove triumphant when the proper time arrives.

It is rather curious that all the Smithfield champions of the A.-A. breed have been heifers, and a wonderful series it has been — Lusury, Benton Bride, Bridesmaid, Pride of the Highlands, Mina of Glamis, and Ju-Ju of Glamis. Three of these heifers belonged to Mr. Clement Stephenson, M. R. C. V. S.

Glamis, and Ju-Ju of Glamis. Three of these heifers belonged to Mr. Clement Stephenson, M. R. C. V. S., Newcastle-on-the-Tyne; two to Lord Strathmore; and one to Mr. Fletcher, of Rosehaugh. It is grand business, and in the fat stock showring on hoof the

doddies are invincible.

business, and in the fat stock showring on hoof the doddies are invincible.

In carcass the honors go to the other polled breed of Scotland—the Galloways. No class of cattle are in better favor with butchers than these great, old-fashioned beef producers. Some prefer them pure, and others like their cross—the bluegray. Up to a few years ago the idea was that there was only one way of getting blue grays, namely, by putting the Shorthorn bull on the Galloway cow. But in 1892 Smithfield was won by a blue gray got by a Galloway bull from a Shorthorn cow, and this set men a thinking. Last year (1807), again the same thing happened, and now many are looking to the Galloway sire and the Shorthorn dam to produce the thing wanted. In the carcass competition this year Galloway stirks—a steer and a heifer from 21 months to 22 months old respectively, and both bred and owned by Mr. H. G. Murray Stewart, of Cally—have been champion and reserve champion in keenly contested classes, containing representatives of all breeds and crosses. These Galloways made prime carcasses of the kind wanted by butchers at the present day, and there was no gainsaying their title to the supremacy. The champion carcass yielded 64 per cent. dead to live weight, and this was also the percentage in the case of the heifer. The best percent dead to live weight, and this was also the percentage in the case of the heifer. The best percent dead to live weight, and this was also the percentage in the case of the heifer. The best percent dead to live weight arity of the Galloway with meat salesmen.

THE SHEEP CLASSES.

THE SHEEP CLASSES.

Amongst the sheep no breed is more rapidly coming to the front than the Suffolk. This is one of the newest breeds in England. It is not claimed that it came out of the Ark; on the contrary, it is plainly acknowledged that the breed is the result of crossing the native horned sheep of East Anglia with the Southdown, the result being the modern Suffolk, a hornless black-faced shortwooled sheep which weighs remarkably well and yields plenty of lean mutton. In the carcass competition at to a Suffolk lamb nine

the championship went to a Suffolk lamb nine months old, whose weight before being killed was 164 pounds, and its carcass weighed 106 pounds. The second prize in the lamb class for short-wooled sheep also went to a Suffolk, and in the shearling class a Suffolk-Cheviot cross won. At 19 months old its weight was 184 pounds, and its carcass weight 123 pounds. For long-wool lambs the premier honors went to a black-faced lamb seven months three weeks old, and weighing alive 120 pounds and 74 pounds dead. A Lincoln lamb was second. Its age was nine months, its live weight 182 pounds and its carcass weight 106 pounds. A Cheviot lamb was third. Age seven and a quarter months, live weight 103 pounds, carcass 64 pounds. These are the weights and this the class of mutton for which in the present day the highest prices are given. The Smithfield Club has undoubtedly in the past fostered early maturity. By instituting the carcass competition it has done an incalculable service to the breeders of the cattle and sheep which produce the choicest quality of beef and mutton. Your Guelph Fat Stock Club telegraphed its congratulations to the Smithfield Club on attaining its Centenary, and a cordial response was sent in reply. H. R. H the Prince of Wales was present at its Centenary, and a cordial response was sent in reply. H. R. H the Prince of Wales was present at the Centenary general meeting, and also attended the show for some time on its two opening days. The Smithfield Club has been a most useful institution. "Scotland Yet."

A very peculiar accident happened at Hon. W. Clifford's farm at Austin, Man., last week. He had purchased two cows from different parties and tied them side by side in the stable. Not appreciating one another's company, during the night they decided to settle their differences by a free fight, with the extraordinary result that they got their horns locked in such a manner as to throw each other, and in the fall each animal broke its neck, and they were both found dead in the morning.



MEMBERS OF THE DOMINION SWINE BREEDERS' ASSOCIATION

has been very successful with the produce of an Aberdeen-Angus bull named Lord Fitz 9335. One

of his daughters, out of a pedigreed Shorthorn cow,

of his daughters, out of a pedigreed shorthorn cow, and named Sunshade, was supreme champion both at Inverness and Edinburgh. She is two years nine months old, and at Inverness weighed fully 15½ cwt.—a beautiful blue roan, with much style and gaiety, and evenly-fleshed. This heifer is one of the best fat animals of the year. She was placed third at Smithfield in her class, being beaten by the Norwich champion May, and also by Mr. George Bruce's Gem of Tochineal, which stood second to

Bruce's Gem of Tochineal, which stood second to

her at Edinburgh. Another daughter of Lord Fitz, a pure-bred named Pride of the Roses, stood second,

both at Birmingham and London, to the champion of the year, Ju-Ju of Glamis. The Rosehaugh

heifer is a good second, and shows all the fineness of bone, wealth of flesh, and roundness of body for which her breed is famed. Mr. Fletcher has been

experimenting with Lord Fitz on Hereford cows.

He showed one of these crosses, a heifer, at Inver-

ness-a nice level animal, 22 months 9 days old, and

weighing 12 cwt. of 112 pounds. (By the way, throughout this article one hundredweight is equal

to 112 pounds.) These crosses have good backs and

well-sprung ribs, but they appear to have inherited the weak points of the Hereford in the quarters.

It is good to find men willing to experiment with breeds so far apart, and Mr. Fletcher is never

Strathmore only feeds one animal in the year.

Two years ago he won all the honors of Smithfield

with a lovely heifer named Mina of Glamis, got by

Kidnapper, out of a cow by Siberian, a bull unfortunately now dead. This year he resolved to de-

fend the cups, and his weapon was the heifer Ju-Ju of

Glamis, which as a yearling was unbeaten at the summer shows. She was got by Siberian, from a cow bred by Mr. Wm. Whyte, Spott, Kirriemuir, and own

sister to the 240 gs. bull calf, Gipsy Rover. Ju-Ju of Glamis again is full sister to the 205 gs. bull calf

Junic, so that blood plainly tells. At 2 years 10½

Unlike most of his competitors, the Earl of

afraid to embark on new enterprises.

PRESENT AT THE ANNUAL MEETING, BRANTFORD, 1898.

Pointers on Bacon Hogs, Picked Up at Brantford Fat Stock Show.

To the Editor FARMER'S ADVOCATE:

SIR,-I think I would be correct in making the statement that more general interest was taken in the exhibit of bacon type hogs than was shown in any other section of the great fair just closed. Ontario farmers, and especially those making a specialty of swine breeding and feeding, are fully alive to the fact that "this bacon business," as they term it, is becoming more than a passing craze for something new. Consequently, those who have not been raising the hog of the day are wisely adjusting their breeding operations to suit changed trade

A pertinent question crops up just here. One of our foremost breeders of "up-to-date bacon hogs" put it to me thus: "Where is the utility of our armers and breeders seeking to evolve, through the comparatively slow process of selection, breeding and feeding, a type of hogs suitable for this business, but differing widely from the foundation stock, when we have now existing one or more strains which fill the bill almost perfectly?" There is a measure of truth in the contention, "There is also a pig of a different color." Partiality for old-time favorite breeds is hard to overcome even though favorite breeds is hard to overcome, even though there may be dollars in so doing. Evolution after a system may, within the next few years, give us widely different types of Bershires, Yorkshires and other leading breeds. Let us consider carefully ere we entirely remodel typical characteristics of any of our present breeds. May they not each have a cer-tain place in our practice?

Killing Test.—This was, without doubt, the best number on a good programme. So far as one demonstration carries weight, it went to show that no breed has a monopoly of desirable bacon type. Further, animals alive and dead did not occupy the same relative place of merit. Evidently, external

conformation is not a guarantee of quality in the curing-room. We were given to understand that animals which stood at the top alive dropped four or five places after killing. Marketing our hogs alive, as wanted, how shall we determine when we have just the right thing? The practical talks by expert packers given on the animals slaughtered, with the why and wherefore of decisions given, were splendid educa-tors. We need more of these practical ssons at our shows. Many farmers exed regret that the slaughtering had not been done by experts from one of the packing houses. In conversation with a number of exhibitors, they informed me that they would be very loath to dispense with corn in producing bacon pigs. They agreed that it should be withheld during the first three months of growth. Afterwards, fed to the extent of one-half the meal ration, satisfactory results were obtained in every instance.

As to clover pasture as a supplement to a moderate grain ration, it is desirable in reducing cost of production and maintaining hogs in vigor; as a complete ration, in the opinion of our packers it is a failure. They simply do not want "grass-fed" hogs at any price, since their bacon is liable to be soft and inferior quality generally. The packers object very strongly to farmers forcing their hogs along to reach

the desired weight of 180 pounds at 51 to 6 months, as so many are doing. They contend that the immature bacon so produced is the veal of the bacon trade, and as such is not wanted. On the other hand, our farmers will not care to carry their pigs to 91 months (the required age) to make the weight that could be reached three months before.

For some time past the packers have been making their requirements known to the farmer, and rightly so. Now it is the farmer's turn. He demands that the present system of "pooling" hogs at a certain price for all-comers is unjust, since it places no premium upon the bacon hog. Just so soon as local buyers are instructed by their firms to pay for hogs according to a sliding scale of prices, based upon weight and bacon type quality, so soon will an impetus be given to the business. The packers can hardly expect that a few farmers here and there will continue to do missionary work for them unrewarded.

Canadian cheese and butter have an enviable reputation in the markets of Great Britain. There is a large trade in bacon over there. In '96 Britain imported over \$65,000,000 worth of hog products. Of this immense amount Canada supplied about \$6,000,000. Evidently there is ample room for expansion on our part. To secure it we must be prepared to furnish a regular supply of fine quality, for which our customers over the sea are always ready and willing to pay the price.

Leeds Co., Ont. J. J. FERGUSON.

Nearly two decades of centuries ago the Roman agricultural writers recommended the careful selection of seed wheat, and it is not improbable that such selection was practiced with more care than is the case with many farmers of to-day. Field selection of seed is certainly to be recommended where the vigor and thriftiness of the entire plant can be taken into consideration.

C. C. JAMES, Deputy Minister of Agriculture, Toronto, Ont.: "Please send me one dozen copies Christmas number, with bill for same."

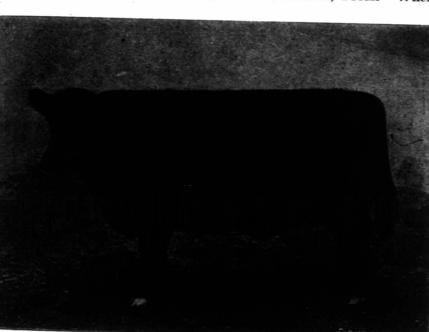
That Tuberculosis Investigation.

SIR,-Those who still believe in the truth of the old adage that "figures cannot lie" must have had their faith rudely shaken when they read in the FARMER'S ADVOCATE of Dec. 1st an article headed "The Tuberculosis Investigation." This article purports to give the gist of a report to the Dominion Department of Agriculture, by Profs. McEachran and Adami, and contains the astounding statement that in the Province of Manitoba the percentage of tuberculous animals found upon testing was 49.22. In other words, practically one-half the number of animals tested had been found tuberculous.

Such a statement issued by authority would lead to the belief that tuberculosis is exceedingly prevalent in this Province, while in the other Provinces the percentages in the same table are comparatively low, ranging from 5.26% in Prince Edward Island to 17.55% in Nova Scotia. The impression thus created that Manitoba is a veritable hotbed of cattle-disease is calculated to do much harm to the Province unless speedily removed, and it is with a view to clearing up the fallacy contained in this published statement that I am induced to set forth the following facts:

The total number of cattle which have been submitted to the tuberculin test in this Province is comparatively small. By far the larger number of these are the dairy cows of the City of Winnipeg. Now, the percentage of reactions in this class of cattle is generally higher than in ordinary farm stock, and we might therefore expect to find a higher percentage for them than for the cattle of the Province as a whole. Such is not the case, how-Through the kindness of Dr. Dunbar, the city veterinarian, I have before me the exact figures covering the tests made by him in the year 1898. The total number of cows he tested was 1,333, and of these 8.6 per cent. reacted. This is a low average for this class of cattle, and so different from the average for the Province that one cannot help wondering where the officials procure their information.

In justice to the Province of Manitoba, Profs.



ABERDEEN-ANGUS HEIFER, JU-JU OF GLAMIS. CHAMPION OF THE SMITHFIELD SHOW, 1898.

McEachran and Adami should publish full particulars of the number of herds tested, and the number of animals in each which reacted and which did not. If the average of 49.22 is based upon the examination of one or two herds, it is important that the public should know it, as well as the "special reasons for the apparent greater prevalence of the malady" in this Province, which are hinted at but not specified. I am veterinary profession as a whole will support me in stating that the cattle of this Province are as healthy as those in any part of Canada. Tuberculosis is not at all prevalent, and by far the vast majority of the cattle would be found on testing to be perfectly healthy. A few herds have been tested, and in some cases a large number of reactions have been obtained, but the percentage they bear to the cattle of the Province is very small indeed.

Without showing the total number of cattle submitted to the test, tables, such as the one referred to, comparing the percentages of reaction obtained in the various provinces of the Dominion, are worse than useless. They are misleading, and in some quarters where the statements of the Dominion Veterinarian may obtain credence, would create a feeling of mistrust and prejudice against the cattle of this Province most injurious to the interests of our stock breeders. F. TORRANCE. Winnipeg, Man.

The Favorite Scotch Crosses.

Direct crosses between the pure-bred polled Angus and Shorthorn cattle are not so largely employed in Scotland as is commonly supposed. The system usually followed is to put a pure-bred bull of either of the breeds mentioned to cross-bred cows in which the blood of the opposite breed is largely represented; in other words, the usual plan is to mate cross-bred cows got by Shorthorn bulls with pure-bred Aberdeen-Angus bulls, or cross-bred cows got by Aberdeen-Angus bulls with pure Shorthorn bulls. Many of the famous blue-grays which come from south of Scotland are, however, direct crosses between pure-bred Shorthorns and Galloways.

Method and Advantages of Dehorning Cattle --- Farmers Shipping Their Own Cattle.

To the Editor FARMER'S ADVOCATE:

Sib, — Dehorning steers for feeding purposes seems to be approved of by all those that have tried it in this section. Five years ago a veterinary who dehorned 32 steers for me said that cold would not hurt them if left outside after being dehorned, so I left them out in the cold for about five hours in November. The consequence was that the majority of them suffered a good deal from their heads, and it took them over two weeks to get over it. I do not think it cruel to dehorn if the animals are kept from catching cold. I dehorn in the stall, one man holding the animal, another putting the machine in the proper place and drawing the handles partly closed, the third man catching the tips of the handles and drawing them together. One man cannot make as good a job of it, as the animals are apt to move their heads before he can get to the end of the handles. If the horns are not taken off close to the head the stubs will grow very fast, and the cattle can knock others about, especially if they are fed loose. They are much better dehorned when you are putting them in than to be dehorned a year beforehand. I bought 21 steers at Toronto, averaging over 1,200, all dehorned, a year ago, and fed them loose all together in one place, 60 feet by 20. Some of them would strike hard with the old stubs. Shipping cattle across the ocean and on the cars not dehorned is much more cruel than dehorning, as they are much more comfortable tied by the neck than tied by the horns on the boat, having more freedom, and they ride very quiet on the cars dehorned. They seem to me some dollars a head in better shape than horned cattle when they reach the British market. Last year I fed 17 head on grass. When the weather got cold I could turn them in loose at night, otherwise they would have

to be out in the cold, which means a good deal of loss of flesh. I believe loose feeding will take the lead yet, only it takes more bedding. I approve of it as far as have seen.

With regard to farmers shipping their own cattle to the British market, as compared with consigning them to a commission man to sell for you, my opinion is that the latter plan is no good, as I have tried it twice. Four years ago last May there were about 900 head shipped by farmers in this district, some to London and some to Liverpool. One of my neighbors and I went to London with 200 head, 200 went to Liverpool at the same time, and the balance we shipped later. We were told by the agent that each farmer's cattle would be sold by themselves, but when they had them fixed up for sale the cattle were all mixed. Some of my best steers were put along with a neighbor's best steers. They had them sorted out in that way by a rough guess. If one man's steer weighed about 100 pounds more than the other he got no more for it, as they were sold in bunches at so much per head. When I told them that I was not satisfied, as we were told different, the salesmen said they couldn't do business in that

way, but as I had 44 head I got them sold by themselves by being there myself, and they would have been sold for much less had I not interfered. I noticed the buyers don't want to bother with small bunches of ten or twelve head - they like them in large lots best, as a rule. There were four oxen sold together, and after the sale was over we went to the hotel. So the salesman asked me what I thought the oxen. I said he was the proper one to decide that, so he asked me if there was three pounds difference in the two yoke. I said yes, and more; so he wondered who the best yoke belonged to. I said I didn't know, but the poorest belonged to a neighbor of mine. He said, We will say no more about it, then. So the man with the poorest pair got as much as the owner of the best. So it's rotten all through. The proper way is to consign them to yourself and go with them, or else sell in your own barnyard, which is much better. Most of the shippers are losing more than they make. Even this year some more have tried it, and could have done better at home. JOHN JONES.

Wellington Co., Ont.

The Qualifications of a Judge.

Mr. Mortimer Levering, of Lafayette, Indiana, in an address delivered at the annual meeting of the New York State Breeders' Association, recently held at Rochester, on "Judging Live Stock in the Showring," after emphasizing the great responsibility of the position, summed up the requirements of a judge as follows: "An eye for symmetry and outline, a fine sense of touch, an education in animal anatomy to detect blemishes, defects and malformation, a complete knowledge of the points of excellence governing the variety under consideration, a mathematical genius for comparing sizes and weights, a cool head and resolute nerve, an unprejudiced mind, the courage of his convictions, unimpeachable integrity, and a disposition to do what is honest and right."

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The Carcass Competition at the Smithfield Show.

JANUARY 2, 1899

	neru	SHUW.		
STEER OVER 2 AN	ND NOT	EXCEEDIN	G 3 YEA	RS OLD
Breed. Fasted weight.	Dressed weight.	Percentag	e Award	Award
Devon	1,046 958 877	62.71 66.71 65.83		1st 2nd 3rd
STEER OVER 1	AND NOT	EXCEED	ING 2 Y	EARS.
Galloway1,178 Cross-bred1,222 Aberdeen Angus1,286	763 800 842	64.76 65.45 65.47	3rd	1st 2nd 3rd
HEIFER N	OT EXC	EEDING 3	YEARS.	3 T
Galloway1,157 Devon1,296 Cross-bred1,285	741 815 。830	63.62 62.88 64.58	1st 	1st 2nd 3rd
ONE LONG-WOOLE		ER OVER	12 AND	UNDER
	24 MON	THS.		
Cross-bred	1 23 91 75	66.84 63.88 64.65	::	1st 2nd 3rd
ONE LONG-WOOLED	WETHER	LAMB UN	DER 12 M	ONTHS.
Black-faced120 Lincoln182 Cheviot103 Border Leicester130	74 106 64 83	61.66 58.24 62.13 63.84	1st 2nd	1st 2nd 3rd 4th
ONE SHORT-WOOLE	D WETH	ER OVER	12 AND	UNDER
	24 MON		11112	CNDLIE
Hampshire. 219 Southdown 128 Hampshire. 194 Southdown 170	147 81 134 122	66.84 64.06 69.07 68.92	1st 3rd	1st 2nd 3rd Com.
ONE SHORT-WOOL	LED WET	THER LAM	B UNDE	R 12
	MONTI	HS.		
Suffolk 164 Suffolk 165 Dorset 151 Southdown 115	106 106 89 77	64.63 64.24 58.94 65.21	1st 3rd	1st 2nd 3rd Com.

A Centenary Retrospect.

From the Illustrated London (Eng.) News.

Just a century ago, in the good old days of farmwhen American beef and Australian mutton were not, when sheep stealing was a hanging matter, and wheat was low at forty shillings a quarter, a Derbyshire farmer named Wilkes had an idea. Do not infer that farmers in general, or Derbyshire farmers in particular, ever lacked ideas; but the one which emanated from the fertile brain of Mr. Wilkes was an idea worthy of capital—almost an inspiration. This mental acorn, if one may use the expression, was the seed whence sprang "The Smithfield Cattle and Sheep Society." The laudable aim of the society was "to supply the cattle markets of Smithfield and elsewhere with the cheapest and best meat." Wilkes' idea was taken up with moderate enthusi-

asm, and in the following year, 1799, the first show was held in Dolphin Yard, Smithfield. The society then counted 113 members; their show consisted of two classes of cattle and two of sheep, and the value of the prize list was exactly fifty guineas. The scheme of classification adopted was almost mediæval in its simplicity; "beasts" fed on grass, hay, turnips or cabbage competed in one class; "beasts" fed on corn or cake in the other; sheep (be pleased to note that agricultural zoology recognizes only one beast) fed on grass, etc., competed together, and sheep fed on corn. Five years later the members' roll had increased by one, but the show was expanded to nine classes for beasts and sheep, opened its arms to the humble, unimproved pig, and offered £215 5s. in prizes. The Smithfield Club, as the society became in 1802, was at this time a struggling young body trying hard to open the eyes of the agricultural world to the benefits it was trying to evolve from an empty treasury. At one time the outlook was so gloomy that the then Duke of Bedford, as President, advised that the club should be wound up. His advice was fortunately declined, and the club fought its way resolutely on, slowly increasing its membership and pressing financial embarrassments aside.

Transport was the difficulty in pre-railway days. Fat oxen driven up from the grazing counties were thin oxen by the time they reached London, and not every stock-breeder could afford to adopt the ingenious Mr. Terrett's plan of sending beasts to the show in a specially constructed van. Hence the club languished somewhat. After forty years of existence, the executive scheduled fourteen classes for cattle, sheep, and pigs, and offered £300 in prizes. The era of real prosperity dawned with the spread of railways. In 1862, when the show was held for the first time at Islington, there were fifty classes, and over £2,000 in prizes was offered, while the members of the club numbered 400. At the show of 1898 there were ninety-four classes, containing 364 cattle, 640 sheep, and 270 pigs; the prize list fell

short by £34 9s. of £5,000 in cash, cups and medals. t was possible for one steer or ox to win about £400 worth in money and gold and silver plate, if he carried off every prize for which he was entered, including the prize of the centenary show —the Queen's challenge cup—value £150. A pen of three sheep could bring their owner about £228; while a pair of triumphant pigs could win about £138. Animals of such overwhelming merit, however, are rare in this imperfect world, and the rewards of obesity are more widely distributed.

FARM.

The Ontario Agricultural and Experimental Union.

The twentieth annual meeting of the Ontario Agricultural and Experimental Union was held at the Agricultural College, Guelph, on December 7th, 8th and 9th. In the absence of the president, Geo. Harcourt, B. S. A., Winnipeg, the chair was occupied by the vice-president, Mr. H. L. Beckett, B. S. A., Hamilton. The president's address, which was read by the chairman, referred to the encouraging growth of co-operative experimental work and its beneficial influence upon Ontario agriculture. It was recommended that co-operative experimental feeding of bacon pigs be carried on with a view to finding out the cause of soft bacon. The collecting and exhibiting of foul weeds and their mature seeds was recommended as being of valuable service to farmers in aiding them to recognize bad weeds at

The chief object of the annual meeting is to bring together the students, ex-students, and other cooperative experimenters to hear reports of the season's work and to discuss various phases of it. stood, when the areas sown to the various crops are considered, which were in 1898 as followed N 1898.

CROP.		1	A	C	ı	3	0	8	1	G	ROWN IN
Hay									_	.2	453 503
Ualls										- 63	276 260
Winter wheat							i	•	•	ī	048 189
Peas			ľ		•	•	•	•	•	•	865 051
Corn					•	•	•	•	•	•	590 606
Barley											430 704
Spring wheat			•	•		•	•	•		28	880 905
Potatoes		•	•	•	•	•	•	•	•	100	160 046
Kye											165,089
Turnips		•	•	•	•	•	•	•	٠,	. 3	151,601
Buckwheat		•	•	•	•	•	•	•	•	•	150 204
Mangels	•	•	•	•	•	•	•			73	07 099
Beans		•	•	•	•	•	•	•	1		45,220
Carrots		•	•	•	•	•	•	•			19 410
	٦,	•	•			•	•		•		16,110

The tests, as reported at the Union, dealt with the leading varieties of the crops mentioned above as found by several years' comparative tests on the Guelph Experimental Farm. We will publish the tables later in the season, when our readers are more interested than at present in the sorts of the

various crops to plant in the coming spring.

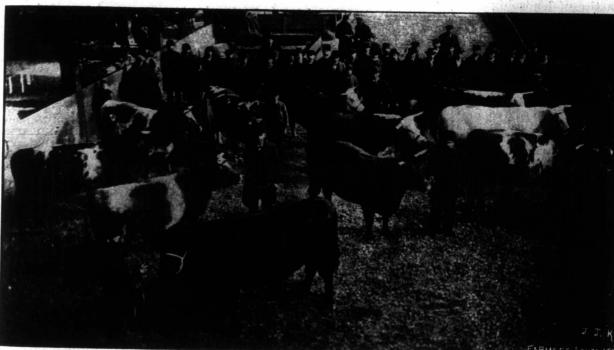
Rational Dietary.—Mrs. S. T. Rorer, director and principal of Philadelphia Cooking School, gave a vigorous address upon the subject of scientific fooding of the human race. The inconsistency of feeding of the human race. The inconsistency of having our farm animals carefully and regularly naving our farm animals carefully and regularly nourished by balanced rations, while little, if any, scientific insight is given to the preparation of human foods, was pointedly dwelt upon. The result of the present course is that the human race is becoming weaker and weaker. To illustrate the effect of certain foods on a race or a people, it was pointed out that the large. or a people, it was pointed out that the large-framed Scotchman was largely the result of the use of oatmeal as a diet through succeeding generations, while the agile, small Jap acquired his magnificent muscles from the continuous use of protein foods, such as eggs, fruit and rice, the last differing from our rice in being highly nitrogenous. The use of cow's milk for infants was strongly denounced on the ground that it is so composed as to build up a

massive mature animal in three years. Young children deprived of their natural paternal food should receive cow's milk only after it was modified to a condition to suit the object of its use. Referring to com-binations of foods for the human family, the use of potatoes and pork was denounced, as each of these products are deficient in muscle-forming material, but potatoes and beef, or pork and beans, answers very well when prepared in a digestible form. Mrs. Rorer strongly recommended the introduction of a domestic science depart ment into the Ontario Agricultural College, as is being done with great advantage in several American colleges.

At the request of President Mills, the correct methods of cooking vegetables of various sorts were referred to. Potatoes are more digestible when baked, be cause of the slower and

potatoes are peeled it should be done very thinly, as the richest part of the tuber lies next the skin. They should never be put on to boil in cold water, but into water at the boiling temperature, but the temperature afterwards should be a little below the boiling point, about 200 degrees Fahr. Cabbage should be entirely immersed while cooking. and the water kept below the boiling temperature, when no odor will be given off, and the cooked dish will be rendered white in color, much more digestible than is ordinarily the case. Oatmeal should be cooked for several hours in a double cooker, but never stirred. Meat to be boiled should go at once into boiling water, and that to be roasted into a very hot oven so as to sear the surface and thus retain the juices of the flesh. By giving proper attention to the things that have to do with our very being we can enjoy almost perfect health, and render a more perfect service to our fellow men as well as to ourselves. The Effect of Feed on the Quality and Quantity

of Milk.—This subject was gone into very exhaustively by Prof. C. F. Curtiss, director of Iowa Experiment Station, who reviewed at length the work of many experiments conducted on this line by European and American Experiment Stations. Our best cows and breeds of cows represent, in many cases, the result of over a hundred years of effort in intelligent feeding and selection. While it is a much disputed point, especially among hardheaded, practical men, whether or not food does influence the percentage of fat in milk, the general result of carefully conducted tests go to prove that it has little effect upon the quality of milk. American experiments nearly all go to sustain this position, as was also the case in other countries when the tests were conducted with similar cows under similar conditions except food. Prof. Henry, in his valuable new book on "Feeds and Feeding," sums up the question with the statement that "richness" of milk depends on breed rather than feed. Good treatment will always tend to develop a cow's



It may be mentioned just here that co-operative experimental work commenced in 1886 at the suggestion of a few students and ex-students of the College, who met and appointed Mr C. A. Zavitz as director of the work. That first year eight men were prevailed upon to conduct one experiment on their various farms over the Province. Thirty-three plots were that year planted and looked after according to Mr. Zavitz's direction, and the following twenty-seven men carried out their line of work on 135 plots. Since that time the work has gone forward rapidly, until we find in 1898 no less than 3,028 men, living in the various portions of the Province, co-operated in this work with various varieties of grains roots, fodders, fertilizers, etc., to ascertain for themselves what will best suit their land and conditions. Of these, 667 successful reports were sent in to Mr. Zavitz, from which the reports of the season's work were summarized. There were over one hundred experimenters at the meeting, a number of whom claimed to have received great advantage from their investigations, not only in learning the sorts of crops best suited to their soil and vicinity but also in developing a local seed-grain trade of no mean magnitude. Some of the important results to the country have been the popularizing of the best varieties of crops, among which were mentioned Dawson's Golden Chaff fall wheat, Siberian oats, and Mandscheuri barley, each of which continues to stand from year to year at or near the head in all successful experiments over the Province. The introduction of Mandscheuri barley by the Union into the County of Glengarry, one experimenter present claimed, had been thousands of dollars advantage to the farmers. The director, in referring to this, pointed out the increase of profits that would follow if none but the proved best sorts of crops were sown on every farm of the Province. When it is remembered that the difference between the yield per acre of the best producing varieties and those sown by the average farmer is often several bushels per acre, the import of Mr. Zavitz's claim is the better undercapacity, but it is only through permanent environ-ment that the proportion of butter-fat can be influenced. To illustrate this, the Professor referred to the cows of Holland, which have been developed in a moist climate, and therefore succulent pasture, as giving a large quantity of milk having a low percentage of fat, and compared them to the Channel Islands breeds, which on the scanty vegetation give a rather small quantity of rich milk. These same breeds, after a few generations of liberal treatment on this continent tend to come more nearly to-gether in their quantity and quality of milk. With regard to the immediate influence of food on the percentage of butter fat, the general trend of the address brought out the lessons that a change in composition of milk is effected by food only when it interferes with the system of the animal. Good feeding will increase the flow of milk over poor feeding, and so increase the total fat and other contents, but it is only through generations of selection, breeding, and feeding that a higher percentage of butter-fat can be attained.

Advances in Agriculture.-A number of exstudents present, and others who could not be there, gave addresses or papers dealing with advances that were taking place in the farming of their respective districts. Among the progressive movements men-tioned, the more generally spoken of were in the direction of advanced agriculture, and included the following: Doing away with the bare fallow, more thorough surface cultivation of the soil, less selling of grain in the raw state, an increased acreage of corn, the more general use of pure-bred sires in all classes of stock, an improvement in farm buildings and in fences. In connection with the question of stabling for live stock, it was pointed out that cement floors, inside watering, more light and ventilation were being given increased attention. In conjunction with more general dairying, hog-raising along bacon lines has made rapid strides, and the production of poultry and eggs is being given more thoughtful care. The wonderful increase in the number of silos in use was spoken of by many of the speakers, as well as the practice of dehorning cattle and feeding steers loose.

Visitors.—Among the distinguished visitors to the Union were: Hon. Sydney Fisher, Minister of Agriculture for the Dominion; Hon. John Dryden, Minister of Agriculture for Ontario; Hon. Mr. Dechene, Minister of Agriculture for Quebec; Hon. Mr. Duffy, Minister of Public Works for Quebec; and Prof. J. W. Robertson, Dominion Dairy Commissioner. The Quebec Provincial Ministers have in view the opening of a school of agriculture in that Province, and came to Ontario to gather pointers, which, the Hon. Mr. Fisher remarked, the Guelph College can give to any country in the

Prof. Robertson addressed the Union for a short period on the proposed illustration stations, with which our readers are already familiar. To illustrate the value of these stations, which will show the actual results of better varieties of grain and better methods of farming, Prince Edward Island was referred to as having taken fifteen years to learn to grow turnips; when given an illustration cheese factory, put there by the Dominion Government, had, in three years from that time, forty-two private cheese factories, which are modern in construction and well conducted. While farmers are generally slow to take in and act upon advances made by others as pointed out in printed reports, they are not slow to appropriate lessons which can be gathered from the practices of men as seen in actual operation.

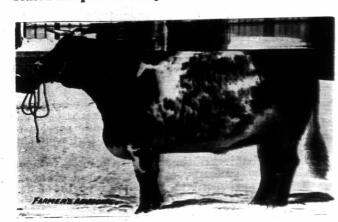
Soil Moisture.—During the past season experiments in soil physics were conducted by Prof. J. B. Reynolds, B. A., who received samples of soil weekly from a clay farm in Hastings, a sandy soil in Middlesex, and a clay soil in Welland. This was only the commencement of a line of investigation which will be carried on much more extensively in coming years. The results of the past season's work proved that surface cultivation does much to conserve moisture, and that a sandy soil will give up its moisture to growing plants much more readily than will clay land. Plants will not wilt in sandy soil that contains as low as one per cent. of moisture, while a clay soil containing 10 to 13 per cent. of moisture will not keep its growing plants in fresh condition. In the discussion which followed Prof. Reynolds' paper, it was pointed out that underdrainage never removes water that is useful to plants, but tends to increase the moisture for the use of plants in a dry

Noxious Weeds.—Prof. F. C. Harrison, B. S. A., in his report upon weed investigations, stated that in his opinion many of the bad weeds are introduced by clover and grass seed. Out of sixty samples of seeds secured from seed merchants, and tested at the College, only one sample was found free from weed seeds, and in one case over one thousand weed seeds were found in a single ounce of grass seed. Reports received from farmers show that the law against noxious weeds is not generally enforced. Weeds are becoming more numerous, especially those of more persistent character. It was recommended that no seed be purchased without careful examination, and that in the case of grass and clover seed a small hand magnifying-glass should be

Varieties of Fruits Compared.—Prof. H. L. Hutt, B. S. A., director of co-operative fruit experiments over the Province, reported that in fifteen experiments twelve plants of Hayerland strawberries of the second years' growth produced 147 ounces of fruit, while Wolverton gave 129 ounces, Buback 125 ounces, and Van Diemen 84½ ounces. The last

named is one of the earliest, and is useful four flertilizing the Haverland. In raspberries, Shafter came first in bulk of crop, Cuthbert second Golden Queen third, and Marlboro fourth, the last being ourse of the best early-producers available. Imblied, raspberries, Palmer came first, and Hilborn second. Raby Castle currant stands ahead, and Havis Prelific second, the latter being off better quadity. Of gooseberries, the English varieties, Industry and Whitesmith, surpassed the American Houghton and Downing; the former, however, required regular spraying to avoid mildew.

Apicultural Investigations were reviewed by R. F. Holtermann, who has conducted a number of experiments in connection with the Union. Heavy and light comb foundations were compared and the latter found the more desirable, as the former mains heavy. Very handsome five-banded Italian queens were placed in the handsoffgooddbeckeepers and found to be of less value than darkeer sourts. It has been found that unripened honeyy should mot be extracted, as it remains too thing, and therefore imferior, which, if placed on the market, will impure the name of Canadian honey. During the past season samples of honey have been secured from the



GRADE SHORTHORN STEERS. PERSENCTIONS.
Winner of the championship over all breeds and crossess at the Provincial Fat Stock Show, Brantford 1898. Bleeds and exhibited by John Campbell, Woodwille, Ount.

various provinces of the Dominion and sent the the Dominion Analyst at Ottawa im order to ascertain their respective consistency. No reports have wet been made.

Dairy Lessons.—Prof. H. H. Deam, B.S. A. reported for the Dairy Committee, white have coarried on experimental work in various factories and creameries. The time taken for churning in the various creameries varies from 30 to 600 minutes, and the temperature of cream from 500 to 600 dilegrees. The temperature of the storerooms varies from 32 to 50 degrees. The cost of making but terrums from 3 cents to 41 cents per pound, the cost of flashling milk from 5 to 10 cents per hundred pounds, and the price



PURE-BRED SHORTHORN STEER, LOOKD MINTO.
Winner of the championship over all breeds and crossess at the

Winner of the championship over all breeds and crosses at t Guelph Fat Stock Show, 1898. Breed by JJ&&W FR/Weath. Salem. Exhibited by Matt. Wilsom FFrguss funt.

received by the patrons last year was:133tto IT cents per pound of butter. The variation im butter-fat ranged from 2.8 to 4.6 per cents.

igorous complaints are still correct regard the bad condition of milk received four theese making. The common faults mentioned were badd strain cowy odors, root flavors, overripeness, etc. Str ing is best done through several thicknesses of cloth. Aeration should be accomplished by dippoint and by use of aerator. Fat has been foundd in wheev from a trace to .3 per cent. Curing rooms sare chieddratt from 60 to 70 degrees Fahr. Cheese was reported to have been held at factories from eight days to six weeks. The season has been successful in most sections of Ontario. The improvements suggested were more cows per area of land, better feeding. better care of milk, better selection off comes. better factories, more frequent shipments off cheese, cease returning whey in milk cans, pay by test and so on. in order that the good name and therrefore good price of Canadian cheese be maintained. Regarding the results of experiments in curing cheese at Kings ton and Guelph Dairy Schools, the propoer temperature was found to be from 60 to 65 degrees Fahr. An increase over this gives unnecessary shrinkage. as well as depreciation in quality.

Resolutions.—In view of the fact that the resonant in which the two last Union meetings have been

held is to be converted into an agricultural museum, a committee of R. F. Holtermann, Brantford; Nelson Monteith, Stratford; and H. L. Beckett, Hamilton, president of the Union, were, on motion, appointed to ask the Hon. Minister of Agriculture for a new hall in which to hold the annual Union meetings. President Mills heartily supported the motion, and in his remarks concerning it stated that a finement for corrying on its work as any of the arts universities.

In view of the abnormal spread of weeds throughout Outario, on motion of Prof. Lochhead, B. A., it was resolved that the members of the Union request that the study of weeds and weed seeds form an important part of the course in botany in high schools, and in the nature study course in the public schools, in order that the boys and girls be enabled to recognize the nexious weeds when they see them, and by understanding their habits know how to combat them successfully.

Officers.—The election of officers for the ensuing wear resulted as follows: President, H. L. Beckett, Hamilton; Vice-President, H. R. Ross, Gilead; Secretary and Editor, C. A. Zavitz, O. A. C.; Treasurer, H. L. Hutt, O. A. C.; Directors—Dr. Mills; Nelson Monteith, Stratford; A. Shantz, Waterloo; T. J. Hurley, Belleville; C. A. Zavitz, O. A. C.

Dummittees.—Agriculture—C. Zavitz (Director);
Dr. Mills; J. Buchanan; J. H. Clark, O. A. C.
Horticulture—H. L. Hutt (Director); Elmer Lick,
Oshnwa; C. D. Jarvis, O. A. C.

Duirving—Prof. Dean (Director); F. J. Sleightholm, Strathroy; T. C. Rogers, O. A. C.; H. W. Hart, Kingston; T. V. Linklater.

Apaculture—R. F. Holtermann (Director), Brant-

ford; E. Bairnard; W. J. Black, O. A. C.
Live Stock—G. E. Day, O. A. C. (Director); Wm.
Bennie, O. A. C.; G. W. Morgan, Kerwood.
Bromomic Botany—F. C. Harrison, O. A. C.
(Director); W. M. Doherty, O. A. C.; W. Steele,
Toronto; W. A. McCallum, O. A. C.

Soil Physics—J. B. Reynolds, O. A. C.; E. E. Beam, Black Creek; M. Rayner, O. A. C. Entemology—Prof. Lochhead, O. A. C.; A. M. High, O. A. C.; J. W. Crow, O. A. C. Auditors—G. A. Putnam, O. A. C.; G. H. Huttin.

Progressive Prince Edward Island.

Up to date of writing there has been frost enough for one day to stop the plow. We have had a very open and an exceedingly wet fall. We have had the heaviest rainfall since April that we have had in that period for thirty-five years. We do not now ship near half the quantity of coarse grains and potatoes we did six or seven years ago. Outs and potatoes were our main exports then; now it is cheese, butter, cattle, sheep, eggs, and bacon. A large quantity of butter is being made on the Island this fall, and it is of good quality. A shipment of butter made direct to England last month realized 98 to 100 shillings, which was the top of the market for Canadian at that time. As this shipment was made up from the output of several different creameries, it shows that our butter is uniformly good. Dairying is fast getting to be an all-year-round business with our farmers.

imments of stock this fall have been the largest im many years. One shipper has, since the 13th of October, shipped 11,035 sheep and lambs, mostly to American markets. He has also shipped 6,000 live ese in this time, and has paid out to farmers about and he is only one of many shippers that rate here all through the season. A shipment of pules, composed of Ribstons, Spies, Baldwins, bussets, and Kings—35 barrels in all—forwarded by direct steamer in November to the British market, metted the shipper here over \$2.60 per barrel. Another steamer will sail from Charlottetown about the 15th of December, and will carry from here large quantities of meat, poultry, fruit, cattle, and sheep. Cheese are mostly sold. The prevailing price has been about Sec. for September and October. Good cattile are in demand, at 6c. to 61c. dead weight. Fat sheep sell at about \$4 each. Bacon hogs and heavy fints are on a level as to price, and sell for \$3.75. Oats are worth 32c. to 34c. Potatoes, 28c. Hay is worth \$5 to \$6 for the best

Agricultural Instruction in the Maritime Provinces.

Mr. W. C. Archibald, of Wolfville, Nova Scotia, a large and successful fruit farmer and Chairman of the Board of Control of the N. S. School of Horticulture, has been on an official visit to Ontario inspecting the Agricultural College at Guelph and the Experimental Fruit Station at Grimsby. Nova Scotia has also a School of Agriculture and Farm at Truro, but the Government there contemplate a forward movement in the work of agricultural instruction, hence Mr. Archibald's mission. A joint agricultural college for the three Maritime Provinces has been suggested. We are only witnessing the beginning of a great and grand advance of this industry in these thrifty Eastern Provinces.

A. W. Mason, McGregor, Man.:—"I have gained much valuable information from your useful paper."
W. A. Maynes, Dominion City, Man.:—"Your magazine is a boon to the farming community, as well as being very beneficial to stock-raisers."

weeds throughhead, B. A., it e Union request eds form an imin high schools, public schools. abled to recoge them, and by now to combat

for the ensuing H. L. Beckett, Ross, Gilead; O. A. C.; Treasors—Dr. Mills; ntz, Waterloo; z, O. A. C. vitz (Director); r); Elmer Lick,

; F. J. Sleight-A. C. ; H. W. Director), Brant-

A. C. Director); Wm. erwood. ison, O. A. C. C.; W. Steele,

). A. C.; E. E. A. C.). A. C.; A. M. G. H. Huttin.

d Island.

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been the largest since the 13th of hipped 6,000 live to farmers about ny shippers that . A shipment of pies, Baldwins, ll—forwarded by British market 2.60 per barrel. rlottetown about y from here large eattle, and sheep. vailing price has October. Good lead weight. Fat hogs and heavy ell for \$3.75. Oats c. Hay is worth

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-"I have gained our useful paper.' y, Man.:-" Your g community, as ck-raisers."

ern Provinces.

HE FARMER'S ADVOCATE.

and Gravel.

To the Editor FARMER'S ADVOCATE:

SIR, — As I have received quite a number of letters from farmers all over Ontario, making enquiries about concrete for walls, floors, silos, etc., I thought I would answer them through your valuable paper, which I find in nearly every practical anie paper, which I find in hearly every practical farmer's home. I may first say that I served my apprenticeship at the masons' trade twenty-two years ago, and have followed it ever since, and for the last three years I have devoted my time and attention to the use of hydraulic cement for farm building purposes all over Ontario, being employed by the year by the Estate of John Battle Cement Works to give instructions how to use cement for concrete work for barns, stable floors, silos, etc.

How to Make and Mix Cement Concrete moist earth. When taken in the hand and pressed it should simply pack, and not leave any moisture on the hand. I mix all my concrete the same way, only I use different proportions, according to the class of work required. FORVAL B. HAGAR. Welland Co., Ont., Dec. 12th, 1898.

Commercial Fertilizers---Preservation of Fence Posts.

To the Editor FARMER'S ADVOCATE:

Can commercial fertilizers be used with profit in growing crops in Ontario? Have often seen this asked, and the answer has been: We don't know what your land needs; you must experiment. This is not a good answer, and seems to me like shelving a difficult question. I think I understand what my land needs, whether in nitrotary what my land needs.

what my land needs, whether in metrates, potash or phosphates. The question is, Can a profit be made out of manure at \$40 a ton when wheat is only \$24 a ton, potatoes \$10 a ton, and hay \$6, all other farm crops in proportion? If the fertilizer man would come up and take an inning he might perhaps make it clear. make it clear.

make it clear.

Is there anything known as to the preservation of fence posts? Have lately heard of setting them in masonry. Is it supposed that it would impregnate the post with lime? It is easy to fill small pieces of wood, inch boards, etc., with lime, but I should suppose fence posts, from their size, would be more difficult to fill.

Grey Co., Ont.

[The questions raised by our correspondent are open for discussion, and we shall be pleased to hear from readers disposed to deal with them.

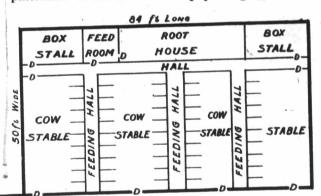
—ED. F. A.]



SPRINGFIELD FARM STOCK BARNS

THE PROPERTY OF MR. C. RANKIN, WYEBRIDGE, ONT.

I am also a practical farmer, having bought the old homestead of one hundred acres twelve years ago, which I have always managed in connection with my brothers. I simply mention this fact in order to show that I am familiar with the needs of farmers and farm buildings. In order not to take up too much space in your valuable paper, I shall only deal with the making of concrete. The making of concrete is one of the simplest branches of mason work, but at the same time it cannot be slighted in the least, and must be done systematically and no guesswork about it. The way I make my concrete is as follows: I first level off the ground and place straight-edge boards right on the ground, and drive stakes on each side to keep the boards from working apart. This platform should be at least working apart. This platform should be at least twelve feet square. I do not put any sides to this platform. If the cement is in paper bags (there are



GROUND PLAN OF SPRINGFIELD FARM STOCK BARNS.

ROOT

HOUSE

FEEDING HALL

STALLS

COW

STABLE

STALLS

FEEDING HALL

STALLS

STABLE

Springfield Farm

Stock Barns.

C. Rankin, at Wyebridge,

Ont., is quite modern in design and arranged with

The stock barn of Mr.

a view toward great economy of space—perhaps more so than some authorities would sanction,

except an excellent ventilation system is employed.

intelligent care has been given the preparation of the plan, which, it will be seen, is admirably adapted

for convenience in feeding the animals. The stable at the east end, as shown in the ground plan, is for

horses, and is separated from the cattle stables by a

brick wall, which makes it a separate compartment. The height of the stone walls is 11 feet, and from the top of the stone wall to the peak of the barn is

41 feet, making the height from ground to peak 52

We trust, however, this has not been neglected, as

three of them to a barrel) I make a box without any bottom, just large enough to hold two sacks of cement. By doing this I never have to measure the cement, but just put in the box two paper bags of cement to a batch. (I shall take for example walls which are usually made 5 to 1.) I then fill this box five times full of gravel and put on two sacks of cement. By measuring my gravel this way I get equal proportions to a shovelful. I then shovel this over twice, and in doing so I let it drop off of the shovel in the same place. This

drop off of the shovel in the same place. This will give the concrete a conical shape, and the gravel and cement will mix after leaving the shovel by rolling down the sides. If the concrete is simply turned over and thrown up against the sides of the pile it does not mix properly, and it would have to be shoveled over three or four times at least. After the concrete is mixed dry I then level off about shovel deep, with a hole in the center, and put in one or two pails hole in the center, and put in one or two pails of water, then take the back of the shovel and turn the concrete towards the center. The concrete should be turned twice after being wet. The last time of turning I use a rose sprinkler: it distributes the water evenly through the con-Care should be taken not to get it too erete. Care should be taken not to get it too wet. It does not require to be more wet than is

Maritime Notes.

Maritime Notes.

One of our largest sheep buyers, Mr. P. G. Mahoney, recognizing the fact that our flocks need improvement, and that our farmers are very slow to make that improvement, has made up his mind to do it for them. He has accordingly imported a carload of Shropshire rams, which are to be distributed throughout the county. No charge is made for their use, but at the end of four years they are to be returned to him. It is both an enterprising and a generous act on the part of Mr. Mahoney, but we should feel ashamed that such an act is necessary. It shows that we are lacking in enterprise and good business managment. It is not likely that Mr. Mahoney would have gone to the expense of making this importation if our common sheep would satisfy the demands of the market as well as those which are more highly bred. It has been proved, the world over, that it is the well-bred stock which pays the best, but it is a fact which we are very slow to realize and still slower to take advantage of. I hope that those who will benefit by the use of these rams will not let improvement end with them, but will procure good rams for themselves. The same need of improvement is to be with them, but will procure good rams for themselves. The same need of improvement is to be found in our cattle also, and the necessity for it is becoming more and more urgent. While we had our markets to ourselves the necessity was not so our markets to ourselves the necessity was not so apparent, but we have now to compete with the other Provinces of the Dominion, and our consumers are being educated up to a demand for better beef, and the best trade is now supplied almost entirely from Ontario. It is strange that improvement is so slow when we consider the low prices at which pure-bred animals can be bought, and the very generous grants which our Government makes very generous grants which our Government makes to agricultural societies.

A new line of trade is now opening up for the farmers of Canada in the export of fowls to the English market. I sincerely hope that our Maritime Provinces farmers will make an effort to secure share of it. The trade is only beginning, but it promises to develop into something very large. The Beaver Line steamer which sailed from St. John for Liverpool on December 7th carried 35 carloads of Western turkeys, and the Parisian, which sailed the following day, took 67 crates of fowls. These are only two examples of the extensive shipments already being made. Yet, although the port of shipment is almost at our doors, not a single fowl raised in the Maritime Provinces is to be found in these shipments. We do not, in fact, raise enough tness snipments. We do not, in fact, raise enough to supply our home markets. The same paper which mentioned these shipments quoted the price of fowls in our own markets as follows: Turkeys, 15c. per pound; geese, \$1 each; and chickens, 50c. per pair. Surely if the Ontario farmer can afford to raise poultry at 8c. per pound, we should be able to make it pay with prices nearly double. I know from personal experience that poultry will pay, and pay well; but, like every other branch of farming, it requires good stock, suitable buildings, and good

With poultry, as with all other farm stock, it is the well-bred bird which gives the best return for food and care. By well-bred I do not mean those birds which have been bred for show purposes only, where the coloring for feather or leg or the shape of a comb is considered of more importance than a

To the well-read, wide-awake individual there is nothing particularly new to report in this connection. There is, nevertheless, much to be studied and acted upon by the proprietors and makers in many of our creameries before trade requirements from a pure-bred flock with a good utility record, and change him every year. If pure-bred fowls are kept, and they are always to be recommended, it will still be in the interest of the farmer to buy his male birds from a good breeder rather than use those of his own raising. In this case, also, utility should be the first consideration in buying, but close attention should be given to those points of perfection which are required of the standard of the breed. In cases where a double mating is required to proare fully met. Briefly, these requirements are as

The pyramidal 56-pound box is the kind required. It should have just enough slope to make the butter strip readily. Once during the past season we have had inquiries about using a perfectly cubical box, an exporter saying that they were the correct thing for the English market. The opinion was, however, an isolated one, and thus far the pyra-midal box is the box to use. The nailed box may be made cubical, and knocked apart to free the but-ter but does not look as well as the tripe does ter, but does not look as well as the trim dove-

Spruce is the material.—The cover may be held in place by nails, by two or four side clips, or by screws. We prefer the latter as the firmest, neatest, safest method. Nails are not to be thought of by the thorough workman, and clips work loose somewhat easily, and do not hold the lid tightly down. Screws are handy, and do the work properly. The lid should be slightly let into the box. Loose or false covers are valueless, in our opinion, and they cost a cent apiece.

The boxes must, of course, be paraffined. This makes them practically air tight if the work is well done. Buyers of boxes will do well to examine closely into this matter. Before the butter is put

to ensure g An expo writer that if good wei tion buttern chaff as this us during th on the above

Seventee right. But be sold wit not be safe weighed bef in selling sh think that t

HOLSTEIN HEIFER, DAISY TEXAL 2ND.

Winner of 1st prize in the Milking Test for heifers under 36 months, at t Dairy Show, Brantford, 1898. Property of A. & G. Rice, Currie's Cros

dairy farm where butter is made, cream is sold, or a creamery is patronized, is in not a few districts rapidly supplanting the older methods of cream separation by the gravity system and the use of ice. Nor is the new method receiving undue attention and support, when its advantages are fully realized. First and foremost, considerably more cream, of a decidedly better quality, is secured from the milk; second, it is done when the milk is warm from the cow, with very little loss of time; third, the skim milk has not to be carried away from the stable, but can be fed warm to calves or stable, but can be fed warm to calves or pigs, in a condition to do them most good; and, fourth, a tremendous amount of sloppy labor is saved by not having to set the milk, skim it, warm calves milk, etc., which means considerable of woman's drudgery on a farm. Now, at this particular season there are many butter and cream dairymen who are hesitating between getting a separator or putting in a supply of ice and adhering to the gravity plan of creaming the milk, and to assist these in deciding we would ask those of our readers who have used hand on now a separators to write us about

prolific egg yield or good table qualities. I mean those which have been selected and bred for their utility, while keeping as close to the standard as possible. The ordinary farmer need concern himself but little about the exhibition points of a breed; utility is what he requires. A fowl may possess all the most desirable characteristics of a breed and yet he unfit for show purposes. In grad-

breed and yet be unfit for show purposes. In grading up a flock of common fowls select a male bird

from a pure-bred flock with a good utility record, and

In cases where a double mating is required to pro-

duce standard fowls of both sexes, as with the Plymouth Rocks, the farmer should always breed

for pullets, as they are the ones he will want to keep. In this case the cockerels will be very light colored, but they will suit the dressed poultry market as well as if they conformed to the standard.

There is money to be made from poultry if they are only managed properly, and now that this new trade is springing up, it will be a disgrace to us if we do not strive to capture a share of it.

The enterprising little Province of Prince Edward Island has entered the list of fruit chippers, and is

Island has entered the list of fruit shippers, and is bound to capture a share of the apple trade. The returns from some trial shipments have been secured

and have proved very satisfactory. A shipment of seventy-three barrels of several varieties was made

by the Fruit Growers' Association, and was sold in

Liverpool. Alexanders brought 20s. per Weathies, 15s. 6d., and other varieties

Weathies, 15s. 6d., and other varieties not so high. A shipment by Senator Ferguson, to London, realized £19 for thirty-five barrels, or \$2.63 per barrel. AGRICOLA.

DAIRY.

The Use of the Cream Separator.

The use of the cream separator on a dairy farm where butter is made, cream

or power separators to write us about its advantages or disadvantages, not forgetting its first cost and that of running it, and explain their method of running the separator, whether by hand, horse, bull, gasoline or

steam power. It would seem that there is a place for the separator that it has not heretofore filled, and that is on the farms of creamery patrons who have been accustomed to have the whole milk hauled to the butter factory, there separated, and their allow-ance of skimmed milk drawn home for the young stock. Now, if the milk were separated while warm from the cow, the calves would get the warm milk at once, and the expense of hauling the entire bulk of milk to and from the factory would be saved. No doubt the creamery man would reduce his charges for making the butter to the extent of the cost of heating up the milk and running it through the separator. The cream could be taken in double cans, so that hot weather could have no effect upon it while going to the creamery, so that there seems many advantages in having the milk separated at home. Viewing it from the creamery-man's standpoint, he would require to measure each patron's cream and test it with the oil-test churn, the same as is done in cream-gathering creameries. We would like to have the opinions of dairymen upon this subject.

As the result of some experiments, it is concluded that the highest per cents, of fat usually follow the shortest period between milkings. The lowest per cents, of fat usually follow the longest period between milkings. Where the cows are milked at equal intervals the highest per cent, occurs most often at or near the noon hour, and the lowest per cent. about equally often at morning and night, with a much larger number at midnight than at

in, the box must be carefully lined with parchment paper, which should weigh 40 to 60 pounds per ream. From experience we find that the heavier paper gives best satisfaction, and we are now using for this clas 60-pound paper though it costs a little more per box. This paper should be soaked in brine before using, chiefly because brine is, to some extent, a preventive of mold. The opinion expressed to us by one exporter that paper not brine soaked resulted in a wrinkled paper is not in keeping with experiments carried on here, as we find that when soaked in brine paper wrinkled quite as much as when just dipped in

clear water. How to line a box. - Parchment paper is not now cut in proper sizes when it leaves the manufactory, and in consequence there is considerable waste in further cutting for the creamery. We find that the most satisfactory sized sheets for lining a 56 pound box to be:

Two Sheets-24 inches long, $11\frac{1}{2}$ inches at one end and $12\frac{1}{2}$ at the other. Two Sheets-18 inches long, $11\frac{1}{2}$ inches at one end and $12\frac{1}{2}$ at ONE SHEET -13 inches by 13 inches (square,)

The first two are put in on opposite sides, and cover the bottom, two sides, and lap over enough to hold while being filled. The second pair cover the other two sides and lap a little top and bottom. The fifth sheet covers the top, and on this is placed a thin layer of salt paste just thin enough to spread. The first two sheets can be cut from sheets 24 inches square without any waste; the second pair from sheets 18 inches by 24 inches without waste, and the fifth from sheets 13 inches by 52 inches without waste. Boxes lined with paper cut and used after this style present such a smooth, perfectly fitting appearance that a casual observer would not notice that they were lined.

can be learned white tainty by weighing e. occasional fat tests, ver but in many cases a bu how he is to find the ti work as it appears to tation in believing, he which a test can be acc together with the fina result from knowing w

robbers, that a great 1 would never be bred age square their accounts on the butcher's block as soon as fit. There are, however, a large number of our readers who have used and are continuing to use the scrutinizing searchlight of these two instruments, knowing that is the only way to conduct their business with financial success, and it is to these that we appeal at this time to send us letters for publication in the FARMER'S ADVOCATE as to the ssons they have learned and advantages received from their use of the weigh scales and the Babcock test in the dairy herds. It would be well to refer to the sort of scales used in the stable, the time and labor it takes to weigh the milk at each milking, how often the fat tests should be made to get at satisfactory results, the method of conducting the test if done at home, and such other points as will make clear the operation of testing the capacity of individual cows of a herd. By opening up this subject, dairymen will not only do a valuable service to follow furnished by the property but it may lead to discussion that fellow farmers, but it may lead to discussion that will expose many useful lessons from which all can reap an advantage.

JANUARY 2,

The :

In reply Professor W world over thorough, pa am favored v hensive ans Professor He

"Without b my judgment u conducted dairy thirty pounds o I do not affirm something which firmly convince were not hones tests with dairy not analyzed a would be with owners of both test together v correct method of a cow than t two instrument two instrument yielded by a comproduced this for credit. The chitive capacity, be churning, and these losses. A be a merchant not to blame, nowater, casein. water, casein, of through his de-in the butter.

"Of course, be misrepresen and most dire value. A man with the Baboo may both chee

may both check the honest. This target and the Babcock of dairy cattle reliable and in data accumulate

I would Henry says cock test the of testing t there is no made under advantage same of thos no limit to famous Wo ter records upwards we unable to n fat, in the World's Fai a great light making the were not alt rank foolish such fabulo the public n records are they are no know all th a practical indefinite q

As I hav I may as we churn test of "gull" the to know fr butter reco through the Taking, account of

perature, t

reach that The butter about the enthusiasti breaking w Henry aptl (of course cream, and it; then i broken, 46 thick, and "dry" as s our invest 33 per cen same). starting th As our fut pends upo possible, w and as the cold water massing, a lar state, moisture is though th butter-fat made up b granules. and pour butter: b hours and ing I am

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The Babcock versus the Churn.

BY GEORGE RICE.

In reply to a series of questions submitted to Professor W. A. Henry, who is known the wideworld over as a "safe" man to follow, being a thorough, painstaking and reliable investigator, I am favored with the following clear and comprehensive answers, which explain themselves. Professor Henry says:

Professor Henry says:

"Without being able to prove my statement, but basing my judgment upon the results of the most carefully and fairly conducted dairy tests, I believe that most of the records showing thirty pounds or more of butter in seven days are unreliable. I do not affirm that the parties did not get thirty pounds of something which they called butter for seven days, but I am firmly convinced that a large part of these so-called records were not honest, merchantable butter. I believe that private tests with dairy cows and those where the milk and butter are not analyzed are no more reliable than private trotting tests would be with horses, for human nature is the same in the owners of both these animals. I believe that the Babcock test together with the scales combined give us a far more correct method of estimating the butter-productive capacity of a cow than the churn itself. This is true because with these two instruments we can determine the total quantity of fat yielded by a cow in a given time, and when the cow has produced this fat she has done her part and is entited to full credit. The churn is not a measure of a cow's butter-productive capacity, because fat may be lost both in separation and churning, and the cow can not be held accountable for either of these losses. Again, unless the butter is analyzed it may not be a merchantable product, for which fault again the cow is not to blame, nor, on the other hand, should she have credit for water, casein, extra salt, or all of these, which the worker, through his desire for a larger production, may leave in excess in the butter.

"Of course, the Babcock test can be wrongly used, or it can

through his desire for a larger production, may leave in excess in the butter.

"Of course, the Babcock test can be wrongly used, or it can be misrepresented, but with the scales it forms the simplest and most direct combination for measuring a cow's butter value. A man who will cheat with the churn will also cheat with the Babcock test, but the skimming device and the churn may both cheat the cow when the man or committee are honest. This the Babcock test will not do.

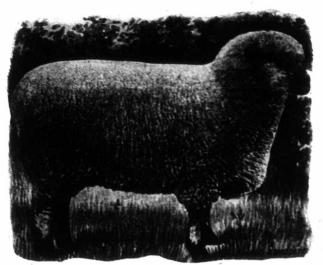
"By means of properly conducted official tests and the use of the Babcock test the representatives of our various breeds of dairy cattle are in a position to establish records which are reliable and in time will become immensely valuable as the data accumulates and the effects of breeding and selection are realized."

I would direct special attention to what Prof. Henry says as to the value butter records will have in time to come. Before the invention of the Bab-cock test the churn was the only practical method of testing the butter capacity of the cows. And there is no doubt that the earliest records were made under such conditions as to really be a disadvantage to the cow. But we cannot say the same of those of a later date. In fact, there seemed no limit to the advance of the cows up to the famous World's Fair test, when cows that had butter records made by the churn of 30 pounds and upwards were under the most favorable conditions unable to make 20 pounds of butter, 80 per cent. fat, in the same period of seven days. If the World's Fair test did no more good than to "throw a great light" upon the methods being pursued in making these so-called butter records, these tests were not altogether in vain, and it does seem to me rank foolishness in anyone trying again to impose such fabulous records upon the public. Although the public may not know exactly how these churn records are made, still they know well enough that they are not correct. Although I do not pretent to know all the different methods used, I do know, as a practical buttermaker, that butter may be a very indefinite quantity.

As I have experimented a little along this line, As I have experimented a little along this life, I may as well give the result. I never have made a churn test of any single cow. I have not desired to "gull" the public, and by the same token I have no intention of being "gulled." With, then, a desire to know from my own personal knowledge how butter records are made, I will ask you to follow me

through the operation. Taking, then, a quantity of rich cream, which on account of its richness we can churn at a low temperature, the cream being properly ripened and ready for churning, we churn this cream until we reach that point where we would say it is "broke." The butter has not gathered yet. The stuff has about the consistency of porridge. I fancy the enthusiastic maker, with an eye on doing some recordbreaking work, looks at this mass of stuff which Prof. Henry aptly says is something they called butter (of course it is). Reason along this line: it is not cream, and there is no buttermilk that will run from it; then it must be butter, and so the record is broken, 46 lbs. butter (?) in 7 days. It is cold and thick, and if chilled in this state would be about as "dry" as snow. But when I eat porridge I don't want this butter as a substitute. So we will pursue our investigation further (as the cream contained 33 per cent. fat, this "butter" would contain the same). Now, with the butter "broke," before starting the churn we will add some cold water. As our future work, and, in fact, all this work, depends upon churning at as low a temperature as possible, we add the water and churn a little while, and as the gathering goes on keep on adding more cold water. The idea is to keep the butter from massing, and when the butter is in the fine granular state, stop the churn, as it is well-known the moisture is contained inside these granules; and although this practice may really cause a loss of butter-fat in the buttermilk, yet it is more than made up by the buttermilk encased in these butter granules. We may then draw off the buttermilk granues. We may then draw on the buttermilk and pour on cold or ice water to harden up the butter: butter in that state may be drained for hours and will look dry as wheat. In this churning I am referring to, I don't think anyone not a practical buttermaker would have any suspicion that there was any extre moisture in this butter. that there was any extra moisture in this butter. Here, then, I have 181 lbs. of dry, well drained unsalted butter: if, then, the intention is to make a large butter record of salted butter, we must further

chill this butter before adding the salt to harden up the butter granules, as they incase the moisture. But in order to know just how much butter and how much moisture there is in the churn-I salted in the churn and let it stand awhile to warm up and dissolve the salt. The butter will now mass, the butter granules are broken up, and from this 18½ pounds of dry, unsatted butter I actually put up 11 pounds of butter, and had 7½ pounds of water and buttermilk. It would make all the difference in the world whether we quoted a butter record of 18½ pounds or 11 pounds; or with double the quantity, 37 pounds made one way or 22 pounds of butter made another way. One may not always get such a big lot of mois-ture incorporated. But I have an idea that with experience one could do something "handsome" in the way of making butter records just from simply having rich cream and keeping the right temperature through the whole process. It will be seen



SHROPSHIRE YEARLING EWE, CAMPBELL'S 757. Winner of first prize at the Provincial Fat Stock Show, Brantford, Ont.

from this what an indefinite quantity butter is. I think we should not be too severe upon the butter records of earlier times, because there was no other method of making records than by the churn. The deception was, however, carried to such length that in the light of the present we cannot put much value upon some of these so-called butter records. This is unfortunate, as such must appear in our pedigrees of stock, and as most of these cows are now dead, we have no other means of getting at their true worth. No doubt most of these cows were great cows, but just how much credit (or discredit) to give to the maker of the great records and how much to the cow will never be known, because we have no means of knowing how much butter-fat was in this so-called butter, and being of such an indefinite quantity, containing anywhere from 40 per cent. butter-fat and upwards, such records form no basis for comparison.

But now, with the farce ended and the curtain rung down, what must we think of those who



PRIZEWINNING LINCOLN YEARLING EWE. Owned by Gibson & Walker, Denfield, Ont.

would continue the game. The Babcock test has the confidence of everyone whose opinion is worth anything. It is simple and easy to operate, whilst to churn the product of each cow separately in-volves a good deal of time and labor. And nobody is going to this extra trouble unless they expect to make a corresponding gain. Therefore it is plain a churn test is made with the purpose of deception, and such tests, great or small, are unworthy of notice. And I do think it is an insult to the intelligence of its readers for a paper to print them. To make such test is losing to the breed valuable time, as such tests are already discredited, which time and further knowledge will only intensify.

Rank Creamery, Chilliwack, B. C.

n Dans	dreamery, Chillinack, D	
	THLY REPORT - NOVEMBER, 1898.	
Quantity	of milk received	
during.	cream 4,505 lbs.	
**	butter-fat obtained 4,343 lbs.	
**	butter made 4,982 lbs.	

Net price realized by sales after deducting commissions, freight, and a making charge of 3 cents per pound, 23.60c, per pound.

J. H. SUART, Secretary.

POULTRY.

The Demand for Poultry.

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

Though with regard to all animals that multiply rapidly, such as sheep, swine, and fowl, we may often have a glut of the market locally, it is undoubtedly true that the demand for poultry has come to stay. There are two main causes operating to produce this condition. The first is that a foreign demand has been growing and is now pretty well established. Coincident with this, and indeed one of its causes, is the improved facility for transportation so effectively aided by government effort. The losses customarily met with in handling these delicate meats have been practically done away with. A second and more universal cause, as it applies to both home and foreign consumption, is the change in public taste. An consumption, is the change in public taste. An unfailing feature of the progress of civilization and the tendency to aggregation of population in towns is the liking for delicate foods. Two-year-old beef has taken the place of four-year-old; lamb is supplanting mutton; the hothouse lamb is becoming more and more popular; while pork must not only be young, but likewise lean and streaky, such as is produced from mixed foods: swine must not live on corn alone. The reason of this change is not a matter of whim or fashion, but is founded on the changing physical character of man. The progress of invention, and the resulting changes from manual to machine production, involves le heavy labor, and consequently less heavy food. The appetite is not so strong, and requires pampering with more delicate foods, and with a greater variety of them. From this point of view, the demand is likely to be constant, and there will be a rising movement in supply to meet it.

The increase in demand affects not only the supply, but the character of the supply. In an industry that is producing a commodity the demand for which is rising and becoming general, there is at the beginning a profit for all grades of it. The invariable effect of good demand, however—in the result the general are represented for overdemand. other words, the economic remedy for over-demand—is over-supply. The pioneers reap a profit, but when production has become general—i. e., when a commodity has become a staple—then the margin on it narrows almost to the vanishing point. Popularly expressed, there is slight profit in producing what expressed, these is producing. The ones first to what everybody else is producing. The ones first to suffer in such conditions are those producing the lower and inferior grades. There is profit still in the business, but it goes to the higher grades. This applies not to poultry alone, but to every other industry as well. The principal lessons to be learned from this economic truth are: For those already established, improve the quality; and to

those beginning, begin right. Canada stands high as a meat-producing country. Her invigorating climate and succulent vegetation give the appetite and means of satisfying it, so necessary to rapid growth and the much-desired early maturity. Her mutton, beef, and bacon stand well in both United States and British markets. The Government has not only aided in promoting the right kind of storage, but has done much to educate by example in properly fitting fowl for market so as to secure the best appearance and greatest possible uniformity in sample. All that is wanting is the application of the skill of the breeder and feeder to have Canada lead rather than follow in this industry, and so prevent the best of it falling into other hands.

Business Principles in the Care of Poultry.

Adherence to business principles is as important in poultrykeeping as in the conduct of a mercantile enterprise if a profit is to be secured. A flock of winter layers should be down to business, every hen of them, by this time, if they were wisely chosen, properly prepared during the fall for their work, and are receiving the right care in suitable quarters. The profit must come from the excess of which latter quarters. The pront must come from the excess of receipts for eggs over cost of food, which latter must necessarily be liberal. The pullet that has not yet commenced to lay or the hen that has ceased will keep on eating and should be fattened and sent to market. By so doing she will no longer eat the food of idleness, but bring value for her meat; and not only that, but her space will be turned to good account in allowing the remainder of the flock better accommodation. The poultry business is one of detail, and to succeed one must give con-stant wise attention. The little leaks take off the profit, and non-attention to details leak many a beginner to abandon poultrykeeping, believing there is no money in it. Cockerels not to be re-tained as breeders should have been well fattened and disposed of before this date; but if any still remain, they should be rather closely and comfortably quartered, and rushed to a plump condition and sold or eaten.

In the experience of wide-awake poultrykeepers, small flocks lay better than larger, from 25 to 30 hens being considered enough, and these should have a house having 12x15 feet of ground space, besides a roomy run. Even less than this number together will return a greater profit under ordinary conditions, as a higher percentage of eggs will likely be produced. Cut roots, clover, green bone and fresh meat scraps are known to be cheaper and give better results in eggs produced than an entire grain diet. This food should be prepared into

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palatable, digestible form, and given in such quanties as to fill the crop comfortably full. All whole grain should be given late in the afternoon amongst litter, so that the birds will be induced to take exercise and retire to their roosts with full crops and with blood in good circulation. The chances are, if the house is comfortably warm, so that the are, if the nouse is comfortably warm, so that the nourishment taken is not drawn heavily upon to keep up animal heat, the healthy young hens will pay their day's expense each morning with a nutritious, nicely-flavored egg.

Comparative Merits of Cross-bred Fowls.

THE ENGLISH AND CANADIAN FARMER — DO WE REQUIRE CROSSES? — SOME CROSSES AND THEIR CHARACTERISTICS.

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

So much has recently been said about the English farmer, of the crosses sold by him and which are in such demand for fattening purposes in England, that it may be useful to our farmers to give the subject some attention. First, it must be borne in mind that the English and Canadian farmer are in entirely different positions. The difference is in this way:

1-THE ENGLISH FARMER. The English farmer rears chickens to sell to the higgler, or fattener, at a handsome margin of profit. He sells alike pullets and cockerels when three or four months of age. With him egg production is of no moment. The higgler, or fattener, calls upon him for the chickens, which after fattening he (the higgler) sells to the residence in the city world. him for the chickens, which after fattening he (the higgler) sells to the poulterer in the city market. The rearing of the chickens by the farmer and fattening of them by the higglers are two distinct occupations. Reviewing the latest English work on "Poultry Keeping" by the well-known expert, Edward Brown, F. L. S., the editor of Farm Poultry, of Boston, A. F. Hunter, says: "We cannot fail to notice the absence of egg production from the table of contents. This however is less from the table of contents. This, however, is less surprising in an English book, because in that country the production of poultry for the table country the production of poultry for the table overshadows every other poultry question, not-withstanding the fact that several millions of pounds worth of eggs are imported into that country every year. We can understand, then, why certain crosses which make heavy weight, but are not good egg producers, should receive first consideration in England.

2-THE CANADIAN FARMER.

Our Canadian farmer has not the same large demand upon him for chickens to fatten for a near-by limitless market. The rearing of a superior quality of poultry has been with him a comparatively undeveloped department. He has had little encouragement to breed the superior article, for sometimes his customers have been more chary of price than quality. If he has taken up poultry culture it has been with an eye to a winter market culture it has been with an eye to a winter market of high prices. He finds a rapidly changing condition of affairs. Railway car, steamboat and cold storage en route have brought him near the great London, Eng., market. He finds not only an increasing call for the superior article in poultry, but also in eggs. He looks about to see if he can supply the dual demand from the same source, and he finds that the acclimatized Plymouth Rocks or finds that the acclimatized Plymouth Rocks or Wyandottes will give him both the eggs in winter for home use (if he so desires) and the quality and quantity of flesh desired for export. He does not sell his pullets, for he desires them for early layers or to replace old stock. He requires no crosses, for he finds that few, if any, are as rapid producers of a superior quality of flesh, and certainly none are any better layers than the breeds named. He is really in a position to respond to the demands of any market. As far as his English co-worker is concerned, he is more favorably situated for poultry raising, for climatic conditions are far more favorable and grain foods are cheaper.

CERTAIN CROSSES AND THEIR CHARACTERISTICS.

So much for the relative positions of the English and Canadian farmer. Now to see what certain crosses of thoroughbreds have come to. During the past few years a number of crosses have been made at our Experimental Farm poultry department, and the characterists of the most serviceable are as follows:

INDIAN GAME - LIGHT BRAHMA. -- Hens of this cross turned out large in body, compact in shape, and taking after the game type. Color of feather, light brown. Average layers of eggs of medium size and light in colour. A cockerel hatched on 2nd of June weighed on 6th of December following, six

months and two days, 5 lbs. 11 ozs.

INDIAN GAME - LANGSHAN.—The pullets of this cross were of Indian Game shape, tightly feathered, and as black as crows in color. They made average and as black as crows in color. layers. Cockerels did not do well.

INDIAN GAME - COLORED DORKING.—This cross made very fine, heavy pullets, tightly feathered, and showing Indian Game shape. Average layers of eggs rather long in shape and light in color. A cockerel hatched on the 2nd of June weighed on the 26th of December following 5 lbs. 4 ozs. A pullet hatched on same day and weighed at same time made 5 lbs. 4 ozs.

made a 10s, 4 ozs,
WHITE INDIAN GAME AND WHITE JAVA.—
Pullets pure white and Indian Game in shape. The
cross was only made last May and the pullets have
not yet begun to lay. A cockerel hatched on 16th
of May weighed on 6th of December 6 lbs, 6 ozs. A second cockerel of same age weighed at same time 5 lbs, 13 ozs. For five weeks preyjous to killing the

birds were penned up and fattened, but not crammed.

PLYMOUTH ROCK - COLORED DORKING. - This was the most successful cross of any made. The hens made excellent layers and were of large size. Egg of medium size. The hens had the plumage of the Rock, many the shape of the Dorking, with the fifth toe of the latter. Unfortunately, there was only one cockerel, but he made famous development. Hatched on 15th of April, it weighed on 20th of June following 2 lbs 2 ogs; on 15th of July 20th of June following 2 lbs. 2 ozs.; on 15th of July, 3 lbs. $7\frac{1}{2}$ ozs.; on 15th of August, 5 lbs. 5 ozs., showing a gain of nearly $5\frac{1}{2}$ lbs. in four months and

two days, which is far above the development of the average market chicken.

Other crosses of White Plymouth Rock - White Leghorn, White Leghorn - Light Brahma, Langshan - Black Minorca, Houdan - Light Brahma, and Wyendotte - Andelysian made excellent layers but Wyandotte - Andalusian made excellent layers, but the cockerels were not equal to thoroughbreds as market fowls.

WHAT RECENT EXPERIMENTS HAVE SHOWN.

The experience of many years as amateur and professional has proved to the writer that Plymouth Rocks and Wyandottes will make, if of robust parentage and properly cared for from hatching, an average weight development equal to one pound per month up to four months and more afterwards. Recent results from the fattening pen experiments go to prove that while all the fowls, barnyard fowls and scrubs included, were made heavier and better by being fattened, that none made as much weight or more inviting market chickens than the pure-bred Rocks, or in the cross of which the Plymouth Rock largely entered.

WHAT A FARMER DID.

The proof of the pudding is the eating of it. I will not give the following birds to be eaten, but I give the weights to show what a farmer can do when he likes. About the 5th of November last I purphysed from Leonb Gourlan of Huntley (2007) purchased from Joseph Gourlay, of Huntley (near here), four Barred Plymouth Rock cockerels. came by express. A few days afterwards they were weighed, with the following results: No. 1, 7 lbs. 14 ozs.; No. 2, 7 lbs. 14 ozs.; No. 3, 7 lbs. 7 ozs.; No. 4, 6 lbs. 15½ ozs. If you ask Mr. Gourlay, by word of worth or letter by will tell you that the word of mouth or letter, he will tell you that the first he heard about Plymouth Rocks was at an Institute meeting three or four years ago at which I had the honor of speaking.

A Successful Shipment of Fattened Chickens---\$1.76 per Pair.

Returns have been received at the Department of Agriculture, Ottawa, from one of the trial ship-ments of fattened chickens which the Minist r of Agriculture had directed to be sent to Alderman James Ruddin, of Liverpool. These chickens were sent from the fattening station arranged for by the Dominion Department of Agriculture at Carleton Place, where they were fed by the family of Mr. Joseph Yuill. They were sent in cold storage by the SS. Vancouver from St. John to Liverpoot. They met a ready sale in Liverpool at 16 cents per pound, wholesale. The chickens were sent plucked, but not drawn, and weighed an average of five and one-half pounds each. The wholesale price, therefore, was equal to \$1.76 per pair. The following extracts from a letter from the consignee show that the chickens were landed in first-class condition, and that a large trade may be developed: "I was agreeably surprised at the all-round excellence of your small experimental shipment of Canadian capons. On opening the cases the birds were found to be in beautiful condition, and presented a most to be in beautiful condition, and presented a most salable appearance. After the birds were uncased I hung one, to find how long it would retain its bright appearance, and found that it became milky white in color as soon as the bird had dried out of the chilled state. To-day, five days later, it is as nice looking as a fresh killed bird. I think the price obtained will both please and pay you. It is a fair market price, and on a par with the present rates for Surrey chickens. For small weekly arrivals, I venture to think the price could be maintained, but anticipate that large consignments would bring the figure down to seven pence (14 cents) per pound." The chickens, when put up to fatten, were worth about 50 cents per pair. The food consumed per pair during the fattening cost 31 cents, making a total cost of 81 cents per pair, without allowing anything for the labor of attending them. The packing-cases cost at the rate of 3 cents per pair, and the transportation and selling charges would cost, in the usual course of business for such chickens, not more than 22 cents per pair a total of \$1.06, leaving 70 cents per pair for the labor and profit.

ROBERT TOMLINSON, Oak Lake, Man .: - "I think the Advocate a splendid paper for farmers.

William Macklin, Glenora, Man.:—" I think a great deal of the ADVOCATE. It has helped me many a time.

Geo. Hill, Saltcoates, Assa., Dec. 17th, 1898:-"I consider the FARMER'S ADVOCATE to be an Al farmer's paper, the best that I have come in contact with during my ten years' residence in this country.

R. P. Barber, Ogden, Iowa, U. S. A.: -"While on a visit to Saskatoon last summer about the first thing I saw was the Farmer's Advocate, which looked quite familiar to me. Upon inquiry, I found it held a very estimable position in the farmer's library, and all spoke in its praise. As for myself, it is the best paper I am taking."

GARDEN AND ORCHARD.

Plant Breeding.

INDIVIDUAL VARIATION AS A FACTOR IN THE IM-PROVEMENT OF THE VARIETY.

BY JOHN CRAIG, PROFESSOR OF HORTICULTURE, IOWA AGRICULTURAL COLLEGE, AMES, IOWA.

In the title of this paper there are two terms, individual and variety, whose meaning we had better discuss before proceeding further. My readers probably have their own definitions in mind, but as a cover for subsequent statements it may be wise at this point for me to state your views. wise at this point for me to state my views. A variety in horticulture is that which is sufficiently distinct from its neighbors to be generally recognizable. Of course, there are those nurserymen, for instance, who can see characteristics in a certain type (sufficient to put it on the market, at any rate) that are perfectly obscure to their brother any rate) that are perfectly obscure to their brother nurserymen. The eminent botani is, the late Asa Gray, is quoted by Prof. Bailey as saying that "a species was a judgment," meaning that the value of the characters which separated it from its nearest of kin depended largely upon the judgment of the man who separated it and described it.

What about the individual? The sense in which use this term is arbitrary and artificial, and by it I mean to designate a single bud, a collection of buds on a branch, or an entire tree. Little argument is needed to demonstrate that in reality each ment is needed to demonstrate that in reality each tree or shrub is made up of a collection of individuals which we call buds. A little scrutiny will reveal the fact that each bud differs in greater or minor degree from every other bud on the tree, and we know that we can reproduce the kind by transplanting one small bud. This fact alone establishes its individuality. The bud, then, is the unit of the tree, and the tree the composite unit of the variety. That no two trees are exactly alike non-two lands meaning any angles. alike, nor two buds precise counterparts, only proves the fact of infinite variation in nature. preservation of favorable individual differences and variations, and the distinction of those which are injurious, I have called Natural Selection, or the Survival of the Fittest." This philosophy of Darwin is founded on the workings of nature, but its principles may be applied with equal aptitude to the operations of the horticulturist. Nature selects those types best fitted to wage a successful warfare in the struggle for existence-saves those varieties, without respect to the demands of trade, that are able to perpetuate their kind. This very struggle to life in itself a prolific cause of variation. We for life is in itself a prolific cause of variation. We have said that a tree was a collection of individual buds. Is there not a struggle between the buds of a twig, between the twigs of a branch, between the branches of a tree, and between the trees in a nursery row? If all the buds, all the twigs, all the branches, and all the trees lived even for a generation of plant life, would not the earth indeed be clothed! But we know they do not all live. Some die outright, some struggle along, and others, by reason of a more favorable environment and more abundant food supply, attain the ascendancy and become strong. Here, then, is infinite variation. May the fruit-grower not take advantage of this variation in his work of multiplying individuals and varieties.

There are various degrees of this variation. When a bud varies sufficiently from its fellows and ossesses desirable characteristics it is termed a sport," and is perpetuated by the horticulturist. But how many of the smaller, though possibly equally useful, variations are entirely overlooked and consequently lost. In our present-day pomology we have many valuable illustrations of this power of plants to produce bud variations. If we were to draw upon ornamental shrubs and flowering plants for examples of this kind, the list would In pomology your minds e almost indefinite. have already recalled the oft-cited and classic example of the smooth-skinned nectarine appearing as a sport upon a branch of the downy-cheeked peach. An interesting sport of Mt. Rose peach is reported by Prof. Powell, of Delaware, as occurring in the orchard of P. L. Cannon, of Bridgeville, Del. The fruit produced by this sport, which first appeared as a single branch on a Mt. Rose tree, but has since been propagated, ripens a week to ten days earlier than the parent stem, and is otherwise equally desirable.

In plums and cherries notable examples of bud variation are to be found, such as the case recorded by Thomas Andrew Knight, of a yellow Magnum Bonum plum tree producing red fruit on one of its branches. There is considerable hypothetical evidence to support the belief that Golden Queen raspberry is but a sport from Cuthbert.

In Europe the early English cherry has given several bud varieties, which have been propagated and which retain their individuality. An interesting account of one of these has been given by the noted French horticulturist Carriére, which I quote from Bailey's "Plant Breeding." The name of the sport is the willow-leaved English cherry, and this is its history: "Upon a young tree whose parts are normal we see sometimes, suddenly and without apparent cause, a vigorous bud develop, which bud, instead of producing leaves of the ordinary form, bears those which are The remarkable thing very long and narrow," about this sport is that when grafted it still continues to vary. "So long as it preserves its exceptional characters the plant does not flourish, but as it constantly tends to lose them we observe that

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JANUARY 2, 189

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when the leaves have almost returned to the normal form the trees flourish and bear. However, the variety never resumes identically the type from which it came, but always preserves a distinct aspect." There is a suggestion here that violent sports, like violent crosses, may give mulish off-

In grapes already one or two varieties have crept into our lists which have originated as sports. A notable example is the Pierce, a sport of Isabella, originating in California a few years ago.

Some of us may remember seeing at the World's Fair in 1833 a sport of Gravenstein, exhibited by Mr. C. E. Banks, of Waterville, Nova Scotia. This originated as far back as 1878, appearing as a branch on a Gravenstein tree. Curiously, since that time other sports have appeared, varying somewhat from the Banks type. So much for bud variation as a means of improving the variety. It is a hit-or-miss method and unscientific, but let us seize hold of every advantage offered by science and nature to improve our fruits.

I have spoken of variation exhibited by the individual bud. Let us examine the individual plant or collection of buds and see if we cannot find variaconection of buds and see if we cannot find variation here also. How many of us watch our trees closely enough to observe those which year after year produce finer fruits than their fellows? Who of us who exhibit at the State fairs and county fairs have not contracted the habit of looking each year on certain trees in the old family orchard for our hoped-for prize specimens, and is there not great difference in the character of the product of the different individuals, and may not these differ-ences be preserved? Philosophy and experience say yes. Let us make better use of their teaching.

On the Island of Montreal, the probable home of the Fameuse, and where it is extensively cultivated, a well defined race of this class of apples has become established. Some of these came from seed and some from bud and individual variation. We now have Fameuse Noir, Fameuse Sucré as probable bud varieties, and McIntosh Red, Brockville Beauty and Princess Louise as seed variations. All these have appeared by chance. A few years ago Mr. E. B. Edwards, Peterboro, Ont., the owner of an orchard of Blenheim Orange apple, sent me some specimens which were slightly smaller than the type and kept six weeks to two months later in the The tree which bore these apples was similar to the others, but each year bore the winter type of apple. Here was something valuable, and I understand it has since been propagated. These are instances of striking variation; they have been perpetuated. How many of the minor ones have

passed unnoticed.

We have seen that these desirable forms may be preserved by propagation. Let us look at the converse and ask if in the hasty and indiscriminate propagation of a new variety we do not often multiply the poorer types or individuals as well as the more desirable. A new variety comes to us as the result of a bud variation, or a cross between as the result of a bud variation, or a cross between two other varieties. It has in it the inherent tendency to vary. This inclination is favored by varying soil and climatic condition prevailing in the different localities to which the new addition to our pomology is transplanted. These various in-dividuals are industricular discriminated, and then dividuals are industriously discriminated, and then dividuals are industriously discriminated, and then comes the reports of failure and disappointment from some quarters and of success in others. A striking example of this is quoted by Professor Powell, relative to the introduction of the Fay currant—an expensive variety—12 or 13 years ago. He says: "In the haste for a large number of plants the new wood was cut from a few of the 25 original backers every fall. When more bushes were established every fall. bushes every fall. When more bushes were estab-lished they were divided into cuttings as fast as new wood was made. Little attention was paid to the bearing capacity of the bushes in the second generation, from which the cuttings were taken because the original 25 were exceptionally heavy bearers. The result at the present time is 12,000 Fays, some of which are tremendous bearers, others light bearers, while others produce no fruit at all. In this case no reference was paid to the bearing habits of the bushes, while the severe cutting back annually tended in itself to produce wood-bearing habits rather than fruit-bearing characteristics. Does not the nurseryman look too often for clean, smooth scions without reference to the habit and characteristics of the parent stock, instead of first selecting the ideal type and propagating therefrom.

I fear these niceties have not been practised in plant-breeding to any extent thus far, and we may truthfully say so much the worse for the result of plant-breeding. So to horticulturists let me say that while grand, good work has and is being done in plant-breeding work, that for diversity and steadfastness of purpose is equal to, if not superior to, that of any other country of the world, it does seem to me that we might give closer attention to some of those minor variations which have in them great potentialities towards the improvement of the variety and the final upbuilding of a pomology adapted to the conditions of this country.

W. U. Wade, Ninga, Man .: - "I like the paper very much. I think every farmer should take a November 28th, '98.

W. A. Scott, Emerson, Man,:-"I would not be without the ADVOCATE for twice the cost. The information is so valuable."

WILLIAM BRYDON, Gladstone, Man .: "Yours is the most advanced agricultural paper I have seen this side the Atlantic." December 20th, '98.

APIARY.

Ontario Beekeepers' Association Annual Meeting.

The nineteenth annual convention of the Ontario Beekeepers' Association was held in the City Hall, Guelph, on December 6th, 7th and 8th, with a representative attendance from different parts of the

The president, Mr. M. B. Holmes, of Athens, stated in his opening address that the present prices of honey, with a slightly downward tendency incident to the harvesting of a good crop, would have a discouraging effect upon some of the beekeepers of this Province. He urged the members present not to loose heart in their work. Pointing as an example to the dairying industry in the Province, he said that the dairymen had not given up hope with the declining price of cheese, but by marked changes and improvements in the systems of feeding and by doubling the number of dairy cattle kept, and by doubling the number of darry cattle keps, they easily counterbalanced the decline in prices. They had done more; for, with cheese and butter at a price more favorable to the poorer classes, a very much larger quantity was used. He therefore urged the Ontario beekeepers to increase their present colonies with the best bees that money could buy, sparing no pains or expense to improve and make the most of the bee-pasturage in the vari-

ous localities, thus keeping up-to-date.

The discussion which followed was much in the lines of the president's address. It was pointed out by more than one of the members that the number of people who keep a small number of colonies is largely on the decrease, and that beekeeping in future will be more in the hands of large producers,

who follow it for profit only.

Spring Management.—In a paper based entirely on personal experiment, Mr. H. G. Sibbald, of Cooksville, discussed the spring management of bees. If set in the cellar to winter, he found it more advisable to set them out about the middle of



YORKSHIRE SOW.

Winner of first prize: Toronto Industrial, Western Fair (London), and Provincial Winter Show (Brantford), 1898, as under 9 mths. Owned by J. E. Brethour, Burford, Ont.

March, and not a month later, as was formerly thought right. Better results follow earlier settingout, with the exception of a few colonies that may not have supplies to last until the middle of April. Each hive when taken out should be placed on the same stand which it occupied during the previous season; bees remember the old stand. Besides, it prevents the mixing up of colonies, queen balling, general disorder and loss. All these things Mr. Sibbald learned from the closest observation. Before taken out of the cellar each colony should be thoroughly examined. If the bees are found clustering at the bottom clean and dry, that hive is all right and is marked for removal. If on examination a hive is found unusually light it is marked for special care. On the outside stand, after placing the entrance blocks and the sun caps, leave the bees for a month, until the young bees are hatching nicely and the pollen coming in freely; then have general examination into the condition of each hive. If the bees do not cover the combs take one or two out, taking care to keep the brood in the center and a well-filled comb of honey on each side. During the willow bloom additional combs ought to be placed just inside the comb containing the honey and outside the brood nest. During the earlier part of the fruit bloom is the right time to clip a ueen, because at that time there are fewer bees in

This subject led to the discussion as to when was the right time to remove out-cases from hives

wintered out of doors. The consensus of opinion seemed to be about the 24th of May.

Summer Management.—This topic brought forth a capital paper from Mr. W. J. Brown, of Chard, the newly-elected president. He said he had in his private sight Langstroth hims. apiary eight Langstroth hives, but the majority were ten-framed Gallop, which kind he preferred because in the spring they gave a very large first swarm, the only swarm he had any use for. Summer management required all-year care. For autumn he recommended plenty of stores of honey; for winter a proper repository, perfectly dark and quiet, with temperature ranging from 40° to 50° above. In spring each colony must have a queen and enough stores to carry them through until the honey flow begins. When uncovered or taken out

from winter quarters the hives should be placed in rom winter quarters the lives should be placed in rows 20 inches apart, facing south. At the commencement of the honey season, when the combs begin to show signs of honey, extracting supers should be placed in, and when the combs are about two-thirds sealed commence to extract. At the close of the honey season remove the supers and set them, after extraction, about 50 yards away from the hives to allow the bees to go through and clean them up for the next season.

The question as to which bees are the most sub-

ject to spring dwindling, those wintered in the cellar or those wintered outdoors, brought out the fact that bees kept in an improper or damp cellar, and those not properly packed for winter, are subject to spring dwindling. It was also pretty well decided by everyone that forest leaves are the best for outdoor packing.

Rational Methods of Extracting Wax.—This

subject was ably handled by Mr. F. A. Gemmell, of Stratford, who said that no matter by what process old combs were rendered into wax, it was almost impossible to get all the wax contained in the comb unless pressure was used to force the wax from the cocoons left behind after all the wax had apparently been secured in the usual way.

Honey for Market.—In a paper which was considered by many of the members the most important read at the meeting, Mr. R.F. Holtermann, of Brantread at the meeting, Mr. R.F. Holtermann, of Brantford, set forth numerous hints on the producing and preparing of honey for marke, and the relative prices. Starting with the supers, a beginner should ask himself if he shall produce comb or extracted honey. Not counting the cost of the supers, which can be used from year to year, a hundred pounds of extracted honey can be sold without disposing of any of the aniginal supplies. In one hundred extracted honey can be sold without disposing of any of the apiarian supplies. In one hundred pounds of comb honey, however, the seller has to give with the honey 120 sections, at a cost of about 50 cents; enough thin super foundation to fill 120 sections, 73 cents; ten comb honey crates, \$1.00; a total of \$2.23, or about 2½ cents per section. First-class comb honey is at present selling all the way from \$1.00 per dozen sections to \$2.50, or running from \$1 to 21 cents per section. Deducting 2½ cents from that, it leaves from 6½ to 18½ cents per section. First-class extracted honey sells at from 6 to 15 First-class extracted honey sells at from 6 to 15 cents per pound. Many claim that 70 pounds of comb honey are equal to 100 pounds of extracted honey. Using these figures, then, and considering the extra precautions with comb honey, Mr. Holtermann concluded that with the present market different mann concluded that with the present market difference it does not pay to produce comb honey. In producing comb honey for market it is desirable to keep colonies strong; to know when the supers should go on and when they should come off. The bringing of inferior honey from the brood chamber into the super and the storing of early-gathered honey can be avoided by shifting and uncapping honey, thus compelling the bees in strong colonies to convert dark honey into brood. The very same rules apply to honey for extraction. But it may be added that to watch the extracting supers at the opening of the season would result in much less inferior honey being put upon the market. It is mann concluded that with the present market differinferior honey being put upon the market. It is better to extract a little early honey than to have a lot of well-ripened dark honey. Even during mixed and unfavorable seasons a fairly good article can be secured by holding each extracting comb up to the light as it is taken in hand and at first extraction uncap only such combs as show light color through the capping. The practice of exposing a large surface of honey in so-called ripening cans, large surface of honey in so-called ripening cans, placed in an ordinary temperature, is in ninety-nine cases out of a hundred entirely wrong, because the honey becomes thicker rather than thinner. In conclusion, Mr. Holtermann said the beekeepers must put their produce in the most acceptable and reliable shape for market. The demand for small packages should be discouraged, and comb honey not well attached to the wood should be sold at home.

well attached to the wood should be sold at home. The discussion on honey for market brought out many and varied arguments. After this paper, as well as at other times during the session, the question of finding a European market for honey was discussed, and it was pointed out that there should be an aim at a higher standard of perfection in the article. Such an aim would also have a wonderful

On motion, it was unanimously decided by the Association to co-operate with the Dominion Govment to endeaver, if possible, to make exhibits of honey at Earlscourt, London, in 1899, and at Paris

W. A. McEvoy, Inspector of Apiaries, conveyed to the Association the gratifying news that foul brood is on the decrease. More rational methods of Handling this disease were not discussed. Hon. John Dryden and Hon. Sydney Fisher, who

were present for a short time during the meeting, advised the Association that all honey shipped to European markets should be labelled "Canada."

European markets should be labelled "Canada."

Officers Elected.—The election of officers resulted as follows: President, W. J. Brown, Chard; 1st Vice-President, C. W. Post, Trenton; 2nd Vice-President, James Newton, Thamesford. Directors—J. K. Darling, Almonte; M. B. Holmes, Athens; J. W. Sparling, Bowmanville; D. W. Heise, Bethesda; A. Pickett, Nassagaweya; Jas. Armstrong, Cheapside; F. A. Gemmell, Stratford; W. A. Chrysler, Chatham; William McEvoy, Woodburn; H. N. Hughes, Barrie. Inspector of Apiaries, Wm. McEvoy; Assistant Inspector, F. A. Gemmell. Representatives: At the Toronto Industrial, A. Pickett, Nassagaweya; Western Fair, R. H. Smith, St. Nassagaweya; Western Fair, R. H. Smith, St. Thomas; Ottawa, J. K. Darling, Almonte.

It was decided to make Toronto the next meet-

ing place.

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.]

Legal.

SUBSCRIBER, Prince Edward Co., Ont.:-"After I had purchased a house and farm, and had taken possession, the vendor demands payment of some storm windows and storm and screen doors which are stored in the house, now in my possession. Did I purchase these with the house or should I pay extra for them?"

[These articles, if they were the property of the vendor and were ordinarily used for the house when you purchased, should be considered as having been sold to you and purchased as a part of the house.] BREACH OF CONTRACT.

SUBSCRIBER, Lennox Co., Ont :- "At Toronto Fair I purchased a sheep and paid the price (cash) \$15. The agreement was that the seller was to deliver the sheep at Kingston for me on the following Saturday, free of charges. On the following Tuesday I received a post card telling me that the man could not get the sheep off at Kingston and took it on to Quebec. I then wrote and told him when and where to send the sheep to me, but it did not come until about three weeks after, when the express company's agent notified me of its arrival, and of \$1.35 charges for carriage to pay. I then refused to accept it, and the express company sent it back to the seller. I bought the sheep to show at the exhibition, and it came too late. I then demanded my \$15 back from the seller, and he has

balance, \$4, and can I collect damages? [You should compel the repayment of the \$4, but the damages are too indefinite and cannot be collected.]

sent me \$11. Am I entitled at law to recover the

FARM LABORER'S DUTIES.

SUBSCRIBER, Cardwell Co., Ont.—"A man hires to do general work on a farm for a year; he is asked to clean a team of horses during the usual working hours, but refuses, saying that he is not working the horses and will not clean them, and he leaves of his own accord. If he returns next day and offers to go to work again—1. Must I take him back? 2. Must I pay him his wages earned? 3. If upon his return the next day I tell him not to work and that we will try and have a settlement and we fail to agree, and he threatens to sue me at once, have I by trying to settle with him prejudiced myself, and must I pay his wages to date?

[1. No. 2. No. 3. No. The rule in all these cases is that a servant is bound to obey all reasonable commands of his master, and to perform the contract he has entered into, whether for a week, month or year, and if the servant declines or refuses to perform his part of the contract, the law will give him no relief.]

Veterinary.

SKIN DISEASE IN CALF.

W. M. S., Ontario Co., Ont .: - "I have a heifer calf which has a skin disease from the base of the tail to about fifteen inches along back, and about eight inches down on each side. In appearance it is a thick scurf, broken up like a crocodile skin: the hair on affected part seems healthy, and does not come away with the scurf."

[From your description it appears that your calf is suffering from some parasitic disease of the skin, which is distributed by means of the animal's tail. Treatment consists in the removal of the cause, and continue the methods that you have already done, also be sure to thoroughly secure for a few days by means of a side line. Apply the following ointment three times at intervals of a week, well washing the scabs before each application: Hydrag, unguntum pilule, 1 ounce; sulphur vervain, 4 ounces; carbolic acid, $\frac{1}{2}$ ounce; lard, 4 ounces. DR. W. Mole, M. R. C. V. S., Toronto.

SWELLING OF THE PAROTID GLANDS.

W. H. T., Muskoka: - "My mare had distemper three years ago, and the swelling of the glands in the neck have never gone away entirely. My horse caught cold eighteen months ago, with a slight discaught cold eighteen months ago, with a sight discharge of matter from the nose. I turned him out to grass, and thought that I had cured him, but symptoms returned this fall. My other horse, the hair never lays smooth, and is continually biting himself along sides and back; is not hidebound, and I cannot find any vermin on him.

It is more than likely that your mare is suffering from an enlarged condition of the parotid glands, which is sometimes described as inflammation of the guttural pouches. It is principally when horses have become liable to attacks of strangles that these purulent collections are formed; they are marked by an increase of size, and more or less interference with swallowing of water or food. Only a surgical operation of extreme delicacy can relieve these conditions, and we advise non-interference. This will answer questions one and two. We recommed the application and dressing as recommended to W. M. S., as above.

DR. W. MOLE, M. R. C. V. S. J.

TAPEWORM IN LAMBS.

C. J., Huron Co., Ont .: - "I have a flock of sheep that lost about one-half of their lambs this season. They were taken sick, and inside of a couple of hours would be dead. My veterinary surgeon examined one of the dead animals and found a large quantity of tapeworms. This lamb acted somewhat different from the rest, as it lingered for about twenty-four hours after taking sick. There were several flocks in this vicinity affected the same, all of which run on the roadside, whilst flocks that were never allowed on the road were not affected. Do you think the other lambs died from the same cause? If so, how do you account for the tapeworms killing the lambs and not the sheep? Will sheep from these affected flocks, if taken to another farm and put on clean pasture, cause the same trouble next year? Can anything be done to prevent it? If so, what?"

[There is no doubt that you have lost your lambs from the presence of the parasite known as the cestode form of tapeworm, and by the name of TŒNIA EXPANSA. Veterinary surgeons have often recorded cases where they have measured 30 to 40 feet from end to head. Older animals can resist the irritation set up in the bowels by these parasites, so that a genuine epidemic is rarely seen in adult sheep, but the lambs quickly succumb. The ova of tapeworm are to be found in abundant quantities during the autumn months in the neighborhood of woods, watercourses and gullies, or where the herbage is coarse, the drainage bad. is upon the rough grasses that these ova find shelter, and are then taken up into the stomach of the sheep, and as they are not flesh-feeders it is almost certain that some of the small mollusca or snails and insects found in water or in damp situations are the bearers of the tapeworm larva. It is not likely that sheep, if removed from the source of infection, will cause any trouble next year, especially if you see that your dog is rendered free from the same disease. Give your dog two or three doses of worm medicine, as it is quite likely that he

will be an intermediary bearer of these parasites. Santonin, 6 grains; areca, 2 drams; jalap, 1 scruple; aloes, 1 scruple. Mix into six pills or powders. Give one every day. This will remove the most likely cause of infection.

DR. W. MOLE, M. R. C. V. S.]

BARB WIRE WOUND.

R. M., Peel Co., Ont .: "I have a colt that was cut on the fetlock joint with barb wire, which has left an unsightly scar. If there is any remedy to make hair grow will you kindly let me know?"

[In the healing of wounds it is highly desirable to produce contraction of granulation, so that the cicatrix or scar shall be of the smallest possible size. More can be done at the time of the accident by judicious care on the part of the surgeon to prevent the unsightly scars than any subsequent operation. When the follicles in which the roots are imbedded are anyway injured, then the hair ceases to grow, and it is from this cause that scars are so unsightly. It is to be seen from their condition that nothing can be done in your case.

THRUSH IN HORSE'S FOOT.

J. E., Simcoe Co., Ont .: - "I have a horse suffering from 'thrush' in front feet for some considerable time. Will you please publish a remedy in your next issue?

[Thrush, or, as it is very frequently designated, running thrush, is a well-known affection amongst horsemen, is due to damp stables, and most frequently seen in old horses. The prominent symptom is the discharge of a whitish evil-smelling fluid. which issues from the glands between the cleft of the frog. Treatment: Wash the feet in warm water. cleaning out all the effete material, and apply the following ointment every day until well: Powdered alum, 2 ounces: powdered sulphate of copper, 2 ounces: Stockholm or wood tar, six ounces. This should be well mixed and allowed to stand for a day DR. W. MOLE, M. R. C. V. S.] or two.

SWELLING IN MARE,

Subscriber, Nipissing, Ont.:—"I have a mare four years old that has a small swelling each side of the belly, one a little larger in front of the udder. She has also a cough. You will please give an answer, state the cause and cure for same?"

[It is absolutely impossible to give any satisfactory answer to this question. The diseases of the udder in the mare are so uncommon that unless the swelling is the result of an injury we cannot ac-count for it. When the gland becomes hard and indolent it may be rubbed daily with iodine ointment-iodine. 1 part: vaseline, 6 parts-until all soreness disappears. For the mare's cough give the following pewders: Digitalis powder. I ounce: liquorice power, I ounce: potass. tartrate of antimony, half ounce: a teaspoonful every day in the animal's food. Dr. W. Mole, M. R. C. V. S.]

DEPRAVED APPETITE.

A. P., Nova Scotia :-- "Since my cows have been in the barn they have taken to gnawing and biting their stalls. When out in the yard gnaw and chew wood wherever they can get it. They have rock salt constantly before them, and I have tried giving them raw bones, also put lime in their drinking water, but all to no purpose. I feed them best meadow hay three times a day, and a feed of pulped mangels once a day. Can you explain the cause and give me a remedy h

The causes of this disordered state of the digestive system in cows is rather obscure. Cattle suffer-

ing have a variable appetite as regards their ordinary food, but evince a strong desire to lick, eat, and gnaw substance for which healthy cattle have no inclination. Alkaline substances are especially attractive: lime, earth, coal, sticks, bones, etc. Animals in this condition become unthrifty, lose condimals in this condition become unthritty, lose condition, their coat staring, gait slow, restless, uneasy, always bellowing, the milk thin and watery. Causes: Unless we were able to investigate the cause, it seems hard to suggest bad food, but it must be something of this kind. Cattle pastured on low, swampy land are often affected; especially is food which has undergone changes which lessen its digestibility liable to create this craving. Treatdigestibility liable to create this craving. Treatment must be to improve the process of digestion by supplying the animal with a sufficiency of sound, wholesome food, with a good grain ration. The following may be given after a good purgative: Carbonate of iron, ½ oz.; powdered gentian, ½ oz.; powdered aniseed, ½ oz.; powdered charcoal, 1 oz.; one dose, to be divided in three parts, and given to each animal every day.
DR. W. Mole, M. R. C. V. S.]

OSSEOUS TUMOR.

W. A. Dowling, Cardwell Co., Ont.:—"I have a colt with a hard, bonelike lump on its jaw about as large as a small goose egg. The lump was there at birth, and it has grown with the colt. What is its nature, and can anything be done for it?

Osseous tumors originate from bone or its periosteum; those growing from the periosteum occur most frequently on the external surface of the skull of the animal; around the orbit or on the upper jaw is an especially favorite seat, and are often dense, hard and immovable. They are well marked, usually a line of demarkation between them and the bone proper. The periosteum from which they grow covers them, and is continuous with that of the old bone. They are perfectly innocent tumors and their growth is slow. They rarely attain a large size, and most often hereditary, occurring in early life of the animal. The only treatment is to excise the tumor. This should be entrusted to a qualified veterinary surgeon, who is well acquainted with the anatomy of DR. W. MOLE, M. R. C. V. S.] the subject.

COW FAILING TO BREED.

W. J. T., Oxford Co., Ont.:—"I have a good cow that will not breed. She is nine years old and has had a calf every year since she was two years old. We have a sure bull; he is four years old, and in good condition; is turned out with the cows every day. The cow has been bred to him ever since last spring. Sometimes she goes two months without coming in season, and sometimes only one What can be done for her? I do not want week. What can be done for her? I do not want to beef her, as she is a first-class milker, and gets excellent stock. She is in good condition now, and is milking well: is fed ensilage, shorts and clover hay. Bull is fed same?

[From the symptoms given, the cow would seem to have become an habitual aborter, and should not be allowed with other pregnant cows.

Have the neck of the womb (os uteri) examined by a competent veterinarian, and see if it is not nearly closed up; and if so he will dilate the opening and remove fibrous obstructions. Give her the following mixture in her feed, in teaspoonful doses, twice daily for a month: Powdered iris versicolor, Helonias dioica and viburnam prunifolium, of each one ounce; powdered nux vomica, half ounce; well mixed. And make a daily injection of creolin diluted in 200 parts clear water, and disinfect her stall frequently. If the cow has aborted it will be safer not to use your stock bull, as he may carry infection to your other cows.]

OBSTRUCTION IN COW'S TEAT.

J. C., York Co., Ont.:-" I have a heifer calved April last. About six weeks ago there came in the two teats on right side very small lumps, which have grown to about the size of an ordinary pea, and do not seem to be getting any larger. Will you kindly give me a cure, if possible, through the columns of the ADVOCATE?"

[Apply a little of the following ointment to the effected teats once a day around the seat of the lumps: Iodine crystals, half dram: potassium iodide, one dram; lard, two ounces. Ask the druggist to decolorize with hyposulphite of soda. If milking becomes tedious from the obstructions, employ carefully a silver milking tube, but only as last resort, as there is always danger of injury from its use.]

RINGBONE.

SUBSCRIBER, Wentworth Co., Ont .: - "I have a mare six years old with a ringbone, the result of a runaway in May. 1897. Has been blistered twice by a veterinary, but the enlargement has not been reduced, though the lameness was cured for a time, but she goes lame now at times after standing. What would you recommend?

[Have the mare properly fired and blistered by a competent veterinarian and give her a couple of months rest. The proper blister to employ after the firing is the following, well mixed and thoroughly rubbed in for half an hour: Biniodide of mercury and iodine crystals, each 1 dram: Russian cantharides, 1) drams; lard, 1 ounce; oil on third day after blistering and each succeeding third day until hair starts to grow. Insist on the pointed iron being used.

DEHORNING IN WINTER.

SUBSCRIBER. Perth Co., Ont.: - "Would it be advisable to dehorn cattle at this season, the animals being all housed?"

time for the first week after the operation, and

that they are not allowed access to a straw or hay stack till the wounds are healed, as chaff or dust getting into the wounds is apt to set up in-

LICE OR ECZEMA.

very itchy, continually biting herself, especially on the back, and rubbing her head. The hair comes off

head in spots, her coat is very rough, and skin scaly. She seems healthy and eats well. What is the matter with her, and tell me what will cure her?"

[A very careful examination of the neck and withers will reveal small lice if they are present.

If any are found she should be thoroughly washed

with one of the many good sheep dips, and hens should be kept away from her stable. In case the

trouble is not lice, the symptoms points to eczema, for which give the mare half-ounce doses, twice daily, of hyposulphite of soda in her feed, which

should be clean hay, ground oats, and a liberal supply of bran. Continue the medicine for two weeks or until the itching stops, and then give her two of

the following powders daily: Nitrate of potash, bicarbonate of soda, gentian, of each one ounce; nux vomica and colchicum, of each half an ounce;

arsenic, 36 grains; all well mixed and divide into 12 powders. If skin is thickened, make a few light ap-

plications of tr. iodine to the parts a few days apart.

INDOLENT SORE. T. C. S., Saskatoon, N.-W. T.:—"Please advise

me regarding one of my horses (a heavy draft) which is suffering from swelling of left hind leg and

a sore on the inside, half way between hock and pastern, which is not healing properly. The history

of the case is this: Epizootic catarrh affected nearly all the horses in the settlement, and this horse had it, but so slightly that it was scarcely noticeable.

After we thought he was quite well, though I now

After we thought he was quite well, though I now think he was not, we put him to draw a pretty heavy log some distance. Generally he would have done it easily, but he had to exert himself, and showed it was heavy for him. This was in September. He very soon after began to go down in flesh, and had staring coat. Soon the leg swelled, beginning above the pastern and going upwards till the whole leg was affected. Pain was intense, and the horse in high fever. I concluded erysipelas was the trouble and (besides anodynes and febrifuges) gave him perchloride of iron. The swelling broke where the sore above spoken of is, with rapid destruction of the outward tissues and discharge of

struction of the outward tissues and discharge of

large quantity of pus. The leg was washed with disin-

fectants and the open sore washed or syringed with perchloride of iron solution for some time and after-

wards with carbolic acid lotion. During recovery we gave quinine in 20-grain doses, which has lately

been discontinued, and the horse seems in good health—skin soft and normal, with hair silky to the

touch. For last week we have been giving him

half-ounce doses of Fowler's solution, and full doses of soda bicarb., but the leg does not improve. There is no discharge from the sore, which is reduced in

size from a circular patch of about 2 inches diameter to about 1 inch. He was doing so well in November that we gave him no medicine internally, so that

that we gave nim no medicine internally, so that the condition of his skin did not then at least depend on the Fowler's solution. We think standing in the stable the chief cause of the leg swelling now and of the wound not healing satisfactorily, but are afraid of turning him out on account of the cold. With the swelling there has appeared for the leaf

With the swelling there has appeared for the last fortnight or more, in front of the hock and over the heels, what is generally called sallenders and scratches. We are feeding ordinary hay (not cultivated) and half rations of oats, with small quantity of turning."

[Your diagnosis and treatment of the case I think

was nearly correct. I would advise you now to prepare the animal for a purgative by feeding exclusively on bran mash diet for at least sixteen

hours, and then give the following in the form of

a ball: Barbadoes aloes, 7 drams; colomel, 1½ drams; ground ginger, 2 drams; soap, a

a ball: Barbadoes aloes, 7 drams; colomel, 1½ drams; ground ginger, 2 drams; soap, a sufficient quantity. Continue the bran mash diet until physic has ceased to operate. After this give, morning and evening, in food or water, for ten days: hyposulphite of soda, ½ oz. Touch the sore with hydrochloric acid (full strength), and when the seab becomes sufficiently loose remove

and when the scab becomes sufficiently loose remove

it, and keep the part covered, until healed, with the

following powder: Burned alum and boracic acid,

SHEEP GOING BLIND.

JAS. H. MACLELLAND, Ottawa Co., Que., writes:—
"In your issue of 1st December, I. E., Brockville,
Ont., writes about sheep going blind. I have often
found it beneficial to bleed them by puncturing
the eye vein with a sharp knife and allowing it

to bleed freely. In Scotland many sheep go blind

in the way mentioned by your correspondent, and the blindness is most prevalent during the cold east winds of spring and fall."

next issue with a remedy for dry, husky cough in

young growing pigs."
[It is sometimes due to constipation, and the

remedy may be found in succulent food, such as pulped roots, or in greasy food. It may be due to a

A. W., Wentworth Co., Ont .: "Oblige in your

of each 2 ozs.; iodoform, 1 oz. W. A. Dunbar, V. S., Winnipeg.]

ANXIOUS ENQUIRER:-"I have a mare that is

flammation and cause trouble.

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shovelfuls of earth from the root cellar, and a little ensilage, if you have it. Charcoal or salt and [We should judge it is as safe to dehorn at this season as at any other, provided the animals are not left out in the cold longer than fifteen minutes at a

ashes, kept in a flat box in the pen where they can take it at will, may be helpful. Keep the bedding dry by replenishing it frequently.]

Miscellaneous. LONG CHURNING AND NO BUTTER.

MR. THOS. BLACK, Dundas Co., Ont.:—"We churn, but cannot get butter. We are milking 13 cows, and they are fed corn in the morning, mixed cows, and they are led corn in the morning, mixed feed (sheaf oats and corn) at noon, and green oats at night. The cows have all the salt and good spring water that they need. The milk is kept in Cooley cans in a tank made on purpose for it. Ice is kept around it, and a little hot water is put in each can. The green wises all right and plants. in each can. The cream rises all right and plenty of it. Nicer cream could not be had. The cream is kept in cans beside the stove and stirred daily. The first cream has been kept a week before there was sufficient to make a churning. Before mixing the cold cream taken from a Cooley can with the other cream, it is first heated to the same temperature. We have churned such cream for two days and still got no butter. When it was taken from the churn at the end of this time and left for some time, the thick cream rose to the top just like 'ice cream.'
The cream is heated up to 68°, and then, after churning till tired, hot water was put in. We even tried putting salt and butter with it, but of no avail. Now, what more to do we do not know, and to see so much lovely cream going to waste seems a shame. If you can give a reason or know of any better method of taking care of the cream, please tell us what it is?"

Such problems as the above appear knotty at [Such problems as the above appear knotty at first sight, as the course pursued has been intelligently followed, and, generally speaking, along right lines. About a year ago one "Esme" came forward with just such a difficulty, and her question, accompanied by Mr. F. J. Sleightholm's answer, appeared in January 1st, 1898, issue. The feed given by Mr. Black appears all right although the swer, appeared in January 1st, 1898, issue. The feed given by Mr. Black appears all right, although the addition of a few roots to give succulence would improve the ration. One very common cause of slow churnings at this season is the presence in the herd of a number of "strippers"—cows long in milk. We judge this is the case in Mr. Black's herd from the remark that it takes a week's cream herd from the remark that it takes a week's cream of thirteen cows to make a churning. While 68° is usually high enough to bring butter in a reasonable time, the temperature should have been raised to as high as 74° if necessary, not by adding hot water, but by turning the cream into a pail and surrounding it with hot water. Adding water thins the cream, which increases the difficulty, and it is possible that the cream was too thin to commence with.

Regarding the care of cream, we would suggest several changes in the method indicated by Mr. Black. It is not considered the best plan to keep the cream vessel near the stove, especially if it be the one on which the cooking is done, for the reason that objectionable odors and flavors are sure to become incorporated in the cream. Again, cream should not be kept in a warm temperature for several days before churning. A better way is to keep it cool, and stir the cream to the bottom each time a fresh supply is added. About 36 to 40 hours before churning in the winter season, two or three quarts of sour, but good flavored, buttermilk should be added, and the temperature raised to 70° by setting the cream pail in a hot water bath at 100°, keeping the cream stirred till 70° is reached. Now lift out the cream pail, and after stirring well, set it where it will remain at the same temperature till ready to churn. If our suggestions are followed we would be pleased to learn the result.]

NO BUTTER AFTER LONG CHURNING.

A. McDonald, Grey Co., Ont .: - "We are milking four cows that have been milking say seven months, also two heifers milking say four months. We feed them chaff, pulped turnips, and some barley and pea meal mixed. We scald the churn and then slightly cool cream to 64-5° Fahr. We churn I hour, sightly cool cream to 64-5° Fahr. We churn I hour, so butters churn 2 hours no butters nour in some no butter; churn 2 hours, no butter; pour in some warm water to raise the temperature, churn 3½ hours, no butter; churn any length of time, no nours, no butter; churn any length of time, no butter. Have tried churning twice, but same result each time. Where is the butter gone? What is the cause of there being no butter obtained, and what is the remedy? P. S. I have churned for 40 years and never known such a thing to happen before.

[Long churnings seem to have been general during the closing weeks of the old year, as a similar difficulty was referred to us by Mr. Thomas Black, Dundas Co., our reply to whom appears in this issue. We would suggest that the cream be skimmed closer (with less skim milk), be further ripened and churned with greater concussion at a higher temperature.] SHEEPSKIN MATS.

READER:—"Would you advise me how to treat

a sheepskin to be used as a floor mat? [We noticed recently in a British contemporary the following plan recommended, but perhaps some reader can suggest a better: "Nail the fresh some reader can suggest a netter: "Nam the fresh skin tightly against a door or table, and with a broad-bladed, blunt knife scrape away all loose pieces of flesh; then give a thorough rubbing with chalk, continuing the operation until it begins to fall off as powder, after which take down the skin, sprinkle it over with ground alum, roll up, and keep it closely wrapped for three or four days. At want of grit or gravel. Let them out on fine days for half an hour where they can get at the ground; or, if this is not practicable, throw them a few the end of that time unfold it and shake out the alum.]

A PIG WITH A SWIRL.

SUBSCRIBER, Waterloo Co., Ont .:- "I have recently purchased a pair of pure-bred Yorkshire pigs (sow and boar) from a noted breeder. The boar has a swirl in his hair on his back. Is that any drawback to his use as a breeder; and if so, why? I have been told that some will reject a pig on that

[Some people will "strain at a gnat and swallow a camel"; will reject a Berkshire pig that has a few white hairs elsewhere than on his face, his feet and his tail, though he may be perfect in form, quality, and constitution, and purely bred, and will prefer one that is fashionably marked, though built on the plan of a greyhound, and though they know that a nalf-bred Berkshire may be perfectly marked. We once heard a man, of whose sanity we had doubts, remark that he never had given and never would give a prize to a pig with a swirl. Fortunately for the man he hadn t a "cow lick" on his head. If he had, we suppose that according to his rule he would have been disqualified and rejected as a judge. have been disqualified and rejected as a judge. Judges should have straight hair, parted in the middle, and should do straight work. Seriously, we do not suppose a pig will require any more pounds of food to make a pound of pork because a few hairs on his back have "swirled," and we have frequently seen the best pig in the litter marked that way, as we have often noticed that the best pig in a litter of Berkshires was the one having the most white Berkshires was the one having the most white marks on it. There are meaner things in the makeup of some hogs than swirls and spots, which are not even skin deep; they are such as turtle shoulders, fish backs, cat hams, and rickety limbs. Of such abominations beware!] HENS DYING

A. D.:-" What is the matter with my hens? They begin to limp, otherwise seem to be all right, eat well for a while, then commence to pine away, and in two or three months die. They took the disease about nine months ago, and we have lost a great many. We shut our henhouse up in the summer, and they roosted in the shed and sheep house, but still they are dying off. I have a good henhouse, with plenty of light and sunshine. I cleaned it thoroughly and burnt sulphur and brimstone in it before letting them in this fall. Our yard is a good formward where they run in fine weather. They farmyard, where they run in fine weather. They have the range of the farm in summer. Is it contagious or is there any cure? Please answer through the FARMER'S ADVOCATE?"

[I should say from the length of time from discovery of disease to fatal termination that death covery of disease to fatal termination that death was caused by a wasting away—consumption—tuberculosis. Or the trouble might be caused by a form of liver disease, which often causes the victim to limp. The superinducing cause in the first instance might be "roup" in one of its many forms brought about by cold. In the second instance the drinking of water running through the barnyard, or from a manure heap, might be the origin of the trouble, or it might be brought on by overfeeding during the winter, which would by overfeeding during the winter, which would result in so lowering the vitality that in early spring the hens would be liable to take cold easily; spring the hens would be liable to take cold easily; particularly so if they have been over-stimulated to lay well during the winter. But from the symptoms described, the wasting away diagnosis is most likely to be correct. A thorough spraying of every crevice and out-of-the-way corner of the poultry house with bichloride of mercury or corrosive sublimate is necessary. sublimate is necessary. A neighboring druggist will give proportions to suit size of house. All movable articles should be taken out of poultry house and burned, as also all the straw in nests, on floor, etc. Make a complete job of it, and not only disease germs, but lice, if any, will be completely eradicated. The hens, of course, should meanwhile be removed to other quarters. Before being put back into the cleansed quarters every bird showing the least symptoms of the disease should be killed, and so should every one showing the slightest symptoms afterwards of roup or its varied types of colds, catarrh, etc., and care should be taken that the well fowls do not go back to the house with any lice on them.

A. G. GILBERT. SILVER SPANGLED HAMBURGS AS LAYERS.

E. W. C., King's Co., N. S.:-"Would you recommend the Silver Spangled Hamburgs as the best layers of the non-sitting type, and where in Eastern Canada could the thoroughbred be purchased at a reasonable figure?"

[In reply to the query of E.W. C., I beg to say that I would not prefer the Silver Spangled Hamburgs to White or Brown Leghorns as layers. There is no doubt about the Silver Spangled Hamburg being a prolific layer, but I do not think it is the acclimatized breed that the Leghorn family is. Much, of course, depends upon strain. Many strains of Leghorns have been so handled for "show" purposes as to have become small in size and layers of only an average number of small eggs. A reaction, however, has taken place, and at the shows of the "Ontario" and "Eastern Ontario" last winter and the winter before, a marked in-crease in the size of both White and Brown Leghorns was very noticeable. Some strains of White Leghorns lay large eggs. The Silver Spangled Hamburg lays the largest egg of its class. I might put it in this way: Rather than inbred Leghorns I would have Silver Spangled Hamburgs, but not otherwise.

A. G. GILBERT, otherwise.

Note,—Parties having Silver Spangled Hamburg or any other pure-bred poultry for disposal would do well to use our advertising columns.— Ottawa. ED. F. A.]

JOHN HOOD, Valdez Island, B. C. :- "1. During the past summer I allowed an old mare and a mare nine years old to run at pasture along with a threeyear-old stallion. The mares were worked occasionyear-old stallion. The mares were worked occasionally. Neither of them appears to be with foal. What would you say is the reason? 2. Can you give me some hints on preparing a small swamp for a garden? I have two swamps which have not been broken up. They go dry in summer. My neighbors cannot get good crops from such land, even after applying manure and working liberally."

[We might suggest a number of possible reasons why the mares have not conceived, but without a greater knowledge of the facts it would be difficult to arrive at a satisfactory conclusion. The mares may never have been properly served, or they may have been served too frequently during each period of cestrum. The old mare may be past a breeding age, or the stallion may be sterile. While it is the practice of some ranch owners to allow stallions to run with the mares, and thus get a good percentage of foals, it is generally preferred to keep them separate, and have each mare served in the halter. In small breeding studs it is not considered wise to In small breeding studs it is not considered wise to have a mare teased unduly, nor is it well to have have a mare teased unduly, nor is it well to have her served oftener than once, or at most twice, during a season of heat. 2. Swamp land—usually contains a high percentage of humic acid, which is detrimental to the growth of crop. A good means of neutralizing that condition is to apply lime to the soil, and leave as much as possible of the surface exposed to the action of the winter's frost. This is exposed to the action of the winter's frost. This is best done by ribbing the land as is done for planting root seeds. It would also be well to have the plots well underdrained.

ROTATION FOR NOVA SCOTIA FARM.

Vision, Nova Scotia:-"Will you please recommend a suitable rotation of crops to be systematically adopted in conducting a small farm of say sixty acres of good interval land, with dairying and a limited amount of beefmaking as the principal money resources? Stock enough to consume all the hay and grain grown will be kept. It is not the intention to sell any grain or hay, but possibly a few roots may be turned into money. The land a few roots may be turned into money. The land now in fair heart, cutting two and two and a half tons of hay to the acre, but should be improved. Not tile drained. About twenty acres of permanent pasture; not any too good. The following crops grown successfully in this locality, viz., oats, barley, buckwheat and mixed grain for feeding, roots, clover, timothy and mixed grasses. No wheat. Season most too short for a good corn crop. Situated near a good market."

[It is impossible for one man to lay down castiron rules for the guidance of another in the matter of rotations. For your Nova Scotia correspondent all I can do is to offer a few suggestions in the hope that he may find something among them to help him in fixing his rotation. In the first place I think it would be well for him to break up that permanent pasture, and bring it into the regular rotation if possible. The permanent pasture is the foe of satisfactory rotations. It is a good thing that he can grow clover, and I would advise him to bring it into the rotation as frequenty as possible; or, in other words, make the rotation short as possible. would suggest for his consideration the following 1 would suggest for his consideration the following four-year rotation; he may not be able to follow it to the letter, but the principles involved may be useful: 1. Roots and peas. 2. Barley and oats seeded with clover and timothy. 3. Clover. 4. Clover and grass. On a 60-acre farm this will give him a chance to grow any amount of roots up to 15 acres the peas eccurying that part of the field not acres, the peas occupying that part of the field not occupied by roots. If the land is foul part of the 15 acres could be summer-fallowed instead of sown to peas, and a crop of buckwheat plowed under. If the rotation is followed as given, there will be half the farm, or 30 acres, under grass and clover. If this is too much, plow up part of the clover after the first crop, and sow with barley seeded with a few pounds of clover per acre. the fall plow under the young clover, and the field is then ready to come into the regular rotation again; that is, it is ready for roots or peas. The clover will compensate for the extra grain crop. The rotation given is practically the rotation practiced by Mr. Rennie on the College Farm, except that corn and wheat have been omitted. It is based upon such sound principles, and has given such satisfactory results here, that I heartily commend it to the careful considerations of your correspondent.

G. E. DAY. respondent.

Guelph, Ont.] MANGELS AND SWEDES COMPARED.

F. H. THOMPSON, Algoma Dist., Ont.:-"How do mangels and turnips compare in digestible nu-

According to the analysis of the Ontario Agricultural College, the digestible nutrients of the above crops are as follows:

Protein. Carbot Ether tein. b b b th 440 2,160 40 80 Dry matter. tb3,6404,560 Twenty tons mangels... 100 3.240

The test was conducted to learn the comparative values per acre of crop. The mangels produced 24 tons and the turnips 20 tons. We may note that ether extract is largely fat. FALL OATS.

A. E. P., Ontario Co., Ont.: "Have any of the readers any experience in sowing oats in the fall? If so, let me know through your paper.'

TOLL FOR GRISTING.

SUBSCRIBER, York Co., Ont.:-"Please let me know, through your "Questions and Answers, what the millers should take per bushel for toll for grinding wheat. I think they take the grist instead of toll since the rollers came in use.

[Tolling wheat for gristing has gone out of practice in many parts of Canada. The custom was, in the days of tolling, for millers in water-power mills to charge one-twelfth, and in steam-power mills one-tenth. The last standard toll for grinding wheat weighing 60 pounds per bushel was 36 pounds of flour, 7 pounds of shorts and 7 pounds of bran per bushel.

PEARS AFFECTED BY CURCULIO.

E. W. C., King's Co., N. S .: "What is the matter with pear trees which grow fruit full of stones, which on arriving at maturity seem almost as hard as gravel stones? Trees are in a moderately rich place. Cultivation does not seem to improve them. Please give cause and cure. Pears are of the Bartlett variety."

IIt is most likely the hard lumps complained of are caused by the curculio, a small snout beetle, which troubles both pears and apples. This species is smaller than the one which affects the plum, but breeds in much the same way, the egg being laid in a puncture in the young fruit, and the larva dereloping inside the fruit. In this case, however, the apples and pears do not fall prematurely, as do the curculio-stung plums. The beetle also makes a number of punctures in the fruit when feeding, and around these punctures hard lumps or granulations form, as described in your letter. This is a difficult insect to fight, as it is not easily reached with Paris green. Shaking the trees, as is done with the plum curculio, might be practiced where one has only a few trees. When the fruit is thinned, as should be done to obtain first-class Bartletts, all infested pecimens should be gathered and destroyed before the beetles emerge. In this way their numbers will be greatly reduced. H. L. HUTT,
Ontario Agricultural College. Horticulturist.]

PERCHERON STALLION WANTED.

SUBSCRIBER, Addington Co., Ont .:- "Can you ive me the address of any breeders of Percheron horses in Ontario or Quebec? I have some fine grade mares, and would like to secure a good stalion of this breed to mate them with

[Parties having this class of horses to dispose of may find buyers by advertising in our columns. This is not the first enquiry of the kind we have received lately.—ED. F. A.]

COTTON-SEED MEAL FOR HORSES AND COWS. W. H. PAYNE, Durham Co., Ont .: - "Is cottonseed meal a good food for horses and milk cows? If so, how should it be fed, and how much? Please answer in the next issue of the FARMER'S ADVO-

[Cotton-seed meal has not, to our knowledge, been fed extensively to horses, but trials reported claim good results when not more than two pounds per day have been fed with other mixed food. Fed in larger quantities it tends to costiveness. Cottonseed meal is now largely used as a portion of the dairy cow's ration. When substituted for an equal quantity of corn meal, it has increased the production of milk and butter to a profitable extent. In substituting it for bran, pound for pound, it has increased the milk yield by one-fifth. Its use tends to harden the butter from the cows eating it. From four to six pounds per day is considered about the right quantity to use, and that should be fed with succulent fodder.

INBREEDING.

Subscriber, Wellington Co., Ont.:-"I have a Shorthorn bull which I am anxious to retain for the fourth season to breed to my grade cows, but will have to send his daughters four miles unless I use their sire instead. He is a good, strong, heavyboned animal. Would it be advisable to breed in

[As a rule we would not advise the course indicated, but in exceptionable cases we would not fear to risk it, the bull being of strong constitution, vigorous, and having proved a good getter. In some of the old Shorthorn pedigrees it appears that the sire has been bred not only to his daughters but to his granddaughters also. Jersey breeders frequently practice this line of breeding, and without any apparent evil effect.]

WEIGHT OF PACKED HAY. T. T.: -"Can you give through the FARMER'S ADVOCATE a plan for telling the weight of hay in a

stack or mow ? That will depend on the size of the stack, particularly its height and the length of time it has

been standing; in other words, its solidity. After. say, three months from being put up it may weigh from 6 to 10 lbs. per cubic foot. The Old London standard is 196 lbs. per cubic yard, or about 74 lbs. per cubic foot.

Portage la Prairie Agricultural Society.

The annual meeting of the above agricultural society was held Dec. 12th, when the following officers were elected for the ensuing year: President, F. W. Brown; 1st Vice-President, Ed. Brown; 2nd Vice-President, T. E. Wallace; Secretary-Treasurer, Capt. W. Sheppard: Directors, James Bray, Jas. McKenzie, D. McCowan, Sheriff McLean, W. McBride, W. Garland, W. L. Lyall. It was decided to hold the next annual fair during the week previous to the Winnipeg Industrial.

HELPING HAND.

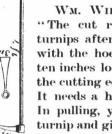
A Convenient Sheep Rack.

WM. H. CAVERHILL, Middlesex Co., Ont.: "I have taken the FARMER'S ADVOCATE for a number of years, and value it highly. I saw a description of sheep racks in Oct. 15 and inquiry for more plans. I will give a plan of one I think good and simple. Take four scantling, 3 x 4 and 3½ feet long, for legs; nail a piece 2 feet long across inside of legs; nail two boards on cross pieces, 12 inches wide and 12 feet long for bottom; nail a thick piece, 3 inches wide, on the crack between bottom boards; bevel off the sides of that piece to divide the grain or roots; nail 1 x 6 lumber all around outside, bottom edge nailed



to bottom boards; nail 12-inch board all around, one foot up, upper edge even with top of posts; nail pieces $2\frac{1}{2}$ feet long and 6 inches wide on outside, 8 inches apart all round, which leaves a space 8x12 for sheep to put their heads in above the feed. I have one end of rack come up to feed floor, and feed in at one end. This rack can be used in a pen in any shape with both ends closed, and feed any kind of feed required. I have used this rack fifteen years. It has given good satisfaction. Twenty-four sheep will eat at this rack if they get all around it."

Tool for Digging Turnips.



WM. WILLIAMS, Ontario Co., Ont.: "The cut represents a tool for pulling turnips after the tops have been cut off with the hoe. It is made of iron, about ten inches long and three inches wide at the cutting edge, and made of 4-inch iron. It needs a handle about four feet long. In pulling, you strike at the root of the turnip and give it a quick pull at the same

VETERINARY.

Veterinary Education.

To the Editor FARMER'S ADVOCATE:

SIR,—The recent improvement in business and onsequent better prices for horses has again turned the attention of the farmer's son in the direction of veterinary science as a profession. One of the first things to be considered is to find a college which will give him a thoroughly scientific and practical education. Though we have many veterinary colleges on this continent, few are really capable of giving that education. We in Canada have been ccustomed to hear of the superiority of our educational institutions, but in this particular profession we are rapidly falling behind. The day of the twoyear school is done, because outside of the fact that eleven months is too short to obtain a good knowledge of veterinary science, various States and Provinces refuse admission to graduates of schools with less than three-year courses. As evidence of this I need only refer to Manitoba, in our own country, and to New York and Pennsylvania in the U. S. Other States are even now contemplating such a move, Illinois putting such a law into force next year, probably. As a result of such laws, there are to be found at one of the three-year schools in Chicago, eight (8) graduates of the Toronto school, and three undergraduates (from the same school) who have found to their cost that they must be graduates of a three (3) year institution, and also to be better qualified. We are accustomed to believe that affiliation of a college with our Provincial University means an upward move, but in this case she has evidently prostituted herself for reasons unknown. The mere fact of affiliation should mean a matriculation examination equal to that required of the student in human medicine. As a member of this noble profession (veterinary), it seems to me lamentable that such persistence in the old ruts is fast sapping the life blood of our alma mater. The Provincial University (Toronto) has no doubt helped to raise the standard in law, dentistry, human medieine, agricutture, and other sciences, and she should do no less for veterinary science. "It is bad enough for Canada when her young men, after getting an education, are forced to leave her to obtain work, but it is infinitely worse when the young man is forced to leave his country to obtain an up-to-date veterinary education. The veterinarian is to be the great conservator of the health of mankind in the future, by putting into force prophylactic measures against animal disease; in order to do so successfully, he must be a well-educated man. To the farmer's son it is a serious matter, and he should know that if he graduates from a two-year school he will be debarred from many lucrative avenues of professional employment. VETERINARIAN.

Chicago, Ill.

JANUARY

To the Edito SIR,—I excellent question a black leg of says it is stock in E this the w losses have to be in son I gave my and nitre t ingredients lap or brisk When a

Dr. Mole n same disea and experi The rod quite diffe limited to to have no horses, dog all kinds of the early o Kingdom i in sorting f it was calle tension of foreign wo

from anthr it has been Dr. Mo much caut carcass, bu as they u instead of surroundin feet deep in is enjoined slighest sp minute pui

M. Past friend of able with valuable h pigs. He inoculated operated u posed to 1 was perfo escaped fu work up th that it was Thus the r quicklime. Holmer,

Many of times hard to manure was weather; my plowed down that this was put up in a escape of the out. For sev out. For sev wagon and s results have in the summathink it is a expect to fo 20c., while the in the store creamery af say nothing a tor takes out tor takes out cheese is goi Old Country spring that i will be a b nearly \$1,000 \$3.90. The and delivere stalls on acc

The exc quarters in early and in a successful Consider year ago on Rain to sleighing the been hustli have been of grain verand tradesi cutters ten
With the upward ten beans, abou Quarter Ill or Anthrax.

To the Editor FARMER'S ADVOCATE:

SIR,—I have been favored with a copy of your excellent paper of the 1st November, and note a question asked respecting losses of calves with black leg or quarter ill. The reply to the question says it is a very prevalent disease amongst young stock in England under a variety of names. In this the writer is quite correct, as very severe losses have been sustained from it and continues to be in some parts. I was an occasional loser until I gave my young cattle a supply of salt, sulphur and nitre three times a week, mixed with hay chaff, two ounces of nitre to a pound of each of the other ingredients. Under that system I escaped further losses. The general remedy is a seton in the dewlap or brisket.

When anthrax was first heard of I concluded, as Dr. Mole now appears to do, that it was one and the same disease with quarter ill, but the miscroscope and experience proves the contrary.

The rods of the bacilli in the two diseases are quite different. The losses from quarter ill are limited to young cattle; those from anthrax appear to have no limit, young or old cattle, sheep, pigs, horses, dogs, and human beings; in fact, I may say all kinds of living animals are susceptible of it. In the early days of its importation into the United Kindson its others. Kingdom its outbreak was amongst men engaged in sorting foreign wools, and being confined to them it was called the wool-sorters' disease; but the extension of trade brought increased quantities of foreign wools and hair, and very numerous deaths from anthrax have taken place, with the result that it has been added to the list of contagious diseases.

Dr. Mole is quite correct in stating that "too much caution cannot be exercised in the destruc-tion of the carcass by cremation." Not merely the carcass, but recent evacuations must be looked for, as they usually have a little blood with them. Cremation is difficult to carry into effect here, and instead of cremation the carcasses and all their surroundings are carefully collected and buried six feet deep in quicklime. The exercise of great care is enjoined against the letting of blood, as the slighest spot brought in contact with the most minute puncture of the skin is sufficient to ensure inoculation and death to the sufferer.

M. Pasteur discovered a means to inoculate as a preventive, and some 20 years or so ago an intimate friend of mine had an outbreak quite unaccountable with the disease. He lost 11 cows, a very valuable hunter, two cart horses, some calves and pigs. He engaged the services of Professor Pemberthy, from the Royal Veterinary College, who inoculated the remainder of his stock. Of the 150 operated upon he lost one, and that one was supposed to have been affected before the operation was performed. I am thankful to say he has escaped further losses. Earthworms are apt to work up the germs of the disease where an animal has been buried with it, and it is quite probable that it was from that cause the outbreak occurred. Thus the reason for the deep burial and free use of quicklime.

T. Duckham. quicklime.

Holmer, Hamps., England.

MARKETS.

FARM GOSSIP.

Oxford County.

Many of the farmers are now hauling out the barnyard manure in winter instead of leaving it all in yard until spring or fall. Some are putting it out in heaps, some in large piles or "middens," as the Scotch folk used to term them, and many spread it right from the sleigh on the snow; prejudice is sometimes hard to overcome. I was brought up with the idea that manure wasted very much if spread out and exposed to the weather; my father never wanted any spread manure left unplowed down over Sabbath. But I have now come to think that this was a mistake, and that manure really wastes more put up in a large heap in the field by fermentation and the escape of the gases and ammonia than it does by being spread out. For several seasons we have spread the manure from the wagon and sleigh pretty nearly as fast as it was made, and the results have been satisfactory, and it is such a saving of labor in the summer when we have so much other work to do. I think it is a good plan. The creameries are still running and expect to for some time, and the butter is bringing from 19c. to 20c., while the homemade article is bringing about 15c. in trade in the store; so that the farmer gets more money from the creamery after paying the buttermaker for making it up, to say nothing about the extra quantity of cream which the separator takes out; and then the stopping the manufacture of fodder cheese is going to help our reputation as cheesemakers in the Old Country markets, and give the price a send-off in the spring that it has not had for years, so that the butter business will be a benefit all round. In our factory we distributed nearly \$1,000 for November butter; and then 3 days' milk at the beginning of the month had to be made into cheese on account of the butter plant not being ready in time. Hogs are doing pretty well, but the market is very unsteady, price just now \$3.90. The greater part of the October cheese has been sold and delivered at from 9c. to 9½c. per lb., and in this neighborhood there is not much left. Some farmers

Kent Co., Ont.

The excellent pasture this fall sent farm stock into winter quarters in splendid shape. Both corn and fodder was garnered early and in good condition, and should carry them through to a successful issue next spring.

Considerable fall plowing is done, but not as much as a year ago on account of the early winter.

Rain to-day (19th) is winding up two weeks of the best sleighing that we have experienced in years. Everyone has been hustling while it lasted. Thousands of cords of wood have been disposed of, and buyers report receipts of all kinds of grain very liberal. Trade in all lines is brisk; merchants and tradesmen are all smiles. Carriagemakers sold their last cutters ten days ago. One firm place their shortage at 500.

With the exception of wheat and beans, grain has an upward tendency. Wheat is 67c.; oats, 26c. and 27c.; corn, 33c.; beans, about 70c. for choice; red clover, \$3.50 to \$4 per bush.;

and barley, 85c. per cwt.; hay clover, \$4.50; timothy, \$6; bran and shorts, away up to \$13 and \$15, respectively.

Hogs are flat, \$3.75 alive and \$4.90 dressed.

Fat cattle seem quite plentiful at present, but a large number who usually stall feed cattle for spring trade have abandoned it this season on account of the high price of grain. What effect this will have on spring trade remains to be seen.

Milch cows and two-year-old stockers in good demand, the former selling at from \$35 to \$45, and the latter at from \$25 to \$35 per head.

former selling at from \$35 to \$45, and the latter at Holling at \$35 per head.

Butter is from 17c. to 20c, per lb.; eggs, 20c. per doz.; poultry very plentiful and cheap; potatoes, 80c. per bag. Our butter factory started about three weeks ago and everything is running satisfactorily.

The bulk of the tobacco crop remains in the growers' hands, who refuse to sell at the prices offered by the buyers, whom they claim have formed a clique. It has been decided to form a joint stock company similar to the Brantford Binder Twine Co. and erect a plant in Chatham where they can manufacture their own product and receive all the profit.

Dec. 19, '98.

Chatty Letter from Chicago.

[FROM OUR OWN CORRESPONDENT.] Following were the prices lately current, with comparisons

		ears a		Ton P	rices			_
		Two weeks						
Beef cattle.	No	w.	ag	go.	18	97.	18	96
1500 lbs. up	\$5	75	\$5	85	\$5	40	\$5	2
1350 to 1500 lbs	5	95	6	15	5	50	5	3
1200 to 1350 lbs			5	90.	5	40	õ	ō(
1050 to 1200 lbs	5	75	5	85	5	50	4	63
900 to 1050 lbs		50	5	25	5	00	4	6
Fed Westerns		75	4	90	5	10	4	90
Hogs.								
Mixed	3	45	3	50	3	57	3	4
Heavy		50	3	55	3	55	3	4
Light	3	40	3	474	3	55	3	4
Pigs		30	3	40	3	50	3	43
Sheep.								
Natives	4	50	- 4	35	5	00	4	00
Western		20	4	10	4	40	3	50
Lambs		60	5	40	. 6	40	5	50

and Nebraska.

The great speed sale recently conducted in the Dexter Park pavilion has gone into history as the most successful event of the kind ever held in Chicago. During the six days 535 horses were negotiated for an approximate sum of \$175,000. There were no sensational prices paid, as there were no Star-Pointers or Joe Patchens catalogued, but the average of values surpassed the general prices made in the late New York sale. The result of the sale clearly proves that the light harness market is in good condition and that the owners of well-bred drivers of prepossessing conformation and action can turn them into cash as easily as diamonds of the first water.

Toronto Markets.

Toronto Markets.

The unpleasant weather has not visibly affected the volume of trade. The quality of fat cattle was not so good as in past years. Considering the weather and this being the holiday season, there was a fair amount of business transacted.

Export Cattle.—Trade was inclined to drag during the early hours of the market; very few export cattle on sale; prices quoted at \$4.25. Two extra quality fetched \$4.50 per cwt., while medium and light sold at \$3.85 to \$4.00 per cwt. Messrs. Brown and Snell bought a few lots of export cattle at \$4.25 per cwt.

Export Bulls.—Choice export bulls were in request at \$3.65 to \$4.12½ per cwt., light export at \$4.00, poor quality \$3.25 to \$3.40 per cwt.

Mr. Buck sold 3 export cattle, 1,300 lbs. average, at \$4.00 per cwt.

Mr. Buck sold 3 export cattle, 1,300 lbs. average, at \$4.00 per cwt.

medium at \$3.35 to \$4.00; cattle equal in quality to exporters, not so heavy, weighing 1,100 to 1,200 lbs. sold at \$4.00 per cwt.; medium at \$3.35 to \$3.45; inferior and poor class, \$2.65 to \$2.85 per cwt. Mr. John Bennett sold 5 butcher heifers, 1,025 lbs. each, at \$3.50, and 8 heifers, 1,050 lbs. average, at \$3.90 per cwt.

Mr. Johnson bought 7 butcher heifers, 975 lbs. average, at \$3.00 per head.

Stockers.—Buffalo stockers sold at \$3.25: choice quality

Mr. Johnson bought 7 butcher heners, 9/3 los. average, at \$3.00 per head.

Stockers.—Buffalo stockers sold at \$3.25; choice quality steers, 600 to 700 lbs. weight, \$3.40 per cwt.

Feeders.—Good heavyweight feeders still in good demand to fill vacancies in the byre; they are scarce and wanted, 1,000 to 1,100 lbs. weight, worth on this market at from \$3.50 to \$3.85

per cwt.

Sheep.—Prices for sheep are unchanged; ewes sold at \$3.25 to \$3.30, with choice picked lots at \$3.50. Mr. J. W. Dunn bought 4 loads of export sheep at \$3.50 per cwt.

Lambs.—Prices for lambs remain unchanged; the supply, limited bulk, sold at \$3.60 to \$3.80, and \$4.25 for extra choice barn-fed lambs.

Catves.—Good veals in demand; prices firm at from \$3.00 to \$6.00 per head, or at \$5.00 per cwt. for choice quality.

Milk Cows.—About 20 on offer, trade slow, only a few dealers on the market; prices easy at \$25.00 to \$35.00 for choice dairy cows.

dairy cows.

Hogs.—The deliveries of hogs at the Western Cattle Market Hogs.—The deliveries of hogs at the Western Cattle Market is only fair, and unless the farmers are more considerate they must lose thousands of dollars next month. It is quite evident that farmers are holding their stock for a rise. The consequence is all the hogs coming forward are too large and fat. Prices are still at a dead level; any hogs not distinctly select are culled as thick fat. Choice selected hogs weighing 160 to 220 lbs. each, off cars, not watered or fed, sold at \$4.15 to \$4.25 per cwt.; heavy fat and light hogs at \$4.00, stores not wanted. A farmer who refused from a drover in the country \$4.00 per cwt., as he thought he could do better, after all his trouble, ex-

pense and loss of time, found on receiving his cheque from Mr. Harris that his hogs only netted \$4.00 per cwt., and by loss in shrinkage, freight and his own expenses, he was \$40.00 loser by the transaction. He could not understand it and expressed himself very forcibly, but was soon convinced that he was getting full market price. The question comes, how could the drover make a profit of \$20.00 on the same load of hogs? Can any of our readers figure this out—one man loses \$40.00 on a load, another with the same load could make a profit of \$20.00, so that there is a leakage of \$60.00 on the deal. We are looking for a better price in the next two weeks; hogs are coming in freely, but the packers are now in full swing and can take all on offer and must give \$4.50 per cwt. to obtain full supplies.

Wool.—The Canadian mills have been buying more wool here the past week; they are very busy, and all seem filled with orders for the spring trade, so that all conditions are favorable for an improvement in prices. We quote as under for this market: Un washed fleece, 10c. per lb.; pulled super, 17c. to 181c.; fleece wool at 15c. per lb. London, England, is the only market; and the principal import is wool. Dighteen million pounds sterling (£18,000,000) was the worth of the wool that passed through that market this year.

Hides.—The market firm, prices advancing. No. 1, green, at \$1c. per lb.; No. 1, green steer, \$c. per lb.; No. 2, green steer, 71c. per lb.; No. 3, green steer, \$c. per lb.; C. cach; lambskins, \$0c. each.

Powtry.—Although the demand is much larger, yet the

skins at 10c.; sheepskins, \$1.10 ench; pellts, 75c. ench; lambskins, 80c. each.

Powtry.—Although the demand is much larger, yet the supply is equal to it. Prices have been well maintained: Turkeys at 9c. to 10c. per lb.; geese at 6c. to 7c. per lb.; ducks at 60c. to 70c. per pair; chickens at 40c. to 75c. per pair.

Hay.—Receipts light; only 8 londs of hay on the market; \$8.50 per ton for timothy, \$6.00 to \$7.00 for clover.

Straw.—Very scarce and wanded; prices nominal; \$6.00, \$7.00 and \$8.00 per ton paid for sheaf straw.

Clover Seed.—A large quantity of clover seed wanted on this market; prices \$3.00 to \$6.00 per bushel, even more for first-class samples.

MISCELLANEOUS.

Benefits of Spraying.

To the Editor FARMER'S ADVOCATE:

SIR,—I have been much interested in the articles in your columns re spraying of fruit trees, and will give you an account of my own experience in that regard. We sprayed our orchard twice last spring with Bordeaux mixture and Paris green. Out of 200 barrels of apples this season we have only five barrels poor fruit. The barrels of apples were fine and smooth, and sold at good prices. Judging by my own experience, I cannot speak too highly of spraying properly done, and think it one of the principal factors in insuring a good crop. The apples seem to stick on better, and there were very few drops this season, notwithstanding we had several big blows, and orchard is much exposed. I also scraped the trunks and lower limbs of all trees, but do not know whether this helps or not, and should be glad of the opinion of others on this matter. It certainly makes the trees look cleaner. King's Co., N. S. SIR,-I have been much interested in the articles F. W. ABBOTT. King's Co., N. S.

PROF. MACOUN ON SCRAPING APPLE TREES.

As to whether it is a good practice to scrape off the rough bark of apple trees, I may say that this is sometimes done when the trees are covered with moss or fungi, or where the bark harbors insects; but when the trees are in a healthy condition it is best to leave the bark intact, especially when the trees are in an exposed position, as are Mr. Abbott's. In no case should so much of the outer bark be removed as to leave the temder bark exposed to the weather. If the trunks of Mr. Abbott's trees are covered with moss or fungi it might be well for him to scrape this off and apply am alkaline wash, such as is made from lye or soap. The growth of foreign vegetable matter on the trunks of trees is usually a sign that they are not in the best of health, which is very frequently owing to bad drainage. This should be remedied as speedily as possible by a proper draining of the soil.

W. T. Macoun, Horticulturist Central Experimental Farm.

Canadian Jersey Breeders' Association.

Canadian Jersey Breeders' Association.

The Canadian Jersey Breeders' Association held their annual meeting in Toronto on Dec. 36th. Mr. B. H. Bull, of Brampton, President of the Association, Chairman. There were 25 members present, and among them were three Americans: Mr. Valancey E. Fuller, of New York, Corresponding Secretary of the American Jersey Cattile Club; Mr. J. E. Robbins, Greensburg, Indiana; and Mr. Morton, Manager for Miller & Sibley, of Franklin, Pt. A. modion was passed allowing these gentlemen to sit as members.

Officers were elected for the emsaing year as follows: President, J. H. Smith; Vice-President, George Davies; Secretary, R. Reid, Berlin; Executive, R. J. Fleening, E. H. Duncan, D. O. Bull, R. Willis, Walter E. H. Massey; London, J. W. Corroy and W. C. Edwards, M. P.: Montreal, W. E. H. Massey; London, J. W. Chumpidge and John O'Brien; Otthawa, J. W. Comroy and W. C. Edwards, M. P.: Montreal, J. Fifte and R. H. Pope, M. P. The following were nominated as judges to act at fairs: Montreal, D. Duncan, Prof. Day; Otthawa, George Davies, of Todmorden; London, R. McCulllough, Smelgrove, and R. Reid, Berlin; Toronto, J. E. Robbins, of Greensburg, Indiana, and Prof. Scoville. of Lexington, Kentucky. Small fairs — P. A. Freeman, of Box Grove; George Davies, of Todmorden; W. Rolph, of Markham; D. O. Bull, of Brampton; E. B. Hinman, of Grafton; D. Duncan, of Tedmorden; R. Reid, of Berlin; B. H. Bull, of Brampton; J. H. Smith, of Highfield.

Upon motion of Mr. Duncan and Mr. Massey, it was decided to ask the American Jersey Cattlle Club to make a grant to the Toronto Fair.

The question of publishing a herd book was thoroughly discussed, but it was decided mot to undertake it at present. Upon motion of Messus, Massey and Fleming, it was decided unanimously to establish a record of merit for Canadian Jerseys having as a first requirement registration in the A. J. C. C. Herd Register, the committee to report at next meeting. The retiring President, Mr. B. H. Bull, was given a hearty vote of thanks

D. W. LASHER, Saskatoon, Sask .: - "I am well satisfied with the ADVOCATE.

H. NICHOL, Brandom, Mam :- "Your paper is improving and more helpful to us farmers, and I am well pleased with it."

JOHN HOOD, Heriot Bay, B. C.:—"The Advo-CATE is very useful to me out here, and the most suited to our B. C. agricultural work,"

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AN AMERICAN GIRL IN LONDON.

BY SARA JEANNETTE DUNCAN.

(Continued from page 615.)

It struck me, from the outside, as oddly imposng—Mme. Tussaud's. I began asking Mr. Mafferton questions immediately, quite in the subdued voice people use under impressive efreumstances; but he wasn't certain who the architect was, and couldn't say where the marble came from, and really didn't know how many years the wax-works had been in existence, and hadn't the least idea what the gross receipts were per annum—did not, in fact, seem to think he ought to be expected to be acquainted with these matters. The only thing he could tell me definitely was that Mme. Tussaud was dead, and I knew that myself. and I knew that myself.

ne could tell me definitely was that Mme. Tussaud was dead, and I knew that myself.

"Upon my word, you know," said Mr. Mafferton, "I haven't been here before since I was put into kickers!"

I was surprised at this remark when I heard it, for Mr. Mafferton was usually elegant to a degree in his choice of terms, but I should not be now. I have found nothing plainer in England than the language.

The moment we were inside the main hall, where the orchestra was playing, before I had time to say more than "How very interesting, Mr. Mafferton! Who is that? and why is he tamous?" Mr. Mafferton bought one of the red and gift and green catalogues from the young woman at the door and put it into my hand almost impulsively.

"I fancy they're very complete—and reliable, Miss Wick," he said. "You—you really mustn't depend upon me. It's such an unconscionable time since I left school."

I told Mr. Mafferton I was sure that was only his modest way of putting it, and that I knew he had reams of English history in his head if he would only just think of it, and he replied:

replied:

"No, really—upon my word—I have not!"

But by that time I realized that I was in the immediate society of all the remarkable old kings and queens of England, and to me those quaint groups of royalties, in the robes and Jewels of other times, and arrayed just as much in their characters as in their clothes—the characters everybody knows them by—were a source of pure and, while I sat there, increasing delight. I looked up while I was thinking about them and

ing delight.

ing delight. I looked up while I was thinking about them and caught Mr. Mafferton yawning.

"Are you impressed?" he said, disguising it with a smile.

"Very much," I answered him. "In a way. Aren't you?"

"I think they're imbecile!" said Mr. Mafferton. "Imbecile old things! I have been wondering what they could possibly suggest to you!"

"Let us look at them individually," I said, rising. "Collectively I find them lovable!"

"Well, now, I envy them!" replied Mr. Mafferton, with great coolness. This was surprisingly frivious in Mr. Mafferton, who was usually quite what would be called a serious person, and just for a minute I did not quite know what to say. Then I laughed a little frivolously too.

"I suppose you intend that for a compliment, Mr. Mafferton," I said.

"I suppose you intend that for a compliment, Mr. Manerton," I said.

Privately I thought it very clumsy.

"This is No. 1, 1 think;" and we stopped before William the Conqueror asking Matilda of Flanders to sit down.

"I don't know that I did," said Mr. Matterton, which made the situation awk ward for me, for if there is an uncomfortable thing it is to appropriate a compliment which was not intended. An Englishman is a being absolutely devoid of tact.

"So this is William the Conqueror!" I said, by way of changing the subject.

changing the subject.
"It may be a little like his clothes," said Mr. Mafferton,

"It may be a little like his clothes," said Mr. Mafferton, indifferently.

"Oh! don't say that, Mr. Mafferton. I am sure he looks every inch a Wilham the Conqueror. See how polite he is to his wife, too. I suppose that's because he is French."

Mr. Mafferton didn't say anything, and it occurred to me that perhaps I had not expressed myself well.

"Do you notice," I went on, "how he wears his crown—all tipped to one side! He reminds me just a little, Mr. Mafferton, with that type of face—enterprising, you know—and hair that length, only it ought to be dark—and if the crown were only a wide-brimmed soft-felt hat—he reminds me very much of those Californian ranchers and miners Bret Harte and Joaquin Miller write about."

Miller write about."
"Do you mean cowboys?" asked Mr. Mafferton, in a way that told me he wasn't going to agree with me.
"Yes; that kind of person. I think William the Conqueror would make a beautiful cowboy—a regular 'Terror of the throng."

Canyon."

"Can't say I see it," said Mr. Mafferton, fixing his eye upon the bass 'cello at the other end of the room.

"It isn't in that direction," I said, and Mr. Mafferton became exceedingly red. Then it occurred to me that possibly over here that might be considered impertment, so I did my best to make up for it. "A very nice face, isn't it!" I went on. "What is he particularly noted for, Mr. Mafferton, beside the curfew and the Doomsday Book, and introducing old families into England!"

Mr. Mafferton bit his mustache. I had never seen anybody bite his mustache before, though I had always understood from novels that it was done in England. Whether American gentlemen have better tempers, or whether they are afraid of mjuring it, or why the habit is not a common one with us, I am

gentlemen have better tempers, or whether they are afraid of mjuring it, or why the habit is not a common one with us, I am unable to say. "Iteally, Miss Wick," Mr. Mafferton responded, with six degrees of frost, "I—is there nothing about it in the catalogue? He established the only date I know which would ever stick in my memory—1066. But you mustn't think he brought all the old families in England over with him, Miss Wick—it is incorrect."

Wick—it is incorrect."

King John I thought delightful. I could not have believed it possible to put such a thoroughly bad temper into wax, and I said so to Mr. Mafferton, who agreed with me, though without with miner.

said so to Mr. Mafferton, who agreed which saids in.

"The worst king who ever sat on the English throne!" I repeated, meditatively, quoting from Mme, Tussaud. "That's saying a great deal, isn't it, Mr. Mafferton?"

My escort said no; he couldn't say he thought it represented such an acme of wickedness; and we walked on, past swarthy little said Charles II. in armor and lace, who looks (and how could he help it?) as if he were always thinking of what happened to his sire—I suppose the expression "poppa" is unknown among royalties. Mr. Mafferton would not agree to known among royalties. Mr. Mafferton would not agree to this either; he seemed to have made up his mind not to agree

this either; he seemed to have made up his mind not to agree to anything further.

I should like to write a whole chapter about Henry VIII, as he looked that day, though I dare say it is an habitual expression, and you may have seen it often yourself.

"What is your impression of him?" asked Mr. Maffer-

I said I thought he was too funny for words,
"He was a monster," my friehd remarked, "and you are
quite the first person, I should say, who has ever discovered anything humorous in him

And I gathered from Mr. Mafferton's tone that, while it and I gameted from St. Materions tone that, while it was pardonable to think badly of an English monarch, it was improper to a degree to find him amusing.

X.

I had cherished the hope of somehow getting into the House while Parliament was in session and seeing all the people we read so much about at home in connection with the Irish question. It was the thing I believe I had set my heart upon doing most, but tekets for the opening of Parliament from Mr. Mafferton, with a note informing Lady Torquilin that his cousin had promised to look after us on that occasion, represented more than my highest aspiration.

It was a nice day, a lovely day, an extraordinary day, the February day Lady Torquilin and I comp.omised upon a hansom and drove to the Parliament buildings.

We were among the very first, and had our choice of the long narrow seats that run along the wall in a terrace on each side of the chamber. Fortunately, Lady Torquilin had attended other openings of Parliament and knew that we must sit on the left; otherwise we might just as likely as not have taken our places on the other side, where there were only two or three gentlemen, with sticks and silk hats; which, I reflected afterward, would have been awful. I asked Lady Torquilin when the lords might be expected to come in. Up to this time we had been discussing the millinery by which we were surrounded.

"Lage say there won't be many to-day," said Lady Tor-

rounded.

"I dare say there won't be many to-day," said Lady Torquilin. "Certainly very few so far!"

"Are there any here?" I asked her.

"Oh, yes—just opposite, don't you see, child? That well-set-up man with the nice wholesome face, the third from the end in the second row from the bottom, that's Lord Rosebery; and next him is the great heer man (I forget his title): and here and next him is the great beer man (I forget his title); and here is Lord Mafferton now—don't look—coming into the first row from the bottom, and leaning over to shake hands with Lord

"Tell me when I can look," I said, "because I want to, avfully. But, Lady Torquilin, are those peers? They look very respectable and nice, I'm sure, but I did expect more in the way of clothes. Where are their flowing manues and their chains and swords and things?"

very respectable and nice, I'm sure, but I did expect more in the way of clothes. Where are their flowing mantles and their chains and swords and things?"

"Only when the Queen opens Parliament in person!" said Lady Torquilin. "Then there is a turnout! Now you can look at Lord Mafferton, the rude old man! Fancy his having the impudence to sit there with his hat on!"

And in the meantime the proceedings began by everybody standing up. I don't know whether I actually expected a progession and a band, but when I discovered that we were all standing while four or five gentlemen in red gowns walked to the other end of the room and took chairs, my emotions were those of blank surprise. Presently I felt Lady Torquilin give an emphatic tug to my skirt. "Sit down, child!" she said. "Everybody else has. Do you want to make a speech?" and I sat down quickly. Then I observed that a gentleman in black, also in fancy dress, was reading something indistinctly to the four or five red-gowned gentlemen, who looked very solemn and stately, but said nothing. It was so difficult for a stranger to understand that I did not quite catch what was said to another gentleman in black, with buckled shoes, but it must have been to the purport of "Go and fetch it!" for he suddenly began to walk out backward, stopping at every few steps to bow with great deference to them of the red gowns, which must have been very trying, for nobody returned the bows, and he never could tell who might have come in behind him.

"I suppose he has gone out for a minute to get something," I said to Lady Torquilin. Then she told me what of course I ought to have known if I had refreshed myself with a little Knglish history before starting—that he was the Usher of the Black Rod, and had been sent to bring the members of the other Parliament. And presently there was a great sound of footsteps in the corridors outside, and your House of Commons came hurrying to the "bar," I believe it is called, of your House of Lords.

Then as soon as they were all ready to pay att

House of Lords.

Then as soon as they were all ready to pay attention, the Chancellor read the Queen's letter, in which Her Majesty, so far as I could understand, regretted her inability to be present, told them all a good deal about what she had been doing since she wrote last, and closed by sending her kind regards and best wishes—a very pleasant letter, I thought, and well written. Then we all stood up again while the gentlemen in red, the Lord Chancellor, and others walked out, after which everybody dispersed, and I found myself shaking hands with Lord Mafferton in a podgy, hearty way, he and Lady Torquilin and I dispersing together.

persing together.
"So this is our little Yankee!" said Lord Mafferton, with

persing together.

"So this is our little Yankee!" said Lord Mafferton, with his fat round chin stretched out sideways and his hands behind his back. Now, I am quite five feet eight, and I do not like being called names, but I found difficulty in telling Lord Mafferton that I was not their little Yankee, so I smited and said nothing. "Well, well! Come over the 'duck pond'—isn't that what you call the Atlantic Ocean?—to see now fast old England is going to pieces, eh?"

'Oh!" said Lady Torquilin, "I think Miss Wick is delighted with England, Lord Mafferton."

"Yes," I said, "I am. Delighted with it. Why should anybody think it is going to pieces?"

"Oh, it's a popular fancy in some quarters!" said Lord Mafferton. Being a lord, I don't suppose he winked at Lady Torquilin, but he did something very like it.

"I should call it a popular fallacy!" I declared, at which Lord Mafferton laughed, and said, "It was all very well—it was all very well," exactly like any old grandpapa. "Miss Wick would like a look over the place, I suppose," he said to Lady Torquilin. "You think it would be safe, eh? No explosives concealed about her—she doesn't think of blowing us up?" And this very jocular old peer led the way through a labyrinth of chambers and corridors that I can't possibly remember the locality or the purpose of, because he went so fast.

"No doubt you have heard of Cromwell?" he said beside one door.

I should have liked to know why he asked me if there was

I should have liked to know why he asked me if there was no doubt of it, but I suppose a lord is not necessarily a logi-

cian.
This is the room in which he signed the death-warrant of Charles I.

Charles I."
"Dear me!" I said. "The one that he's holding the copy of on his lap at Madame Tussaud's!"
"I dare say! I dare say!' said Lord Mafferton. "But not so fast, my dear young lady, not so fast! You mustn't go in, you know. That's not allowable!" and he whisked us away to the library. "Of course Miss Wick understands," he said to Lady Torquilin, "that every word spoken above a whisper means three days in a dungeon on bread and water!" By this time my idea of neers had become so confused that I

whisper means three days in a dungeon on bread and water!" By this time my idea of peers had become so confused that I was entirely engaged in trying to straighten them out and had very little to say of any sort, but Lord Mafferton chatted continually as we walked through the splendid rooms, only interrupting himself now and then to remind me of the dungeon and the penalty of talking.

"Bless you, my dear young lady, you mustn't go in there!" exclaimed Lord Mafferton at the door of the House, as I stepped in to take a perfectly inoffensive look at it. "Out with you quick, or they'll have you off to the Tower before you can say George Washington!"

"But why?" I asked, quite breathless with my sudden

But why?" I asked, quite breathless with my sudden exit.
"Young people should never ask 'why, "said Lord Mafferton, serio-comically. "Thank your American stars that Salisbury or any of the fellows were not about!"

This peer evidently thought I was very, very young—about twelve; but I have noticed since that not only peers but all agreeable old gentlemen in England have a habit of dating you back in this way. It is a kindly, well-meant attitude, but it leaves you without very much to say.

I told Lady Torquilin that the expression struck me as pro-I told Lady Torquilin that the expression struck me as profane.

"How ridiculous you are, child! It is a good old English word. Nobody will understand you if you talk about your rubbers in this country. 'Goloshes,' certainly, 'G-o-lo-shes, goloshes,' Now go directly and put them on, and don't be impertinent about the English language in England, whatever you may be out of it!"

I went away, murmuring:

"'G-o-l-o-s-h-e-s, goloshes.' What a perfectly awful—literally unutterable word! No, I love Lady Torquiin, and I like her England, but I'll never, never, never say 'goloshes;' I'd

ally unutterable word! No, I love Lady Torquiin, and I like her England, but I'll never, never, never say 'goloshes;' I'd almost rather swear!"

And as I slipped on the light, thin, flexible articles manufactured, I beheve, in Rochester, N. Y., and privately compared them with the remarkable objects worn by the British nation for the purpose of keeping its feet dry, the difference in the descriptive terms gave me certain satisfaction.

Lady Torquiim and I were going shopping. I had been longing to shop in London ever since I arrived, but, as Lady Torquiin remarked, my trunks seemed to make it almost unreasonable. So up to this time I had been obliged to content myself with looking at the things in the windows, until Lady Torquilin said she really couldn't spend so much time in front of the shop windows—we had better go inside. Besides, she argued, of course there was this to be said: If you bought a good thing there, it was always a good thing.

"And it isn't as if you were obliged to pinch, my dear. I would be the last one to counsel extravagance," said Lady Torquilin. "Therefore we'll go to the cheapest place first," and we went in with a throng finat divided and hurried hither and thither through long "departments," upstairs and down, past counters heaped with cheapness, and under billowing clouds and streaming banners of various colors, marked is 1-2d. and 11 3-4d. in very black letters on a very white ground. The tickets claimed your attention everywhere and held it, the prices on them were so remarkably low; and it was to me at first a matter of regret that they were all attached to articles I could not want under any circumstances, for the moment I went in I succumbed to the cheapest place. I desired to avail myself of it to any extent—to get the benefit of those fascinating figures personally and immediately. I followed Lady Torquinn with eagerness, exclaiming; but nothing would induce her to stop anywhere. She went straight for the trifles she wanted, and I, perforce, after her.

And she found that the

where erse.
"'Ere is your change, madame," said the hollow-eyed
young woman who had been waiting upon Lady Torquilin in

young woman who had been waiting upon Lady Torquilin in the matter of a letter-weight and a Japanese umbrella.

"Thank you," said Lady Torquin. "Im afraid you get very tired, don't you, before the day is over!" my friend asked the young woman, with as sweet a smile as she could have given anybody. The young woman smiled back again, and said, "Very, madame," but that was all, for three other people wanted her. I put this in because it is one of the little things she otten says that show the niceness of Lady Torquilin.

"Now, what do you think of the cheapest place!" asked Lady Torquilin, as we walked together on the Engeware Road. I tool her as I have told you. "I'mph!" said she. "It's not a shop I like myself, but that's what I call being too pixome! You get what you want, and if you don't want it you leave it. And why shound you care! Now, by way of variety, we'll go to the dearest place."

And why should you care! Now, by way or variety, we'll go to the dearest place."

From what Lady Torquilin told me, I gathered that Bond Street was a regular haunt for dearest places, but it would be impossible for any stranger to suppose so from walking through it—it is so narrow and crooked and irregular, and the shops are so comparatively insignificant after the grand sweep of negent Street and the wide variety of the circuses.

Inside, the dearest place was a stronger contrast to the cheapest place than I could describe by any antithesis. One or two ladios made ladies discussed something in low tones with

nest place than I could describe by any antithesis. One or tailor-made ladies discussed something in low tones with an assistant, and beside these there was nobody but a couple of serious-minded shop-walkers, some very elegant young ladies-in-waiting, and the dummies that called your attention to the

tashions they were exhibiting.

"Hideous, 1 call them!" Lady Torquilin said; but she said it in rather a hushed tone, quite different from the one she would have used in the cheapest place, and I am sure the

shop-walker did not overhear.

While we were looking at them, one of the pale young women strolled languidly up and remarked, with an absent expression, that one of them was "considered a smart little gown, moadam!

gown, moddam!"
"Smart enough, I dare say," said Lady Torquilin, with a slightly invidious emphasis on the adjective, whereat the young woman said nothing, but looked volumes of repressed astonishment at the ignorance implied.

Lady Torquinin went on to describe the kind of dress I

Lady Torquinn went on to describe the kind of dress a thought of buying.

"Certainly, moddam! Will you take a seat, moddam! Something quite simple, I think you said, moddam, and in musin. Ill oe with you in one moment, moddam."

And the young woman crawled away with the negligence that became the dearest place. After an appreciable time she returned, with her arms full of what they used to call so very correctly "turbelows," in spotted and flowered muslins.

I picked up one of the garlanded muslins and asked the price of it. It had three frills round the bottom and various introdevant ribbon bows.

"Treievant ribbon bows.

"Certainly, moddam. One moment, moddam," as she looked at the ticket attached. "This one is seventeen guineas, moddam. Silk foundation. A Paris model, moddam, but I

dare say we could copy it for you for less."

Lacy Torquitin and I made a simultaneous movement and looked at each other in the expressive way that all ladies understand who go shopping with each other.

"Thanks," I said. "It is much too expensive for me."

"We have nothing of this style under fifteen guineas, mod dam," replied the young woman, with a climax of weary frigid "Then shall we go?" I asked Lady Torquilin - and we

went.
"What a price!" said Lady Torquilin, as we left the dear-I said I thought it was an insult-eighty-five dollars for a

ready-made sprigged muslin dress!—to the intelligence of the people who were expected to buy it; that for my part I should reel a distinct loss of self-respect in buying anything at the dearest place—what would I be paying for?

"For being able to say that it came from the dearest place," said Lady Torquilin. "But I thought you Americans didn't mind what anything cost."

That misconception of Lady Torquilin's is a popular one, and I was at some pains to rectify it.

"We don't," I said, "if we recognize the fairness of it, but nobody resents being imposed upon more than an American, Lady Torquilin. We have our idiots, like other nations, and I dare say a good many of them come to London every year and deal exclusively at the dearest place, but as a nation, though we don't scrimp, we do like the feeling that we are paying for value received." value received.

"Well," said Lady Torquilin, "I believe that is the case. I know Americans talk a great deal about the price of things—more, I consider, than is entertaining, sometimes!" I said I knew they did-it was a national fault.

XII.

'As a nation, I can't bear em-individually I like em fairly well," read out Lady Torquilin from a letter at breakfast.
"Bless me!" my friend went on, "she's talking about Americans, and she's coming to see 'your specimen'—meaning you, child—this very afternoon."

So she did. She came to see me that very afternoon—the lady who couldn't bear us as a nation, but individually liked us fairly well. Her name was Corke, and she belonged, Lady Torquilm said, to the Corkes. I heard all about her before she came, She was a lady of moderate income, unmarried, about ten years older than I was. She knew all about everything—

"You never saw such a reader, my dear! I won't say it happens often, for that it does not, but Peter Corke has made me feel like a perfect ignoramus.

_"Peter Corke!" I said, with some surprise.

[TO BE CONTINUED.]

JANUARY

Jen It was cloudy. the warm the pane, content of

By an stopped b got out, Then in a through t The life she ran good of ye I got out alone—an

Flo!" Cousin ful talkin Christmas "Oh, t it just say and over too silly, if the box sounds ju

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In on her face look, and her soft "The Jennie, but she, "she sh

They merrily delight. "Oh stunner And and kis

> murmur Then Jennie a of happy girl! C her own had suc fore in a

ole articles manu-d privately com-prometries, the difference in ction. I had been ved, but, as Lady make it almost obliged to content dows, until Lady

dows, until Lady uch time in front If you bought a

inch, my dear. I ," said Lady Tor-t place first," and urried hither and so and down, past billowing clouds rked is. 1-2d. and nte ground. The and held it, the nd it was to me at or the moment l l desired to avail of those fascina-I followed Lady nothing would in-th for the trifles

number of little at she absolutely for, my dear, any-

the hollow-eyed Lady Torquilin in umbrella. m afraid you get " my friend asked as she could have back again, and

Torquilin.
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orquilin - and we we left the dear-

from the dearest ht you Americans

e that is the case. e price of things— imes!"

ery afternoon—the individually liked he belonged, Lady about her before

"We are going to a house," said Cousin Flo, "where twelve sick children are taken care of by kind people, who try to nurse them back to health. And these little ones, Jennie Wren, are all taken from miserable homes in the property parts of the city, where they were the poorest parts of the city, where they were beaten and ill-used."

Jennie Wren's Post Christmas.

It was New Year's Day, and very cold and cloudy. Jennie Warren stood by the window of

the warm sitting-room, her forehead pressed against the pane, and an expression of weariness and dis-

By and by a carriage turned the corner, and stopped before the door; then a bright-faced lady got out, came up the steps, and rang the bell. Then in a moment a sweet voice was heard calling through the hall, "Where is my Jennie Wren?"

The little girl's face was bright with emiles as

The little girl's face was bright with smiles as she ran out crying, "Oh, Cousin Florence, how good of you to come; I was so lonely and so cross. I got out all my toys, but it was no fun playing all alone—and dolls are such stupid things, Cousin

Cousin Florence smiled. "Even the wonderful talking doll that Aunt Mary sent you at

it just says 'Twinkle, twinkle, little star,' over and over in such a horrid squeaky voice. It is too silly, and you'd never know what it meant if the box it came in hadn't been labeled. It

"Tinkle, tinkle, little car, Over yonder — there you are — Up and down the streets you go, Like a newsboy through the snow."

And Jennie mimicked the doll's squeaking

"There they all are," she continued, pointing to a row of dolls seated upon the sofa.

There were fashionably dressed ladies and gentlemen, sailor boys and little girls, and Japanese dolls of different sizes and one pretty

anese dolls of different sizes, and one pretty

an staring at you with their one round eyes—
it's enough to give you nervous chills. I feel
as if I never wanted to see them again."
Cousin Florence looked at her for a minute
and then she smiled. "If you really mean
that, Jennie, suppose you give them away to

some poor children who would think them the

most beautiful things in the world?" "I think I would like to," said Jennie doubtfully. They soon started off in the carriage with such

a heap of toys and dolls.
"Where are we going?" Jennie asked.

Did you ever see such a sight, Cousin Flo? All staring at you with their big round eyes-

"Oh, that is more stupid than all the rest -

content on her pretty face.

sounds just as much like -

baby in long clothes.

Christmas?

They soon reached a plain brick building, and went into a light, airy room, where six little beds stood side by side.
"This is the boys' ward," Cousin Flo told

Jennie, as she led her from bed to bed, with a kindly word for each of their little occupants.

One little bright-eyed fellow, whose foot had been crushed by a heavy truck was sitting up in bed, trying to draw with the stump of a pencil on the margin of an old news paper. Jennie gently pulled her cousin's sleeve. "I'd like to give him my paint-box and crayons, and the painting book," she whis-

Cousin Florence smiled as she nodded assent. In the next cot lay a little cripple, who was drumning with his finger on the counterpane, and trying to hum a little tune. "He shall have the music-box," she whispered. And so they went from bed to bed.

When they entered the girls' room, Jennie opened her eyes wide, to see them all so happy with their poor shabby toys.

In one cot a little deformed girl lay fast asleep; her face was very sweet, in spite of its pale, pinched look, and her pillow was covered with the masses of her soft light hair.

"There is a dolly for each one," whispered Jennie, "and the tea-set for them all together—but she," and she pointed to the sleeping child, "she shall have the prettiest doll of all."

They then presented the toys, and Jennie laughed merrily at the children's quaint exclamations of delight.

"Oh my eye," cried one little fellow, "what a stunner! Little girl, you're a regular brick!" And then what rapture as the little girls hugged and kissed their new treasures, laughing, and

murmuring their expressions of delight. Then Cousin Florence put her arms about Jennie and hurried her away, followed by a chorus of happy voices crying, "Goodbye, goodbye little girl! Come see us again." Jennie fairly flew into her own house and exclaimed, "Oh papa, papa, I've had such a lovely time, I never was so happy before in all my life!"

"Life."

"Life is a stocking," grandma says,
"And yours is just begun,
But I am knitting the toe of mine,
And my work is almost done.
With merry hearts we begin to knit,
And the ribbing is almost play—
Some are gay-colored. With merry nearts we begin to knit,
And the ribbing is almost play—
Some are gay-colored,
And some are white,
And some are white,
And some are ashen gray.
But most are made of many a hue,
With many a stitch set wrong.
And many a row to be sadly ripped
Ere the whole is firm and strong.
There are long plain spaces without a break,
Which in youth are hard to bear,
And many a weary tear is dropped
As we fashion the heel with care.
But the saddest, happiest time is that
Which we court, and yet would shun,
When our Heavenly Father breaks the thread,
And says that our work is done."
The children come to say good-night,
With tears in their bright young eyes;
For, in grandma's lap, with a broken thread,
The finished stocking lies.

"Time to Retire."

"Time to retire," I should think it is
It was time to retire long ago;
These kittens, so bad, should be sent to bed,—
Like the children, they don't want to go. Young Frisky has broken the glass to bits, And he says, "Now we're having great fun!" While Topsy helps Time more swiftly to fly; Oh! what mischief these creatures have done.



Dear Beauty looks down from her dangerous perch, While she timidly begs them to leave; – No notice they take of her pleading words, And her warnings they will not believe.

But punishment soon will o'ertake them all, Bad company brings one to shame; So Beauty, I think *you'd* better retire, If you wish to preserve your good name.

Both.

Grandmother knit for the baby
A jacket of blue.
"No color for boys," she wrote it,
"But this one will do."
And she sent a gold pin with a blank for the name,
To wait till "he" came.

Next day came from lovely Aunt Mollie — Now, what do you think?
All scented, embroidered, and dainty,
A jacket of pink!
"To dress a girl-baby in blue is a shame!"
She wrote: "What's her name!"

"Dear Grandma," wrote Mamma one morning,
"Your jacket in blue
Is just the right thing for our baby,
His eyes are so blue."
And her note to Aunt Mollie was strange, you may think:
"Our dear little girl is so pretty in pink!"

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES.-

I have, I think, on more than one occasion suggested the plan of forming some sort of club amongst yourselves. I do not know whether any of my readers ever followed out my suggestions, but however that may be, I want to tell you about a club started about a year ago at Stony Creek, which is called the "Woman's Institute." The secretary of this Institute informs me, that their subjects are divided into six branches, as follows:

1. Domestic economy.
2. Architecture (with special reference to sani-

tation, light, heat, etc.).
3. Physiology, hygiene, medicine, calisthenics,

Floriculture, horticulture.

Music and art. 6. Literature and sociology, education and legis-

Now, I certainly think these subjects cover a wide field of interest and information, and I am sure you will all agree with me in congratulating the "Woman's Institute" upon its undertaking and wishing it every success. It appears that the members have written several good papers upon these various subjects, and we propose to print some of them, and feel sure that they will prove of much interest.

I do not know whether this club excludes men entirely. This is, of course, optional As in everything else, there are reasons for and against, but I do not see why a club of this kind should not include both sexes, provided that the objects of the club are strictly carried out and that mere social appropriate does not take the place of what amusement does not take the place of what is really instructive and most interesting. There is plenty of time for both kinds of enjoyment. I have in my mind as I write a mixed club, to the meetings of which the members look forward with great pleasure. In this club are middle-aged people, girls

and young men, and the amount of good reading they have done is really surprising.

Now, girls, look about you. The winter is upon us and we want something to fill in the long evenings and keep our brains bright the read of the control of the source in foot in took with the times. — to keep us, in fact, in touch with the times.

This is the age of progression, and my girls must not lag behind. A Happy New Year, from your loving Auntie— MINNIE MAY.

The Sea Queen Wakes.

She wakes! In the furthest West, the murmur has reached our ears;

She wakes! In the furthest East, the Russian listens and fears; She wakes! The ravens clamor, the winds

cry overhead, The wandering waves take up the cry; "She wakes whom nations dread. At last ye have roused the Sea Queen, at last when the world unites.

She stirs from her scornful silence and wakes

to her last of fights.

Alone with a world against Her, She has turned on the snarling crew;

No longer the peaceful trader, but the Viking the North Seas knew.

She called, and her ships of battle-dragons her seas have bred, Glide into Plymouth harbor and gather round

Beachy Head. e wakes, and the clang of arming echoes through all the earth, The ring of warriors' weapons, stern music of soldiers' mirth.

In the world there may be many nations, and there gathers round every throne

The strength of earth born armies, but the sea is England's own.

As she ruled she still shall rule it, from Plymouth to Esquimalt As long as the winds are tameless, as long as the

waves are salt. This may be our Armageddon; seas may purple

with blood and flame, As we go to our rest forever, leaving the world a name. What matter? There have been none like us, nor

any to tame our pride; If we fall we shall fall as they fell, die as our fathers died.

What matter? The seas that bred us shall rock us to rest at last, If we sink with the Jack still floating, nailed to the

Nation's mast. -Capt. Clive-Phillips Wooley, in B. C. Colonist.

Habit.

How difficult (nay, unaided, it is impossible!) to break a chain forged by habit! One's resolutions may be unimpeachable, and one's judgment correct; may be unimpeachable, and one's judgment correct; yet still, unless the will is superhumanly strong, the habit of a lifetime insiduously holds its influence over our moral nature. What a lesson this ought to teach us, of the undying importance of each act of our lives! We do a thing once, repeat it, etc., and gradually what was originally the outcome of an impulse, becomes a ruling current in the stream of our life!

Our Bodies God's Temples

BY D. LAWRENCE, THAMESFORD, ONT.

In the Book of Genesis, where we read the account of the Creation, we are told that God occupied five days or periods of time in making this wonderful world in which we live and all the beautiful and useful plants and animals which the beautiful and useful plants and animals which the all-wise Creator so thoughtfully prepared for man, the last and greatest of all His works, whom He created on the sixth day, just before he rested on the seventh, and, be it spoken with all reverence, well might the Creator rest after such a wonderful work. Truly did the psalmist say: "I will praise Thee, for I am fearfully and wonderfully made: many soul marvellous are Thy works, and that my soul

knoweth right well."

The authors of "Physiology and Hygiene Notes for the use of Schools" say: "However strange it may seem to you, no one has at any time seen even his dearest friend. All that is visible to the mortal is the woodenful house in which the real person eye is the wonderful house in which the real person lives." And wonderful it truly is, wonderful in the beauty of its outline, wonderful in the framework upon which this outline depends, wonderful in the parts which clothe the framework and enable in the parts which clothe the framework and enable the person to move about so gracefully. It is wonderful in the provision that is made to supply the waste which is constantly going on, in the manner in which a nourishing material is prepared, and the way in which this nourishing fluid is constantly being purified to keep the parts of this wonderful house in proper condition. It is the crowning act of creation. As we study the various organs and the functions of each, see the delicateness and importance of each organ and the care ness and importance of each organ and the care that must be taken to keep each in perfect health, and when we see the unity and harmony of the whole, we must needs wonder at the wisdom and power and goodness of God. We shall surely resolve never to defile this temple in which the

resolve never to defile this temple in which the soul dwells by wrong or careless acts, or by taking into it anything that would injure it.

It should be quite easily seen what a wonderful development and power of adapting itself to outward circumstances and conditions there is in the human body. We find people living in the frozen regions of the far north enjoying a certain measure of health, and again in very hot countries in the of health, and again in very hot countries in the torrid zone this same machinery of the body works

well. But the body is only the temple of the soul. In Gen. 2: 7, we read that the Lord God formed man of the dust of the ground and breathed into his nos-trils the breath of life, and man became a living soul.

But while God gives all men life, yet it is very evident that all men do not make their bodies God's temple. The great Creator gave free will to man, and, unfortunately, our first parents chose the evil; and of course we inherit the evil tendency in our natures. But God did not leave the human family without a remedy, but sent His own dear Son to open up the way to regain the lost sonship so that the body might be the temple of its rightful sovereign and king. God has a double right to the throne of our heart. First, as our creator and presented as our redeement and sentition.

server, and second, as our redeemer and sanctifier.

It is wonderful when we think of what depths of sin and degradation the body can gradually come to when it is made a temple for the devil instead of a temple for God as it ought to be. The devil is very cunning and leads his dupes down little by little, until they get beyond all human help, and the body, so wonderfully made, is a mass of loathsome disease and corruption. But when the heart or real man of the house is fully given up to the Lord Jesus Christ, what blessings we receive, -we go on from strength to strength. There is such a mysterious sympathy between the soul and the body that the latter cannot be in perfect health if the former is not right with God. So long as there is the fear of impending judgment hanging over the soul there must always be an unrest which But the soul which is at peace with God is free

But the soul which is at peace with God is free from the nightmare hanging over those who dread to meet their unforgiven sins and a rejected Saviour at the day of judgment. The staté of those who make their bodies God's temple is brought to a beautiful climax in the closing verse of the 91st Psalm: "With long life will I satisfy him, and show him My salvation." We can only make our bodies God's temples by casting the devil entirely out, by inviting the Lord Jesus Christ to rule and reign supremely in our hearts, by asking at every turn, "What would Jesus do if He were placed in my circumstances?" By watchfulness and prayer, by surrounding ourselves with the environment necessary to develop the highest type of the divine life, by careful attention to diet and eating only those foods and drinking those drinks necessary to keep our bodies healthy, rejecting all highly seasoned foods and spirituous drinks, clothing our bodies with plain, suitable clothing regardless of the often cruel demands of fashion. In short, by redeeming the time, abstaining from all appearance of evil, believing that then the very God will sactify us

"And when this corruptible shall have put on incorruption, and this mortal shall have put on immortality, then shall be brought to pass the saying that is written, Death is swallowed up in victory. Thanks be to God which giveth us the victory through our Lord Jesus Christ.

Memory Gems.

CONTRIBUTED BY MISS KATE MACTAVISH, VERNON, ONT.

The hour draws near, howe'er delayed or late, When at the eternal gate,
We leave the words and works we call our own,
And lift void hands alone,
For love to fill. Our nakedness of soul, Brings to that gate no toll;
Giftless we come to Him, who all things gives,
And live, because He lives.

Whittier. II.

To-day, unsullied comes to thee, new born
To-morrow is not thine,
The sun may cease to shine
For thee, ere earth shall greet its morn.

-Ruskin. III.

Life is before you! from the fated road You cannot turn; then take ye up the load; Not yours to tread or leave the unknown way, Ye must go o'er it, meet ye what ye may, Gird up your souls within you to the deed; Angels and fellow-spirits bid you speed! _Butler. IV.

Who steals my purse steals trash; 'tis something, nothing, 'Twas mine, 'tis his, and has been slave to thousands; But he that filches from me my good name Robs me of that which not enriches him, And makes me poor indeed.

—Shakespeare.

V.

Standing on what too long we bore
With shoulders bent and downcast eyes,
We may discern — unseen before —
A path to higher destinies,
Nor deem the irrevocable past
As wholly wasted, wholly vain,
If, rising on its wrecks, at last,
To something nobler we attain. —Lo -Longfellow. VI. In contemplation of created things

By steps we may ascend to God. VII. Be wise to-day; 'tis madness to defer; Next day the fatal precedent will plead, Thus on, till wisdom is pushed out of life. Procrastination is the thief of time; Year after year it steals, till all are fled, And to the mercies of a moment leaves The vast concerns of an eternal scene.

-Milton.

Life, which, in its weakness or excess,
Is still a gleam of God's omnipotence,
Or death, which, seeming darkness, is no less
The self-same light, although averted here.

-Longfellow. One by one thy duties wait thee, Let thy whole strength go to each, Let no future dreams elate thee, Learn thou first what these can teach.

Whence this pleasing hope, this fond desire,
This longing after immortality?
Or whence this secret dread, and inward horror,
Of falling into nought? Why shrinks the soul
Back on herself and startles at destruction?
Tis the divinity that stirs within us;
Tis Heaven itself that points out an hereafter,
And intimates eternity to man.

—Addison,

XI.

Whene'er a noble deed is wrought,
Whene'er is spoken a noble thought,
Our hearts in glad surprise
To higher levels rise,
The tidal wave of deeper souls
Into our inmost being rolls,
And lifts us unawares
Out of all meaner cares. -Longfellow. XII.

The fairest action of our human life The fairest action of our numan life
Is scorning to revenge an injury;
For who forgives, without a further strife,
His adversary's heart to him doth tie,
And 'tis a firmer conquest, truly said,
To win the heart than overthrow the head. E. Carew.

Life should be full of earnest work, Our hearts undashed by fortune's frown; Let perseverance conquer fate, And merit seize the victor's crown. The battle is not to the strong, The race not always to the fleet, And he who seeks to pluck the stars Will lose the jewels at his feet. -P. Cary.

XIV. No man is born into the world whose work Is not born with him; there is always work; And tools to work withal for those who will; And blessed are the horny hands of toil. J. R. Lowell.

CONTRIBUTED BY MISS JESSIE INNES, CAMPBELLFORD, ONT.

Nothing useless is, or low; Each thing in its place is best, And what seems but idle show, Strengthens and supports the rest. Longfellow. II.

A light of duty shines on every day for all .- Wordsworth. III.

I dare do all that may become a man,

-Shakespeare. IV. He who seeks to pluck the stars Will lose the jewels at his feet.

-Phæbe Cary. They are never alone, who are accompanied with noble thoughts.—Chaucer. VI.

Believe nothing against another but upon good authority, nor report what may hurt another unless it be a greater hurt to another to conceal it.—Penn.

VII. Kind words are little sunbeams.

That sparkle as they fall;
And loving smiles are sunbeams,
A light of joy to all.
In sorrow's eye they dry the tear,
And bring the fainting heart good cheer. Alice Cary. VIII.

Happy is he who wisely knows
To use the gifts that heaven bestows;
Or if it please the powers divine
Can suffer want and not repine. —D -Dean Swift

IX To whose cup can we add a pleasure,
Whose path can we make bright with flowers?

—Mrs. Charles. X.

The noblest service comes from nameless hands, And the best servant does his work unseen. —Oliver Wendell Holmes. XI. Whatever is worth doing at all is worth doing well.-Lord XII.

> There's never a leaf or blade too mean
> To be some happy creature's palace.
>
> —James Russell Lowell. XIII.

Wisdom is oftimes nearer when we stoop

Than when we soar.

-Wordsworth. XIV.

As the evening twilight fades away,
The sky is filled with stars, invisible by day.

-Longfellow.

XV.

One cannot always be a hero, but one can always be a man.—Goethe.

CONTRIBUTED BY GEORGE J. M'CORMAC, ST. GEORGE'S, P. E. I.

O, trifle not with life; 'tis but an nour,
Redeem its every moment, day by day,
Press forward to the fruit;
Live for the future life; watch and pray,
Remember, child of time,
Thou art immortal; fling not Heaven away.
—H. Bonar, O, trifle not with life; 'tis but an hour, II.

Whoever is mean in his youth runs a great risk of becoming scoundrel in riper years. Meanness leads to villainy with tal attraction.

-Cherbuliez.

Be wise to-day; 'tis madness to defer;
Next day the fatal precedent will plead,
Thus on, till wisdom is pushed out of life!
Procastination is the thief of time;
Year after year it steals, till all are fled
And to the mercies of a moment leaves
The vast concerns of an eternal scene.

If pen or lips would keep from dips,
Five things observe with care—
Of whom you speak, to whom you speak,
And how, and when, and where. -Longfellow.

A friend, it is another name for God, Whose love inspires all love, is all in all. Profane it not, lest lowest shame befall! Worship no idol, whether star or clod! Nor think that any friend is truly thine, Save as life's closest link with Love Divine. — Lucy

Nothing is impossible. There are ways which lead to everything, and if we had sufficient will we could always have sufficient means.

WII.

Bound on a voyage of awful length
And dangers little known,
A stranger to superior strength,
Man vainly trusts his own.
But oars alone can ne'er prevail
To reach the distant coast;
The breath of Heaven must swell the sail,
Or all the toil is lost. -Couper. VIII.

Let us not forget that there are two sides to dying—the earth side and the heaven side. The stars that go out when the morning comes do not stop shining; only some other eyes in some other land are made glad by them.—M. J. Savage. IX.

The common problem, yours. mine, everyone's, Is—not to fancy what were fair in life, Provided it could be;
But, finding first what may be,
Then find how to make it fair—
Up to our means—A very different thing.

—Browning.

X. Be not angry that you cannot make others as you wish them to be, since you cannot make yourself what you wish to be.—Thomas A. Kempis. XI.

So and look onward, upward,
Where the starry light appears—
Where, in spite of the coward doubting,
Or your own heart's trembling fears,
You shall reap in joy the harvest
You have sown to-day in tears. A. A. Proctor.

XII. The love that survives the tomb is one of the noblest tributes of the soul.— Washington Irving.

CONTRIBUTED BY MISS ANNIE C. M'LENNAN, LANCASTER, ONT.

I. If you would be pungent, be brief; for it is with words as with sunbeams, the more they are condensed, the deeper they burn—Southey. II.

Music resembles poetry; in each Are nameless graces which no methods teach, And which a master-hand alone can reach. III.

Nature is but a name for an effect, Whose cause is God. -Cowper.

It is success that colors all in life;
Success makes fools admired, makes villains honest;
All the proud virtue of this vaunting world
Fawns on success and power, howe er acquired.

— Thomson.

Oh, so to live that those who see may say Surely, this one to honor points the way,

—Hilary Brooke.

VI. You cannot dream yourself into a character, You must hammer and forge yourself one. —Froude.

The chain of destiny leads him who obeys, but drags him who resists it. -Madame Swetchine.

VIII.

There is a divinity that shapes our ends, Rough hew them how we will. —Shakespeare.

JANU.

Be thy fat No

thing, sufficie

66 1 Th one i

home

that wealt Pı fully staff youn Ther and prosi well and bring eage taine the and t dogs on b all s scen you discu one will forg

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wealthy and leisure class.

the horses

themselves, and the excited

dogs (one bent

on being first!), all speak of a

scenewhich our young couple are evidently

discussing, and one which they

will not easily forget. As the

years roll on, joy and sorrow

may touch them—(does it

not touch us all?) - but I fancy they will

often think of that sweet, quiet honey-

moon time

when she pour-

ed out his tea in that pretty

old room-and

of the triumph

of their home-

coming.

O, how much more does beauty beauteous seem By that sweet ornament which truth doth give, The rose looks fair, but fairer we it deem For that sweet odor which doth in it live.

The love that survives the tomb is one of the noblest tributes of the soul.—Washington Irving.

XI.

Be a man! Bear thine own burdens; never think to thrust thy fate upon another.—Robt. Browning.

XII. Nothing is impossible. There are ways which lead to everything, and if we had sufficient will we should always have sufficient means.—Rochefoucauld.

XIII.

To dare is great. To bear is greater, Bravery we share with brutes; fortitude with saints.—C. F. Deems.

"The Return from the Honeymoon."

This picture seems to be a fitting sequel to the one in our last issue. Truly this looks like a joyous home-coming, and from appearances we should say that our bride and bridegroom belong to the

Probably those pleasant little meals, so delightfully secluded, during the honeymoon will now have the dignified addition of the old family butler and a

staff of young footmen, all eager to serve the sweet young mistress their master has brought them. There is evidently a right royal welcome for them,

and their new life is surely opening with brilliant

prospects. The whole animated scene is extremely well drawn. Those grand old trees so full of foliage, and the stately mansion seen through the gates,

bring a vivid and realistic picture before us. The eager attitude of the welcoming friends and re-

tainers, the postillions as they urge on their horses,

DUNDED 1866

ad, life! -Young.

eak. -Longfellow.

e, vine Lucy Larcom.

which lead to dd always have ochefoucauld.

e sail, -- Cowper.

to dying—the at go out when some other eyes J. Savage.

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-Browning.

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1. A. Proctor.

of the noblest ANCASTER, ONT .

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-Pope

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-Cowper.

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— Thomson.

y say Hilary Brooke.

uracter, f one, —*Froude*.

s, but drags him

ends, —**Shakespeare**.

-Shakespeare.

Agriculture in the Bible and Bible Times.

BY REV. W. A. BURMAN, B. D., LECTURER IN BOTANY, ST. JOHN'S COLLEGE, WINNIPEG.

[Copyrighted.]

INTRODUCTION. The aim and intention of this series of papers is to give the reader such information on the subject

to give the reader such information on the subject of agriculture in early ages, and especially in Bible times, as may be likely to interest and instruct.

It is hoped thus to interest the members of many farm households in the Bible itself, and to throw light upon its pages, so that its simple and beautiful stories of the honder life and occupations of its characteristic and people in the property added above and acters and peoples may receive added charm and significance, especially for those whose lives are lived in country places.

The subject will be illustrated by references to

the nations existing in the earliest ages, or during the periods covered by the Bible records, whose homes were in countries near the Holy Land.

Recent researches and discoveries have given us a wonderful amount of information about these people, their home life and industrial pursuits.

These records are all the more instructive from the fact that they are often illustrated by paintings or sculptures on rocks and buildings; or by im-

pressions left upon clay tablets and earthenware; or implements and other articles in stone and metal. Cuts and other illustrations will be used whenver possible, thus, it is hoped, rendering the series still more helpful.

CHAPTER I. " The making of the fields."

We begin our study of early agriculture most naturally by glancing lat the origin of the fields. For agriculture means the culture of fields.

comparatively recent origin, and consist largely of animal remains, such as coral insects, shellfish and organisms seemingly almost midway between the animal and vegetable world.

From the igneous rocks, constantly worn away by the action of the air and water, and especially by the carbonic acid which water often contains in large quantities, as well as by friction of stone upon stone, a deposit was formed which became in part the lower layer of soil, upon which the vegetable

the lower layer of soil, upon which the vegetable mould was afterward deposited.

The material washed down by rivers, after it has thus been broken up by chemical and other forces, and deposited under water either in the sea or in the lake, is called "alluvium." Often it has been at length raised above the surface of the water, or has been left exposed. It constitutes what may be called the mineral soil of many valleys, lying just underneath the vegetable soil, formed chiefly by the decay of vegetable matters. It consists of sand, gravel, stones, and fine sediment or mud. gravel, stones, and fine sediment or mud.

> Recipes. ONION SOUP.

One quart of milk, six large onions, yolks of four eggs, three tablespoonfuls of butter, a large one of flour, one cupful of cream, salt, pepper. Put the butter in a frying-pan. Cut the onions into thin slices and drop in the butter. Stir until they begin to cook; then cover tight and set back where they will simmer, but not burn, for half an hour. Now put the milk on to boil, and then add the dry flour to the onions, and stir constantly for three minutes over the fire. Then turn the mixture into the milk and cook fifteen minutes. Rub the soup through a strainer, return to the fire, season with

salt and pepper. Beat the yolks of the eggs well; add the cream to them and stir into the soup. Cook three minutes, stir-ring constant-ly. If you have no cream, use milk, in which case add a tablespoonful

> same time. PRESSED CHICKEN.

of butter at the

An easy way of preparing boneless chicken.-Boilafowl in as little water as possible till the bones slip out and the gristly por-tions are soft. Remove the skin, pick the meat apart, and mix the dark and white meats. move the fat, and season the liquor highly with salt and pepper; also with celery salt and lemon juice, if you like. Boil down to one cupful, and mix with the meat. Butdecorate the

sides with slices of hard-boiled eggs; also with thin slices of tongue or hard-boiled eggs; slices of tongue or ham cut into round or fancy shapes. Pack the meatl in, and set away to cool with a weight on the meat. When ready to serve, dip the mold in warm water, and turn out carefully. Garnish with parsley, strips of lettuce or celery leaves, and radishes or beets.

PUFF PASTE.

One pound of the best butter, one pound of pastry flour, one scant teaspoonful of salt, about one cup of ice water. By measure, use one quart of flour and one pint of butter. Scald the bowl and dip your hands in hot water to keep the butter from sticking. Wash the butter in cold water, divide into four parts, pat until thin, wrap it in a napkin and place in a pan between two pans of ice. Mix and place in a pan between two pans of ice. Mix the salt with the flour, rub in one part of the butter, add the ice water slowly, mix with a knife, and cut till it can be taken up clean from the bowl. Toss out on a well-floured board, pat into a flat cake, then roll out until half an inch thick. Roll one part of the butter thin and lay it on the middle of the paste. Fold the sides toward the middle, then the ends over, and double again. Pat and roll out again. Repeat this process with the remaining pieces of butter. When the butter is all rolled in, the paste should be rolled and folded till no streaks of butter can be seen. After the last rolling, place it on the ice to harden, as it may then be cut and shaped more easily.

ANDREW G. BURTON, Roland, Man .: "I have taken the FARMER'S ADVOCATE for nearly three years, and I think it is as good a farm paper as I can get."



"THE RETURN FROM THE HONEYMOON."

True Charity.

Every good act is charity. Giving water to the thirsty is charity. moving stones and thorns from the road is charity. Ex-

horting your fellow men to virtuous deeds is charity. Smiling in your brother's face is charity. Putting a wanderer in the right path is the read by door the right path is charity. A man's true wealth is the good he does in this world. When he dies mortals will ask what property has he left behind him, but angels will enquire, "What good deeds hast thou sent before thee?"—Mahomet.

Ready-made Happiness.

We spend so much time getting ready to be happy! The picnic to-morrow; the journey next week; the preparation now; the fulfillment of our desire to-morrow, and the frequent disappointment, of our expectations, day after day! This is the true history of many days, is it not? Suppose you try for just one day to be happy in the little things that come without anticipation or preparation. Suppose you take note of your mother's smile and father's "Good morning," and baby's eager chuckle as you appear. Suppose you abandon yourself to a frolic without anxious care for the good time tomorrow. Suppose you give yourself up to the sunshine and the out-of-doors and the new book, and the helping father and mother for their sake purely. Suppose you talk with your friends about the pleasant things already yours, and let those of the future wait. Oh, you don't think that "take no thought for the morrow" means you? But it does. Heaven leaves a touch of the angel in all little children, to reward those about them for their heavy cares.—Dinah Mulock Craik.

This sends us back to the very beginning of all ings. We must look at the earth as God made it. When we look out upon some stretch of beautiful unbroken prairie, decked with flowers upon carpets of green, fringed with the white-limbed poplars, whose quivering leaves make an ever-changing picture as they stand out against the blue sky, we may well ask the question, "How came this

scene of beauty?" Did it come as by some magic power in a single night; starting out of nothing, ready to charm with

Or was it, is it, a thing of growth; the result of ages of silent change and restless activity; the present result of the working of an all-wise and loving Creator through long centuries?

The Bible story of creation and the witness of

science alike tells us the last is the true answer. Geology, the study of the structure of the earth, tells us a wonderful story of how, through long ages, preparation was being made for the fitting of the earth as the abode of man, by laying the foundations of the fields, and making the soil out of which man was to draw directly a large part of his sustenance. Here it may be said that, either directly or indirectly, men are entirely dependent for life upon the produce of the earth. Hence the importance of

agriculture. If "every green thing that is upon the earth" were cut off for a year or two, there could scarcely be a living thing left, either on the earth or in the sea. The framework of the earth is of giant rocks. Some, built up by the action of fire, are called igneous rocks; others, formed by deposits in water, are called sedimentary. Many of the latter are of MY DEAR NEPHEWS AND NIECES,-

I very willingly yield to your Cousin's request for the loan of my column, as I know you will enjoy a good long cousinly chat more than the usual items, which lack of space necessarily renders brief. I must, however, express my earnest desire that all the old and very many new cousins will be regular contributors during '99, which will, I trust, prove a year of unparalleled happiness and prosperity to each one of you.

There, now, you mischievous youngsters, you have the game all to yourselves, and I promise not even to peep in through the window while it is in progress. Your loving-UNCLE TOM.

MY DEAR COUSINS,-

Isn't Uncle Tom a darling to be so good-natured, when I'm sure he really wanted to talk to you himmust not abuse the privilege I have received, but proceed at once to business.

In a recent letter "Dickens" says: "I was

In a recent letter "Dickens" says: "I was advised not to send puzzles to the ADVOCATE, as I would receive no prize even if my puzzles were better than some of the winners. I did not think so and cannot yet unless"—"or I fail to receive a prize this time." I do not think I am mistaken in saying that I believe a large majority of the cousins will give me credit for fair dealing, and it is certainly immaterial to me who wins—as well Dickens as anyone else. I receive a certain remuneration for looking after the puzzle column, which I do to the best of my ability, showing partiality to none, nearly all (especially the winners for several quarters past) being perfect strangers to me. I shall be pleased if "Dickens" will have his friend or friends substantiate the statement quoted above, or give their reasons for making such an utterly false and contemptible assertion. This, at least, is due both to the ADVOCATE and to myself. If "Dickens" and his friend "cannot with pleasure contribute" under the existing circumstances, they surely know that we use no compulsion in our Corner. We always welcome willing workers, and are certain that they who work faithfully are in the very act reaping an ample benefit, apart from the prizes which Uncle Tom so generously offers.

"The reward is in the doing, And the rapture of pursuing Is the prize the vanquished gain."

I regret that anything should mar the harmony of our Corner, but it is better to be straightforward

and have this subject settled as soon as possible.

H. C. G.—I promised to talk over your suggestions referring to setting different values on puzzles, according to their difficulty of solution, and also to publish once a month the standing of sometimes. The first suggestions could not exclusive competitors. The first suggestion could not easily be carried out so as to give general satisfaction; as, for example, the puzzles you find easy others consider difficult, and vice versa. If, however, it meets with the approval of the majority of contributes with the same proval of the majority of contributes. utors, and if they can agree upon a scale of values for puzzles, I shall be happy to give the plan a fair trial. Personally, I do not approve of the second suggestion, because, though it would excite the few to greater efforts, it would discourage many beginners, who would not care to have everyone know by how much they had been outdistanced. Let me hear from all the cousins on these points.

Well, now, "'Arry 'Awkins," that's great news
you have, indeed. Accept my sincerest congratula-

I wonder how many of our cousins would recognize you, "old stager," as you call yourself, if they heard your real name.

B. V. C. - Your visits are like those of the Why not make angels — few and far between. them more frequent?

I have the pleasure of welcoming five new cousins this issue, viz.: Berta Bastedo, Esther Craig, G. Lawson, Marion Ashlee, and Ernie McIntyre. we could only gain as many every issue, our circle would soon be what we wish it—crowded.

A matter to which I must draw your attention is the fact that we occasionally receive puzzles that are not "original." Some of these I recognize as old acquaintances at first sight; of others I am not quite certain, in which case I give the sender the benefit of the doubt; but frequently the solvers tell me they have seen some of these puzzles before. As I wish to be strictly just, I shall be glad to receive "proof" that any puzzle or puzzles have been previously published in this or any other paper. I also request all to be as prompt as possible in sending in work, as the dates set are the extreme limit we can allow, and one day late means considerable inconvenience to all concerned.

There are frequently misprints in some of the puzzles, which lead the solvers astray. These are generally due to the fact that the writers have not been careful enough in putting down their work. They have not preserved the distinction between letters somewhat similar in form, and thus the mistakes occur. You may send your answers on any sort of paper, in pen or pencil writing, on one or both sides of paper; but for the printer's sake write your "originals" plainly with pen and ink. As an additional inducement to do so, I shall offer a clothbound book for neatness and punctuality, allowing as a maximum five marks for each every issue, and warding the prize to the person having the largest

number of credit marks up to June 15th, 1899, credit to commence when work for Feb. 1st issue is due; i.e., Jan. 15th. One half mark will be deducted for each misspelled word. I should have enjoyed a little chat with each of you, but having already occupied too much space, will conclude by wishing you all a very Happy New Year.

Your sincere cousin— Pakenham, Dec. 16th, 1898. ADA ARMAND.

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.

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.—CHARADE. Now, cousins, take warning!
The New Year is dawning;
May it be one of the brightest and best
For Uncle Tom, cousins, and all the rest.

ONE will be the meetings, And many the TWO greetings, Before the old year yet is gone, And the bright New Year is come.

Christmas box and New Year's gift, Christmas tree and New Year's drives, If this were the only cast We could all live THREE lives.

A happier reunion could not befall Than of Uncle Tom and cousins all. Oh! what a lovely sight 'twould be; It would extend from sea to sea.

If we this FIVE cannot unite, May we all ever strive to write, And send FOUR puzzles to the ADVOCATE, And everything will be first-rate.

Before my verse runs into prose
I will draw the poetry to a close,
Wishing cousins and Uncle Tom
The "compliments of the season," which is "COM."
"DICK."

2.—HALF SQUARE.

1, to lodge; 2, to empower; 3, a flower; 4, observatory (abbr.), and a consonant; 5, insidious; 6, that is; 7, a consonant.

UNA SHEPHERD. 3.—DOUBLE ACROSTIC.

(1) a giraffe; (2) Mohammedan pilgrim to Mecca; (3) spicy; (4) to search; (5) pertaining to a hare; (6) ambiguity of speech; (7) conveying blood.

Initials and finals, read downwards, spell a great English and Spicy Property of the Proper

4.—AMERICAN CITIES IN CHARADE.

1. (1) A mineral; (2) a large body of water; (3) a large town.
2. (1) Total; (2) example (abbr.); (3) a barnyard fowl; (4) a

3. (1) A kind of shoe; (2) a boy's name; (3) crude metal.
4. (1) Happened; (2) a door fastener (curtailed); (3) a common weight.

5. (1) An angel; (2) a boy's name (abbr.); (4) a preposition; (5) an adjective. "Dickens." 5.—Rebus.

Little white eye, little blue eye,
How I love you!
Bathed in colors from the sky
Up above you.

6.—PROGRESSIVE NUMERICAL.

"OGMA."

She was in trouble, and sat down to 1-2-3 the situation and ponder 2-3 means of relief. The 4-5-6 on the hearth-rug yawned, but nothing else disturbed her reverie until the clock struck 6-7-8. If the 8-9-10-11-12-13 had been depending on the result of her deliberations she could not have been more serious. But when she arose she had formed a plan to meet and overcome the strange 1-2-3-4-5-6-7-8-9-10-11-12-13 of events that had threatened her. 7.—CHARADE.

Though sent off to school with little ado,
He had a bad way of returning ONE TWO;
At ONE they would say, at the sound of his feet,
"Here comes that TWO boy, but he is only COMPLETE."
"OGMA."

8.—Cross-word Enigma.

My First is in Corn but not in Beans, My Second is in Wheat but not in Peas, My Third is in Straw but not in Hay, My Fourth is in Spring but not in Fall, My Fifth is in Shovel but not in Hoe, My Sixth is in String but not in Ball, My Seventh is in Mill but not in Grind, My Eighth is in Stable but not in Door, My Ninth is in Horse but not in Mare, My Whole is always welcomed by all.

MARION A. ASHLEE.

9.—Phonic Places we now Read About. Ran by steam or electricity, and a grain.
 A girl's name and a boy's name.
 A vowel, a musical instrument (transposed), and to fortify.

To regard and a girl's name.

(3) A puppy and an article.
(6) A man's name and tropical fruits (ab.).
(7) A relation, a pronoun, price, and a pronoun.
(8) A species of earthenware.

'ARRY 'AWKINS."

10.—RIDDLE.

What is that which runs and runs, but never gets away? ESTHER C.

11.-- Вномвого. Diagram.

Across. -1, a runner; 2, females of a cavalry quadruped: 3, what your big shoes are; 4, comes close to you;

. 5, to form letters Down.—1, a consonant; 2, expresses determination; 3, a fruit cell; 4, Ireland; 5, to make new; 6, to cauterize; 7, a title (transposed); 8, street; 9, a vowel. "DICKENS." 12.—SUBTRACTION PUZZLES.

Example.—Subtract one thousand from to conquer and leave a flower. Answer: master-m=aster.

Subtract fifty from a tree and leave an opening.
Subtract fifty from a tower and leave an infant.
Subtract one thousand from a fur and leave a writing material.

Subtract one thousand from a man and leave a beverage.

Take one thousand from a disguise and leave to enquire.

Take one thousand from a woman and leave a song.

Subtract five hundred from a woman and leave a song.

Take one thousand from spite and leave a girl's name.

Berta Bastedo.

. 13.—FLOWERS—DROP VOWEL.

4. l-v-nd-r. 5. t-r-s. 6. sw--tb-lm. Esther B. sh-mr-ck.
 -n-nl-ly.
 c-ct-s.

14.—ANAGRAMS. (1) Since he was an urchin of five or six He has been a most miserable gilly; He's had "Mint hen sup" so much I wonder it don't knock him silly.

(2) It's just twenty years since he stole some fruit, And the owner he raised an objection, And, "As Tim C he sent" over the fence, And, "As Tim C he sem over the His pants caught on a projection. "'ARRY 'AWKINS."

15.—ANAGRAM. We had a little girl
And to school we sent her;
When she got there she said,
"Let MINNETTA ENTER." H. C. G.

Answers to December 1st Puzzles.

1.—BifariouS m A tura t E d t a Wnys Cow u n b O u N d e d ha Ndin Ess h Ardine Ss LucidnesS

Diagonals.-bawdiness; sectional. Good manners are made up of petty sacrifices.
 Courtesy and kindness will never lose their charm, while all spurious imitations of them are to be despised. 3.—Acknowledgment.

4.—1, Porter; 2, Hardy; 3, Hogg; 4, Bacon; 5, Lover; 6, Sterne; 7, Black; 8, Shelley or Crabbe; 9, Fox; 10, Hook; 11,

5.—confIning 6.—UnfeD ordInal Neic E Comi C n e I v a d I d Thum B a I m ОхеуЕ t r I b e opp I d a m M i s e R rece I v e s t

7.—Imagination. 8.-Sunday. 9.—Minneapolis, Annapolis, Biddeford, Alleghany (Allieguinea), Winnipeg, Cheboygan, Philadelphia, Cincinnati (sin, sin, at, i), Hamilton, Halifax. 11.—Planet; plane, plan.

10.—Fry-day—Friday. 11.—Planet; plane, plan. 12.—Bill, wing, tale, I, clause (claws), foul, head, toe, board,

SOLVERS TO DEC. 1ST PUZZLES. "'Arry 'Awkins"; Ernie McIntyre; G. Lawson; "Toledo"; M. R. G.; "Dennis."

ADDITIONAL SOLVERS TO NOV. 15TH PUZZLES. "'Arry 'Awkins"; "Dennis"; "Toledo"; "Dick"; M. R. G.; H. C. G.; B. V. Chisholm.

Answers to Nov. 15th Puzzles.

1.—Dear-era; fitly-flit; simplest-slept; meter-met; poet-Poe; best-set.

2.—Own, aver, invalid, die, crop, base, lie. 3.—Listowel. Meaford, Seaforth, Kincardine Acton. rora, Guelph, Orillia, Brantford, Paris, Bradford, Bracebridge, Goderich, Wingham.

4.—(1) Insects; (2) the vovels. 5.-Fiction i narch caree t r e e i c e o h

6.-Well begun is half done. 7.—Too many cooks spoil the broth.

Better to go to bed supperless than to rise in debt.

Better is a small fish than an empty dish.

Better have some of a pudding than none of a pie.

Light suppers make long lives.

g i n e v e echerch hab i t Live'rpool c heapness b o y e, o 1

10.-K N and I C (Cayenne and Icy).

11.-Orthographer, 12.—Hallowe'en. SOLVERS TO NOVEMBER 15TH PUZZLES. Mary Nagle; Howard Kersey.

i 1 1

ADDITIONAL SOLVERS TO NOVEMBER 1ST PUZZLES. A. F. F.; Mary Nagle; M. R. G.; "Dick"; "Toledo"; Also Una Shepherd for October 15th.

WILLIAM MACKLIN, Glenora: -"I' came from England quite a greenhorn at farming, but by studying the different experiments published in the FARMER'S ADVOCATE from time to time have made it the means of helping me. I would not be without it for five times the amount."

JANUARY

HAMILTON

TEN CH **FIFTEEN**

SH **Crimso**

And from st ender, Pren bell. A few wold sheep.

ŠPRIN

ı. SI AND LI Imp. Boung bul

SPRINGI Shorthor Young bu on hand choice Be CHAS

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Two deso dairy test by Kinel HEIFERS C YORK.

Mapl SHORT and the service. lot of you dams. S dams. S sale also.

RRY 'AWKINS."

Alleghany (Allieplane, plan,

wson; "Toledo"; PUZZLES.

head, toe, board,

; "Dick"; M. R. Puzzles. ter-met; poet-Poe;

Acton ford, Bracebridge,

rise in debt. ish. one of a pie.

e n b i t o t a l \mathbf{n} \mathbf{e} \mathbf{p} \mathbf{e} \mathbf{s} regal

Cayenne and Icy). en. ZZLES.

ST PUZZLES. ick"; "Toledo";

"I came from ming, but by bublished in the to time have would not be

W. D. FLATT, HAMILTON P. O. and TELEGRAPH OFFICE.



OFFERSTEOR SALE

TEN CHOICE SHORTHORN BULLS from seven to twelve months,

FIFTEEN COWS AND HEIFERS,

served by imported bull, Golden Fame =26056=; also, a few cows with calves at foot. Farm 6 miles from Hamilton. Catalogue sent on application. Visitors met at G. T. R. or C. P. R. if notified.

SHORTHORNS



And from such sires as Scotchman 2nd, Duke of Lavender, Premier Earl, Indian Chief, and Clan Campbell. A few splendid young bulls ready now. Cotswold sheep.

DAVID BIRRELL,

ŠPRING GROVE STOCK FARM



Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Ex-Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Imported Blue Ribbon = 17095= and the famous Money-fuffel Lad = 20521=. High-class Shorthorns of

T. E. ROBSON, Ilderton, Ont.

Maple Bank Stock Farm **OFFERS**

15 SHORTHORN BULLS

with Scotch-topped pedigrees Splendidreds and roans, and sired Splendid reds and roans, and street by Valkyrie 21806, and out of dams by Young Abbotsburn's Heir 15947 and Imp. Mariner 2720. Also a gree gold from death of all ages and in good form. Farm

T. DOUGLAS & SON, Strathroy, Ont.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Baron Blanc 11th tat 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, DENFIELD, ONT.

SPRINGFIELD FARM Shorthorns, Oxfords,

AND Berkshires.



SHORTHORNS

Seven Splendid Young Bulls, 4 TO 11 MONTHS OLD.

Two descended from Waterloo Daisy (World's Fair dairy test), balance Missie and Lady Jane strain, and by Kineller of York; as well as a few cows and Heifers equally well bred.

F. MARTINDALE, YORK, ONT., Caledonia Stn., Haldimand Co.

Maple Lodge Stock Farm SHORTHORNS.-- Imported Knuckle Duster, and the great sire and show bull, Abbottsford, in service. Several choice heifers for sale, and a grand lot of young bulls by Caithness, from good milking dams. Some splendid Leicester ewes and rams for A. W. SMITH. sale also.

MAPLE LODGE P. O., ONT.

GOSSIP.

A great many lambs and mutton sheep are now being fed on irrigated farms in Colorado and other Western States, and the industry has become so large that eastern feeders will be compelled to look elsewhere for stock to put in

their feed pens.

One American attraction at the Paris Exposition of 1900 will be the driving of an old-time six-in-hand prairie coach by Mrs. G. P. Greenfield, of Colorado. Mrs. Greenfield has been an expert handler of horses since her childhood. Combining pleasure with business, she has been for the last few years a "cabby" at Colorado Springs, meeting all trains and picking out the most prepossessing patrons. Her earnings from this line of business have been very large, some days having taken in over \$50 from tourists.

W. Thorn Lynedoch. Ont., writes under date

been very large, some days having taken in over \$50 from tourists.

W. Thom, Lynedoch, Ont., writes under date of Dec. 21st. "My Ayrshires are doing well. My herd is now headed by Royal Star of St. Anne's (7916), which I purchased at Toronto Industrial Exhibition from the herd of Mr. Robt. Reford, of Montreal. Royal Star won 1st prize at Toronto, 1st and diploma of honor as best bull any age at London in 1898. He was sired by Glencarin 3rd (imp.) (6955), dam Margie of Williamstown (5659). He is doing well, and will make a grand stock bull. The stock bull I am offering for sale is Rob Brown of Barmoorhill (1940), bred by Messrs. David Morton & Son, Hamilton. He is sired by Monarch (imp. in dam) (77), dam Nancy Loe of Barmoorhill (imp.) (1211), a very heavy-milking cow. Rob Brown has proved himself to be a sire of high order, from the excellent uniform young herd I have from him, some of which are heifers at a breeding age. I cannot keep him any longer. He is perfectly quiet, and has a kind disposition. Anyone requiring a good stock bull cannot go astray in buying him. I am also offering a bull calf and yearling bull sired by Rob Brown, dam Norval Rose (1359), which is the making of a No. I animal. I have been very successful in the showring this fall with my Ayrshires, winning 41 firsts, 24 seconds, 16 thirds, and 5 diplomas. My poultry is also doing well. Have 100 cockerels and pullets, and a few yearling birds for sale. From 60 entries in poultry in 1898, won 26 firsts, 16 seconds, not Ayrshires to Be Sold.

My David Derwayand Partite Cyte Onders

A NOTED HERD OF AYRSHIRES TO BE SOLD.

Mr. Daniel Drummond, Petite Cote, Quebec, announces in our advertising columns that on Feb. 16 he will sell by auction his entire herd of high-class registered Ayrshire cattle. This herd is widely known as one of the very best in individual merit and breeding in the Dominion, and has supplied many of the most successful prizewinning animals of the breed at leading shows in all the Provinces, as well as at the World's Fair at Chicago, where, in great competition, he was awarded the herd prize for Ayrshires, the sweepstakes for best bull and best cow of the breed, and five other first prizes. Ayrshire breeders freely acknowledge that Mr. Drummond is one of the very best judges and one of the very best breeders of this class of cattle in Canada, as well as one of the most upright and honorable men in the business. While we regret that Mr. Drummond has decided to give up his farm, and will drop out of the list of breeders, we hope to see a large attendance at his sale, and that fair prices may be realized for his cattle. Every one interested who has not received a catalogue should send for one. A NOTED HERD OF AYRSHIRES TO BE SOLD.

THE RECORD OF DAISY TEXAL 2ND AND CALAMITY JANE.

CALAMITY JANE.

Messrs. A. & G. Rice, Currie's Crossing, Ont., write: "The Holstein heifer, Daisy Texal 2nd, owned by us and illustrated in another column, was born Sept. 16, 1895, and was winner of 1st prize in her class in the milking test at the recent Provincial Dairy Show at Brantford, for heifer under 36 months (dating to 1st Aug., 1898). Her record in the 48 hours of this test was 1344 lbs. milk, 3.2% fat, or 4.304 lbs. butterfat, equivalent to 5.38 lbs. butter, 80% fat. This record has never been equalled, we believe, by one of her age in a public test. Just previous to this test, she made a good official test for 7 days, under the supervision of Mr. Wm. Squirrel, from O. A. C. Dairy School. And after this public test she was again tested for 11 days by Mr. J. A. McFeeters, the newly appointed instructor in the Home Dairy at the Ont. Agr. College. During these two tests every milking was witnessed by the supervisor, and a test made of each milking. Between these two tests we have the amount of milk she gave, and taking this milk at the average per cent. of fat of her two official records, we compute her record for 31 consecutive days. This includes the two days spent on the cars and time at public test: public test:

Date. Milk. % fat. fat. fat. Nov. 20 to 26, incl. 27 to Dec. 9, 10 to 20, 6991 3.25 21.8146 27.268

Total 31 con. days, 1,945\(^1\) 63.1268 78.908

Below is given Calamity Janes' 30-day record, made under the same conditions as that of Daisy Texal 2nd, but her 7-day official test was commenced one day later, as she had just calved 6 days previously, and was supervised by the same parties as the other test, viz.: 7 days by Mr. Squirrel at the commencement and 11 days at the end by Mr. J. A. McFeeters; ahd in the public test, between these two tests, she was tested by Prof. G. E. Day and Mr. A. C. Wilson, all of the Ont. Agr. College staff. The weight of the milk between these two tests is actual; the per cent. of fat is computed from the average of these two.

Milk. Aver. fat. butter. Total 31 con. days, 1,9453

Milk. Aver. fat. lbs. oz. // fat. lbs. lbs. Nov. 21 to 27, incl. 485 8 3 674 17.846 22.307 28 to Dec. 9 907 3.516 31.890 39.862 Dec. 10 to 20 904 44 3.358 30.370 37.962

80,106 100,131 Tot. 30 con. days, 2,296 12 80.106 100.131

She made, on last day of the test, 3.084 lbs. of butter-fat, and on the last 3 days, 8.97 lbs. of butter-fat. If she had been home all the time, the record would be larger still. Made as it has been, it is backed by enough evidence to place it beyond all cavil. If as much evidence was adduced in a murder trial, it would hang the best man in America. As is well-known, the cow has had no rest. In 1897 she calved on Nov. 12, and this year on Nov. 15; was not dry 5 weeks. Tot. 30 con. days, 2,296 12}

How to Succeed on the Farm!

MONEY IN POORET.

THE WILLIAM WELD CO. (LIMITED), LONDON:

information pertaining to all the branches of agriculture than any other journal published in Canada, and no one can thoughtfully read it for one year without being money in pocket by doing so.

Middlesex Co., Ont., Dec. 26th, 1898. DEAR SIRS,-I believe the FARMER'S ADVOCATE contains more reliable

Every farmer desires to succeed, and he may do so by applying principles and methods upon which success depends in all branches of farm work. It is not a matter of luck nor waiting for dead men's shoes. During 33 years past the FARMER'S ADVOCATE has made an honest effort to promote this object, and we are encouraged every year by the testimonies of thousands of farmers that have been helped to prosperity by it. We have the best of reasons for knowing that we will aid more farmers next year than ever before and in batter and more practical ways, we believe. fore, and in better and more practical ways, we believe.

A NEW DRESS.—Among the many improvements in the FARMER'S ADVOCATE for 1899 is the complete new dress of type, which adds greatly

to its handsome appearance. CHRISTMAS NUMBER FOR NEW SUBSCRIBERS WHILE THE SUPPLY LASTS.—Every new yearly subscriber will receive the Christmas number, with its wealth of illustrations and instructive reading matter, and all the issues for 1890 at the ordinary subscription rate of \$1.00. Extra copies required by subscribers we will supply at 25c. each; to nonsubscribers, 50c.

subscribers, 50c.

GOOD BOOK PREMIUMS.—We have made special arrangements with the publishers for a supply of the following valuable works, which we offer on very favorable terms: "Feeds and Feeding" (\$2), by Prof. W. A. Henry, for 3 new subscribers to the Farmer's Advocate at \$1 each; "The Domestic Sheep" (\$1.50) Hy. Stewart, 3 new subscribers; "Horses, Breeds and Management" (heavy and light breeds), 3 new subscribers each; "Cattle, Breeds and Management" (\$1.25), by Wm. Houseman, 3 new subscribers; "Pigs, Breeds and Management" (\$1.25), by John Wrightson, 3 new subscribers; "The Fertility of the Land" (\$1.25), by Prof. Roberts, 2 new subscribers; "The Soil (75 cents), its Nature and Management," by Prof. King, 2 new subscribers; "Milk and its Products," (\$1.00), by Prof. Wing, 2 new subscribers; "Testing Milk and its Products," by Farrington & King (\$1), 2 new subscribers; "The Silo and Ensilage" (paper cover, 50 cents), 1 new subscriber, or in cloth (\$1.00), 2 new subscribers; "Artificial Incubating and Brooding," a practical work, contributed to by most expert operators of incubators and brooders in America (50 cents), for 1 new subscriber.

HOW TO GET THE PAPER FREE.—Any present subscriber

HOW TO GET THE PAPER FREE.—Any present subscriber sending in two new subscribers and \$2.00 will have his or her subscription extended for one year.

OUR NEW SELF BINDER.—Each copy of the FARMER'S ADVOCATE, as received, is safely secured as in a fine cloth-bound book. Handy, handsome, durable. Will be sent post prepaid to any subscriber sending us two new yearly subscriptions, or may be had for 75 cents each.

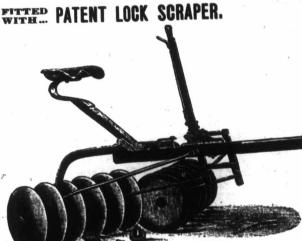
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FREE SAMPLE COPY SENT TO ALL APPLICANTS. ADDRESS THE WILLIAM WELD CO., Limited, London, Ont., Canada.

A Record of over 50 Years as Manufacturers of Farm Implements!

COSSITT'S ALL-STEEL BALL-BEARING

DISC HARROW.



THE BEST SELLER ON THE MARKET. Agents cannot get a better line

MOWER, TIGER AND ITHACA HORSE RAKES, HARROWS. SCUFFLERS,

Manufactured in the MOST COM-PLETE and UP-TO-DATE FACTORY in CANADA.

CORN SHELLERS.

ROOT PULPERS, &c.

Send for Catalogue.

THE COSSITT BROS. CO., LIMITED, BROCKVILLE, ONT. ESTABLISHED 1849.

W. R. BOWMAN,

MT. FOREST, ONT., OFFERS

10 Shorthorn Bulls of good breeding and quality, from good milking strains, at from \$50 to \$75 each.

1 Berkshire Boar, of Snell breeding, weighing 250 pounds, extra quality, \$15. 12 Yorkshire Boars, good ones, weighing from 150 pounds to 250 pounds, at \$12 to \$15 each. All stock registered and shipped C. O. D. Young pigs from 30 pounds to 40 pounds at \$6 each. MT. FOREST, ONT., OFFERS

SCOTCH-TOPPED SHORTHORNS.

Am offering five young bulls, four of which are by Guardsman, the sire of St. Valentine, champion for three years in succession in the United States. The fifth is out of a Guardsman dam. Also a few cows and heifers, mostly by Guardsman.

JOHN GARDHOUSE, HIGHFIELD, ONT. Weston Station, G. T. R. and C. P. R.

F. BONNYCASTLE & SONS CAMPBELLFORD P. O., ONT.,



OFFER FOR SALE the stock built Redman =21765=. sired by Tofthills (imp.) =11113=, dam Canadian Duchess of Gloster 22nd =24849 =; also a few cows and heifers. A choice lot of Berkshire pigs from four weeks to six months old.

SHORTHORN BULLS -

SCOTCH BREEDING. Good growthy ones from 5 to 15 months. Also an aged bull. Would spare a few heifers, Prices very moderate. Write—

SHORE BROS., White Oak, Ont.

NOTICES.

The American Tamworth Swine Record Association.—The third annual meeting of the American Tamworth Swine Record Association will be held at the office of the Secretary, Wolverine Citizen Building, Flint, Mich., at 10 o'clock, a. m., Monday, February 20th, 1899., A board of directors will be elected at this time. Mr. E. O. Wood is Secretary of the Association.

board of directors will be elected at this time.

Mr. E. O. Wood is Secretary of the Association.

Christmas Examinations, Ontario Veterinary College.—The Christmas examinations of the Veterinary College, Toronto, were concluded December 23rd. The Board of Examiners, which is composed of prominent veterinary surgeons practising their profession in various parts of the Province, after subjecting the candidates to a stringent examination, awarded diplomas to the following gentlemen: Graduates — William A. Campbell. Niagara Falls South; Arthur E. Chandler, Barberton, Ohio; Alex. J. R. Cromwell, Sawyerville, Que; William L. Crone, Watford, Ont.; William Cunningham, Ashton, R. I.; John Hewins, Mountsberg, Ont.; Robert Lawson, Shoal Lake, Man.; Howard S. McFatridge, Halifax, N. S.; Donald H. McKay, Brandon, Man.; Cranston Owens, Utica, N. Y.; Philip C. Palmer, Bryn Mawr, Penn.; Harry P. Reed, Hemlock, N. Y.; Chas, B. Shaw, Ashby, Mass.; Winfield S. Wallace, Vermillion, N. Y. Primary examination—H. James Elliott passed primary in anatomy.

anatomy.

Instruction by Mail. — Working men or women who are dissatisfied with their work and positions should read up on the subject of instruction by mail and learn what remarkable advances are made under skillful instructors. The International Correspondence Schools, of Scranton, Pa., claims to have originated correspondence instruction in technical subjects. Students who enroll in the complete mechanical course the electrical engineering course.

ical course, the electrical engineering course, the architectural course, or any of the civil engineering courses, in all of which drawing forms a part, may become competent draftsmen and secure congenial, remunerative positive meaning and while course, in all of the course of the

men and secure congenial, remunerative positions in drafting-rooms, and while occupying such positions may continue their studies and qualify for a professional career.

The schools occupy handsome buildings in Scranton, erected especially for correspondence instruction, at a cost of \$225,000. They have a capital of \$1.250,000, and since their establishment in 1891 they have constantly grown in size ment in 1891 they have constantly grown in size and influence, now giving instruction by mail to more than 60,000 students in all parts of the world. Full information concerning courses can be had by addressing the schools.

can be had by addressing the schools.

A very pleasing incident took place at the offices of the Ontario Wind Engine and Pump Co., Toronto, on Saturday last, when Mr. A. C. Morris, secretary-treasurer of the Company, and Mr. James M. Reid, as representing the general agents, presented Mr. S. H. Chapman with an address and a gold-headed cane on the completion of the first year of the Company's occupancy of their new premises. Mr. Chapman is personally immensely popular with those immediately associated with him, and the high esteem with which they regard him is shared by all those who have had dealings with the Company. It is satisfactory to know that the business for the year just closed has been far in advance of any previous record, that the business for the year just closed has been far in advance of any previous record, and that the expressions of confidence in the address with regard to the future operations of the Company are certain of realization. The address in question is as follows:

Dec. 31, 1898. S. H. Chapman, Esq., President Ontario Wind Engine & Pump Company, Limited, Toronto, Ontario:

As a slight token of the esteem in which you are held by the directors, travellers, and office staff of the Company, and as a remembrance of the advance of the business from the old factory to the new, and the very successful completion of the first year's business therein, we desire to present you with this walking cane, the use of which we trust you will continue long to enjoy as president and manager of the Company.

tinue long to enjoy as president and manager of the Company.

We fully anticipate that your management of the business in the future, as in the past, may be characterized by caution, prudence, foresight and progress, so that in years to come the business may continue to expand and grow, until the present new and commodious shops may prove altogether inadequate to contain it, being but a milestone on the progressive march of the business, that will require to be enlarged from time to time to give increased facilities for the manufacture of the windmills, pumps, tanks, and grain grinders for which the name of the Company has now become famous in this and foreign lands. Signed on behalf of the Committee.

A. C. MORRIS,

A. C. Morris, Sec.-Treas., for the Directors and Office Staff. J. M. REID, Gen. Agt. for Western Ont., for the Gen. Agts.

GOSSIP.

W. H. Webber, Lakelet, Ont., writes: "My Shropshires did well at the fall shows, winning 40 firsts and 26 seconds, and I have disposed of all my surplus stock, with an ever-increasing demand for more sheep. My flock, now numbering 40 head, are doing well."

bering 40 head, are doing well."

R. P. Barber, Ogden, Iowa, U.S.A.:—"While on a visit to Saskatoon last summer, about the first thing I saw was the FARMER'S ADVOCATE, which looked quite familiar to me; upon inquiring I found it held a very estimable position in the farmers' libraries; and all spoke in its praise. As for myself, it is the best paper I am taking."

LAST CALL FOR JOHN ISAAC'S SALE OF IM

LAST CALL FOR JOHN ISAAC'S SALE OF IMPORTED SHORTHORNS.

We remind our readers once more of the
great sale of 30 imported Scotch-bred Shortborns at Markham, Ont., Jan, 11th, property of
Mr. John Isaac. This is no doubt one of the
choicest lots of cattle that has been offered in
Canada in many years, and we are assured the
sale will be without reserve. There is ample
room for this fresh blood in Canadian herds,
and the animals should find ready buyers at
fair prices. fair prices.

GREAT POULTRY GATHERINGS.

A great poultry and pet stock show will be held in the horticultural pavilion, Toronto, from January 9th to 13th, and at the same time the annual convention of the Ontario Poultry Association, the American Poultry Assand the Toronto Poultry Association.

MERTON STOCK FARM.

Young BULLS. HEIFERS, and COWS





MAPLE SHADE"

6--Massive Shorthorn Bulls--6 FROM 7 TO 12 MONTHS OLD Form, Flesh.

Substance, Pedigree.....

...All Right.

John Dryden, BROOKLIN, ONT MOUNT ROSE

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

J. W. Hartman 🕍 & SONS. Elmhedge P.O., Ont.



SHORTHORNS

In Bulls I am prepared to dispose of a dozen fine, healthy, and grandly bred, growthy fellows, reds and roans. In Females anything I have on hand I will price; many of which are by imported Kinellar Sort (64209) 18951. Correspondence Invited and Visitors Always Welcome.

G. A. BRODIE, Stouffville Stn., G. T. R. BETHESDA, ONT.

ROBERT MILLER. STOUFFVILLE, ONT., Importer and Breeder of

Shorthorns and Shropshires

Offers young bulls and heifers, rams and ewes of the most approved breeding and finest quality, at moderate prices. Station, Telegraph, Telephone, Post Office, three minutes' walk.

SCOTCH SHORTHORN BULLS AND HEIFERS HERD ESTABLISHED IN 1872.

Such sires as imported Royal George and imported Warfare have put us where we are A. & D. BROWN,

ELGIN COUNTY. -om IONA, ONTARIO. SHORTHORN BULLS

One choice two-year-old, and three from four to eleven months, all in fine form and sired by Elvira's Saxon 21064.

R. MITCHELL & SON, Nelson P. O. Burlington Station.

SHORTHORN CATTLE.

Good young bulls of Scotch breeding and a desirable lot of heifers for sale.

H. SMITH, HAY, ONT. Exeter Station, G. T. R., half mile from

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS

For Sale: 4 young bulls of the choicest breeding and good quality, and from A 1 dairy cows. Wm. Grainger & Son, - Londesboro, Ont.

H. K. FAIRBAIRN, Rose Cottage Stock Farm, Thedford, Ont.. OFFERS FOR SALE

2 SHORTHORN BULLS, one 3 years old and

BRAMPTON JERSEY HERD.



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

B. H. Bull & Son. BRAMPTON.

BARRED LYMOUTH ROCKS DIRECT FROM IMPORTED STOCK.

A grand for of cockerels and pullets, well-barred, large, strong, robust, healthy birds. For prices write W. C. Shearer, BRIGHT. ONT.

THE ONTARIO VETERINARY COLLEGE

(LIMITED), TEMPERANCE ST., TORONTO, CANADA.

Affiliated with the University of Toronto. Patrons: Governor-General of Canada, and Lieut,-Governor of Ontario. Fee, \$65.00 per session. Apply to Andrew Smith, F.R.C.V.S., Principal. 18-2-y-om

PLEASE MENTION FARMER'S ADVOCATE.

NOTICES.

Winter Term.—The winter term at Central Business College, Stratford, Ont., opens on Tuesday, January 3rd. This popular institution has a staff of nine teachers, and enjoys a large patronage. It is one of the most progressive schools in Canada.

Binder Twine, 650 feet to the Pound.— In the advertisement of the Consumers' Cordan the advertisement of the Consumers' Cord-age Co. in our Christmas number, a mistake occurred which did their Pure Manila Binder Twine a serious injustice. The statement that credited the Tiger brand with running 600 feet to the pound should have read 650 feet.

Biggle Swine Book is the fifth of a series by Biggle Swine Book is the fifth of a series by Jacob Biggle. The first was about horses, the second berries, the third poultry the fourth is on cows, and the fifth, a new work of 144 pages, just out, treats of the leading breeds of pigs, with illustrations of specimens, besides covering "Feeding," "Breeding," "Market Points," "The Piggery," etc., in a concise and practical manner. It is issued by the Wilmer Atkinson Co., Philadelphia, and sells for 50 cents a copy. Is pages are 3½ by 5½ inches, and well bound in boards.

Back Numbers Wanted .- Owing to the constant demand for extra copies to supply new subscribers, and for other purposes, our spare supply of a good many late issues have run out supply of a good many late issues have run out altogether, and several nearly so. All our readers do not preserve their papers after the year, and if any have copies in good condition with which they would care to part we would esteem it a great favor to receive those for the following dates: Dec. 1st, Nov. 1st and 15th, Oct. 1st and 15th, Sept. 1st and 15th, and Aug. 15th.

The Live Stock Journal Almanac for 1899 The Live Stock Journal Almanac for 1899 contains, besides the usual breeders' tables, statistics, etc., some forty-eight special articles on British breeds of live stock and other agricultural topics. A number of useful veterinary articles, also some on poultry raising, are included from the pens of good authorities. The doings of the various British breeds of live stock during the past year are ably reviewed by comdoings of the various British breeds of five stock during the past year are ably reviewed by com-petent men, and many points in stock manage-ment are developed by others. The work is profusely illustrated throughout. It is bound in pamphlet form and sold for one shilling by the publishers, Messrs. Vinton & Co., 9 New Bridge St., Ludgate Circus, London, E. C.,

Eng.

St. John, N. B., as a Winter Port.—A highly artistic and very interesting pamphlet, containing 22 pages of carefully prepared reading matter and illustrations, besides half a dozen large and well-defined maps of the city, harbors, Bay of Fundy, etc., has been issued by the St. John Board of Trade, of which F. O. Allison is Secretary. It has been prepared mainly with the view of making the advantages possessed by St. John as a port for the import and export business of the Dominion of Canada, especially during the winter months more widely known. St. John is entered by the Canadian Pacific and Intercolonial Railways, while its shipping privileges can hardly be surpassed. The pamphlet is quite a souvenir production.

A Boon to Asthmatics.—Talk to the victims

production.

A Boon to Asthmatics.—Talk to the victims of that dread disease asthma or hay-fever, enquiring what remedies they have tried, and you are invariably met with the reply that "I have tried so many so-called cures of no virtue, or with relief which is only temporary, that I am sick of taking medicine," or something to that effect. It is unfortunate when sick people from any disease do not possess some little knowledge of the physiological character of their trouble, because they are tempted to try this and that without a thought as to its effect upon the system and therefore upon the disease. The facts are that the skillful doctor will not treat a serious case without some knowledge of its history tem and therefore upon the disease. The facts are that the skillful doctor will not treat a serious case without some knowledge of its history or the patient's system. The idea that what has cured one patient of a certain disease must of necessity have a similar result in another case is unreasonable, because of the varied individuality of different persons. The Asthmatics' Institute of Dr. P. Harold Hayes, at Buffalo, N. Y., has a staff of expert physicians who are specialists in their line. When a case is referred to them, they first of all present the patient with a treatise on the disease so that he or she may understand their own case. The next step is to send them a list of questions, which, if answered correctly, will enable the doctor to deal intelligently with his patient. If the prescribed rules are followed, not only an early but a permanent cure is the result in all, except cases where a complication of other diseases is present. Persons addicted to either asthma or hay-fever need not seek other climate for relief, but will serve their best interests by appealing to Dr. P. Harold Hayes, Buffalo, N. Y., for treatment.

Artificial Incubating and Brooding.— A

or rener, out will serve their best interests by appealing to Dr. P. Harold Hayes, Buffalo, N. Y., for treatment.

Artificial Incubating and Brooding.— A truly valuable poultry book has recently been put upon the market by the Reliable Poultry Journal Pub. Co., of Quiney, Ill., It is titled "Artificial Incubating and Brooding," which is the main text of the work. Its 104 twelve-by-nine pages are made up of articles on all phases of this subject of growing interest, written by thoroughly competent men actively engaged in the lines upon which they write. Some of the many practical questions dealt with are the following: "Hatchable Eggs—How to Get Them," "Cut Bone and Animal Meal for Egg Production," "Poultry House Plans," "What and How to Feed," "Incubators on the Farm," "Best Breeds for Broilers," "Poultry for Market," "Construction of Incubator Cellars, Brood Houses for Chickens, Ducks, etc.," "Best Breeds for Egg Production," "To Hatch and Raise Ducks," and many other phases of the poultry question. Among the principal writers may be mentioned J. L. Campbell, inventor of the Monarch Incubator and the author of several poultry books; Geo. H. Pollard, who produced 5,000 ducks on two acres of land in one season; A. J. Hallock, who uses 60 incubators and produces 15,000 to 18,000 ducks per year; and many others equally competent to teach from their lessons of experience. Their articles are largely reviews of their own successful practice. While it is designed to teach the latest lessons in artificial hatching and brooding, every poultry raiser can get dollars' worth of information from reading and studying its well-written and helpfully illustrated pages. It sells for fifty cents per copy through this office, or we will give it as a premium on one new yearly subscription at \$1.00, which includes a copy of our valuable Christmas number.

FOR SALE:

Bull, Kate's Harry No. 76809

HE is an inbred Lord Harry, and includes some great dams in his pedigree. His sire, Little Harry 8808; sire of Little Goldia, 34 lbs. 84 ozs.: Alleration, 24 lbs. ½ oz.; and others. For information of these two cows look up the Chicago list. He was bred by Mr. Sam Warren, Spring Hill, Tenn. He was calved Febrbary 11, 1895. He is the best hred Tenn.-bred bull in Canada to-day. Very gentle in every way. Write for pedigree and further information.

H. FRALEIGH,

Importer and Breeder of Jersey Cattle. FOREST, ONT.

Willow Grove Herd of Jerseys

Offering: Eight females, to calve short-ly; three bulls, out of tested cows; four heifer calves. Prices right. Come

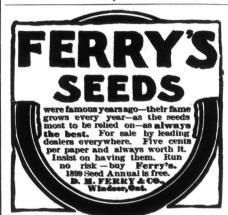
J. H. SMITH & SON,

HIGHFIELD, ONT.

MAPLE CITY JERSEYS. JERSEY BULLS FOR SALE 5

Another chance to procure a choice young bull from that grand stock bull, Massena's Son (17608); will be sold cheap if taken at once; also one bull two years old, by Hugo Alphea of Oaklawn.

W. W. EVERITT, CHATHAM., ONT.



GOSSIP.

Edgar McLean, Pendleton, Ont., advertises for situation as farm manager in Ontario or Quebec. Refers W. C. Edwards & Co., North Nation Mills, P. Q., whose stock and dairy farm he had charge of for nearly five years.

W. J. Young has recently been appointed farm manager for the South Side Farm Co., of St. Paul, Minnesota. Pure-bred dairy cattle, also sheep, swine, and poultry, will be handled, besides a large farm creamery to supply the best customers in the Twin Cities.

The Cheese and Butter Association of Western Ontario will meet in Guelph on Jan. 17th, 18th and 19th; the Cheese and Butter Association of Eastern Ontario at Kingston on Jan. 10, 11 and 12, and the Cheese and Butter Makers' Association of Western Ontario in Listowel on Feb. 1st and 2nd. Good programmes have been arranged for each, and a profitable time is expected.

is expected.

Mr. A. W. Smith, Maple Lodge, Ont., writes: "We have recently sold to Mr. W. J. Miller, Keene, Ont., a very handsome roan Shorthorn bull by Caithness = 22065= and from a grand milking cow. Mr. Miller took along with the bull an excellent yearling heifer by Captain Rosemond (a son of British Flag) and out of one of our very best breeding cows, Lovely Queen 5th. We also sold to Mr. Wm. Cullen, Owen Sound, a fine big, stylish red bull, by a son of Conqueror.

The Secretary's report of the American Cota. is expected.

The Secretary's report of the American Cotswold Association for 1893 shows receipts for recording pedigrees and transfers during the year, \$1,073.85; expenditure, \$902, including printing Vol. 8 at contract price, \$400, and prizes offered at various fairs, including the Omaha Exhibition, \$370; leaving a balance on hand for the year of \$171.35, which together with the balance on hand Dec., 1898, of \$1.561.00. The receipts for recording pedigrees are larger for 1898 than for any preceding year. Vol. VIII. is nearly ready for mailing; price \$2; sent free to members on receipt of 25c. to pay postage. For double postage Vol. 8 will be sent to any owner of a recorded flock. The address of the secretary is Geo. Harding & Son, Waukesah, Wisconsin. The Secretary's report of the American Cots-

Preparing for the Canadian Horse Show of 1899.

At a meeting of the Canadian Horse Breeders' At a meeting of the Canadian Horse Breeders' Association in Toronto on Friday, Dec. 30th (Dr. A. Smith in the chair), a resolution was passed to the following effect: "That the Horse Show be held as early in April as possible, to accommodate the breeders of horses throughout the country, who last year found it impossible to exhibit owing to the lateness of the show, and as a large amount of the entrance fees are obtained from the breeders, and the Government grant is also given for them, they feel it their duty to do all in their power to further the interest of the breeders."

do all in their power to further the interest of the breeders."

The following committee was appointed to confer with the Military and Hunt Clubs, and to obtain the very best terms upon which a joint military and horse show can be held early in April and to report to the next Horse Breeders' meeting: Robt. Davies, Dr. Smith, H. N. Crossley, William Hendrie, J. Macdonald, H. Wade, and Geo. Pepper.

A resolution, moved by Mr. Innes, of Clinton, and seconded by S. B. Fuller, of Woodstock, was adopted as follows: "That the Farmers' Institutes throughout the country should discuss the matter of the breeding of high-class horses of all kinds, as they do such interests as cattle, swine, crops, cheese, etc."

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been appointed ide Farm Co., of ed dairy cattle, will be handled, y to supply the ies. Association of Guelph on Jan. and Butter Asso-

and Butter Asso-lingston on Jan. I Butter Makers' o in Listowel on ogrammes have a profitable time

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Canadian 1899.

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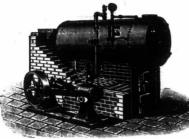
nnes, of Clinton, c, of Woodstock, at the Farmers' ntry should dis-ng of high-class such interests as

ENGINES AND BOILERS

FOR CHEESE AND BUTTER FACTORIES.

DURING 1898 WE SOLD

95 **Engines**



130 **Boilers**

SONS. **LEONARD**

LONDON, CANADA.

Estimates on ICE and REFRIGERATING PLANTS of any size, for CREAMERIES, COLD STORAGE, Etc., Etc.

Watford Tread Powers Powers, and intending purchasers had better make note of this and buy the Power that has the leading improvements— We hold the record for up-to-date Tread Powers. We are so often asked the question if our Governors will fit other makes of Powers. We answer YES. That's a strong point in favor of our The Watford.

Military Edilla

Over twenty years established, and in dealing with us you have all the benefits derived from experience. No other firm's goods find so many imitators as ours. Take for example our Blower Propeller Elevator Feed Cutter. Every effort has been put forth to down this machine, but

SUCCESS HAS GAINED THE DAY!

WE LEAD in Feed Cutters

Send for circulars and testimonials.

THOM'S IMPLEMENT WORKS, WATFORD.

GOSSIP.

A. B. Cross, Colchester Co., N. S.: "The FARMER'S ADVOCATE goes on improving so much I cannot resist the temptation of sticking to it though I take two other agricultural papers, but yours leads them all as well as others I have seen. Your increasing connection with the Old Country (Great Britain) makes it still more valuable."

Mesers Gibson & Walker Donfold Out

makes it still more valuable."

Messrs. Gibson & Walker, Denfield, Ont., write: "The Lincoln yearling ewe, illustrated in another column, has been a winner all along the line of the leading shows of '98, starting at Toronto and finishing at Brantford. She was got by the great stud ram Riby Conqueror 503, out of an imported ewe. Our flock is nicely settled in their winter quarters. Have over 100 ewes bred to the three imported rams, Riby Conqueror, Riby Gem, and the lamb we imported this year from Mr. Dudding. He is bred very similar to the ram that sold for 1,000 gs., since re-sold for \$6,000."

Mr. J. E. Brethour, Burford, Ont., says of the

re-sold for \$6,000."

Mr. J. E. Brethour, Burford, Ont., says of the young Yorkshire sow illustrated on another page in this issue: "This sow was shown in the under-six-months class at the exhibitions of 1888, and her weight at that time was 240 lbs. She has been exhibited at nine shows, winning first prize in each case. She has competed in very strong classes, but always came out victorious. I look upon this sow as the finest type of a high-class bacon sow that I have ever owned. Among her winnings are included first prize at Toronto Industrial, Western Fair at London, and the Provincial Winter Show at Brantford, where she won first in the class under 9 months."

THE QUEEN'S CHRISTMAS FAT STOCK.

The Christmas sale of the Queen's fat stock, held at Prince Consort's Flemish farm, included 43 Devon, Hereford, and Shorthorn cattle, and 550 Hampshire and Southdown and Suffolk sheep, besides 90 bacon pigs. The demand was keen; a Hereford steer fetched £40, and a Shorthorn bullock made the same. Devon bullocks fetched from £22 to £37 each; Devon heifers from £14 to £26; black Polled bullocks, £29 to £33 10s; blue-gray bullocks, £32 to £37 10s; prime Polled oxen, £24 to £29; Hampshire Down wether sheep, £2s to £3s; Hampshire Down tegs, 55s to 75s; Suffolk tegs, 55s to 58s; Southdown tegs, 43s to 60s; Berkshire bacon pigs from £8 to £10 15s; Berkshire fat hogs, £3 to £8 15s; Berkshire porkers, £2 15s to £3; and white Windsor bacon hogs, £3 5s to £6. The total amount realized was £3,303 11s. THE QUEEN'S CHRISTMAS FAT STOCK.

BLOOD WILL TELL.

BLOOD WILL TELL.

The pure-bred white Shorthorn steer Lord Minto, illustrated in another column, winner of 1st prize in his class at the Provincial Fat Stock Show at Brantford, and 1st and championship at the Guelph Fat Stock Show, where he was exhibited by Mr. Matt. Wilson, of Fergus, was bred by J. & W. B. Watt, Salem, Ont., sired by Sittyton Chief, a son of imported and exported Hospodar, and his dam, Roan Lady, was by the famous old Barmpton Hero. Lord Minto is one of the very best bullocks that has ever been shown in Canada, and was a credit to both breeder and feeder, being of the right type and well finished. His live weight at under 3 years was 1,850 lbs., and he was sold for shipment to St. John, N. B., for a Christmas display.

Buttonwood Farm Jersey Herd

OFFERS six richly bred young bulls from showring winning dams, and such sires as King of High-field and Violet's Leo, both sweepstakes bulls. Settings from B. P. Rocks, Black Minorcas, and Grey

S. WICKS & SON,

MOUNT DENNIS, ONT. 1-12-om Farm 7 miles from Toronto market.

GLEN ROUGE JERSEYS. WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 22-y-om

MEADOW BROOK JERSEYS.

Am offering one calf and one yearling bull, great-grandsons of old Massena, for sale at right prices if taken at once. Also a few choice females, rich in St. Lambert blood. EDGAR SILCOX. SHEDDEN P. O., ELGIN CO.

30 HEAD Choice Ayrshires

BY AUCTION.

The undersigned will sell by auction at his farm at Petite Cote, on FEBRUARY THE 16TH,

without reserve, the whole of his farm stock, implements, etc., including his choice herd of

AYRSHIRE CATTLE.

All Cattle are Tuberculin Tested. Catalogues are being prepared and will be sent on application to

DANIEL DRUMMOND, PETITE COTE, QUE. TERMS. - \$50 and under, cash; over that amount, approved notes at 12 months, with interest at 6 per cent. per annum.

CHOICE AYRSHIRE BULLS

FROM IMPORTED STOCK. I offer for sale three (3) bulls, 9, 10 and 13 months old, all sired by prizewinning imported bulls, and from high-class imported cows; also five bull calves from 1 to 4 months old.

W. W. BALLANTYNE, Late Thos. Ballantyne & Son. Stratford, Ont. "NEIDPATH FARM" adjoins city, main line G.T.R

SIX CHOICE AYRSHIRE BULL CALVES, Whose dam and sire were imported by D. Morton & Son, Hamilton. Prices right.

F. W. TAYLOR, o WELLMAN'S CORNERS.

GOSSIP.

D. J. Gibson, Bowmanville, Ont., writes:
"My Tamworths have gone into winter quarters in good shape. The young boars and sow I offer in this issue are good thrifty pigs. They are sired by Aggett, bred by John Bell, of Amber. Their dam is Gibson's Choice, sired by A. C. Hallman's Nimrod (Imp.) Persons wanting a good boar descended from the best stock in Canada at a low price should order one before they are all gone. My pigs are selling well, and buyers say they are well pleased with the stock I send them.

Robert J. (2014) is said to be the most gentle.

pleased with the stock I send them.

Robert J. (2.011) is said to be the most gentle, consistent and amiable horse on the New York Speedway. His driver, Tewksbury, does not have to hold the lines to guide the little fellow through the crowded thoroughfare, but gives Robert his own way and the little champion always gets through without trouble. When Mr. Tewksbury drives to his home he never ties Robert J. to the hitching post, but says: "Robert, walk across the street and wait there until I come out." When Mr. Tewksbury comes out of the house Robert J. throws up his ears and walks across the street, pulling up for his owner to get into the rig like a soldier.—

Bufalo Commercial.

The champion steer Perfection, illustrated in

The champion steer Perfection, illustrated in this issue, was bred, owned, and exhibited by John Cambell. Woodville, Ont. He was born in February, 1896, sired by a white son of Indian Chief named Lord Willoughby = 20706 =. This bull has done excellent service in Mr. Campbell's herd of Shorthorns and grades. Perfection's dam was a good high-grade cow, which was sold to go to Manitoba. His career in the showrings has been one of much success. Last year he stood second to his half-brother at Brantford. This year he won at same place first in his class, first as best grade steer sired by a registered Shorthorn bull, and sweepstakes for best animal in the show. At Guelph, he again won first in class, and first as best grade steer got by Shorthorn bull. His weight at under 3 years was 1,825, and he was a model butcher's beast.

The beautiful type of a high-class Shropshire

under 3 years was 1,825, and ne was a model butcher's beast.

The beautiful type of a high-class Shropshire ewe, Campbell's 757 (No. 102159), illustrated in another column in this issue, is as near the ideal as but very few animals ever attain; and it is most interesting to trace her breeding. Her sire, Newton Lord, the great record maker at the World's Fair, and still greater as a sire of winning sons and daughters in the most aristocratic and keenest competitions annually since 1892, has stamped quality in this daughter to a remarkable degree. Her dam, Campbell's 453 (No. 43535), a first-prize ewe at the Shropshire Show, England, in 1892, a winner of many firsts in Canada, has produced several toppers. Among them was a ram lamb which at Madison Square Garden Show in 1896 won first readily, when two of England's first prize winning lambs were exhibited by J. Campbell, and Dr. Davison, of New York, showed his unbeaten lamb at all the leading fairs in the western circuit that season. This noted son of Newton Lord was afterwards sold for \$100.

J. E. Brethour, Burford, Ont., writes: "The

western circuit that season. This noted son of Newton Lord was afterwards sold for \$100.

J. E. Brethour, Burford. Ont., writes: "The Oak Lodge herd of Yorkshires is now in the best condition that it has ever been. All my breeding stock are in first-class condition, and the young stock are all healthy and vigorous. I am making a large number of sales at the present time, and I am preparing for a larger trade in the spring of 1899. One hundred sows are being bred for this trade, and among these are included about fifty young sows, which will be sent out to fill orders that are now being 'booked.' A number of these sows are being bred to my recently imported boars. During the past year nearly 400 boars and sows have been sold from the Oak Lodge herd for breeding purposes, and during the months of September and October the demand for young boars suitable for immediate use was so large that I was unable to fill only about one-half my orders. It would appear from this that the quality of stock sent out must be giving good satisfaction. As a result of my exhibition of Yorkshires in the Western States, I am receiving a great many orders, which include several of the agricultural colleges of the different States. I will give you a list of my winnings for the past season in your next issue."

JOHN GARDHOUSE'S SHIRES, SHORTHORNS, AND

JOHN GARDHOUSE'S SHIRES, SHORTHORNS, AND LEICESTERS.

Leicesters.

At Mr. John Gardhouse's farm, near Highfield Station, G. T. R., may be found a strong lot of Shires; and this season four mares are safely in foal to imported Active (Vol. 4, Am. S. Book; Vol. 1, C. S. B.), a horse imported from Pennsylvania in the early part of '97, and exhibited, among others of the stud, last fall, which won their share of honors at Toronto in a good competition. Some 30 or more Shorthorn cattle of Scotch breeding are kept on this farm, selected from time to time both in this country and in Scotland, and among them we saw the imported cow Clarissa's Fancy, by Gravesend (46461), and out of Clarissa (34715), with her daughter by Golden Crown, which were purchased at John Isaac's sale, and in their purchase Mr. Gardhouse has undoubtedly made a wise selection, being, as they are, members of one of the oldest and best strains in Mr. Campbell's (Kinellar) herd. Clementina, by imported Guardsman, and out of Clementina, is a splendid young cow, which raised a choice red bull calf qualified to head a good heard, his grandsire commanding sweepstakes position wherever shown in the United States for 3 succeeding years. Of much the same pedigree is Blooming Rose, which is credited with a thick roan bull calf of the early maturing type, and which possesses much good quality. Welcome's Pride, by Rockwood Prince (18956), and out of Welcome (13415), is another blooming young matron, whose last year's son possesses much good quality and style. He is approaching the useful age, is a splendid handler, and has a well-fleshed back. Highfield Favorite, by imported Albert (2829, and out of Favorite 2nd, and her half-sister Miss Lilly, by Premier Earl, are each credited with calves in '98. The young bull, Highfield Favorite, though late, is very stylish. In all we saw five young bulls that will find their way into new homes of usefulness before spring, and whoever selects a sire from them will not only obtain an animal having splendid and up-to-date breeding, but one in strong and vigorous bloom. The Le

HORSEMEN! THE ONLY GENUINE IS



See large advertisement on page 424, Sept. 1st (1898) issue, and which is of unusual interest to the readers of the Farmer's Advocate. And any horseman interested in a reliable remedy can well afford to investigate the matter.

The Lawrence-Williams Co., Toronto, Ontario. 21 Front St., West,

AYRSHIRE CATTLE, BERKSHIRE PIGS.

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



D. BENNING & SON, 5-1-y-o Glenhurst Farm, Williamstown, Ont.

TROUT RUN STOCK FARM.

Ayrshire herd now headed by Royal Star of St. Anne's 7916, 1st prize two-year-old at Toronto, 1st and diploma at London, 1898. Will now sell grand stock bull, bred by D. Morton, Hamilton, direct from imported stock; 1 yearling bull, 1 bull calf, cows and heifer calves. One hundred cockerels and pullets, White and B. Minorcas, White, Black, Buff and Partridge Cochins, Light Brahmas, Silver-Gray Dorkings.

LYNEDOCH, ONT.

WM. WYLLE, 228 BLEURY ST., MON-

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



and prizewinning stock of the day. Farm located at Howick, Que.

FAIRVIEW STOCK FARM AYRSHIRE CATTLE BERKSHIRE PIGS

Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Benning; are modern in type, and are of the choicest milking strains. Write for prices of young bulls and

DAVID LEITCH, STATIONS: Cornwall, G. T. R. Apple Hill, C. P. R. o Grant's Corners, Ont.

MAPLE CLIFF DAIRY and STOCK FARM.

Ayrshire cattle, Berk-shire and Tamworth pigs. Two bull calves dropped in February. R. REID & CO.,



Hintonburg. Ont. One mile from Ottawa

MEADOWSIDE FARM. J. YUILL & SONS, Props., Carleton Place. Breeders of high-class, deep-milking Ayrshires. Sweepstakes young herd at Ottawa. Shropshire sheep from prizewinning stock. Berkshire pigs and Barred Plymouth Rocks. Young stock for sale. Visitors met at Queen's Hotel. Give us a call.

UERNSEYS

Two Choice Bull Calves AND Five Heifers for Sale. Tamworth and Berkshire Pigs.

W. H. & C. H. McNISH, LYN, ONT. LOTS OF PEOPLE HAVE

Hatched 90 to 100 per cent. OF THE FERTILE EGGS IN THE

TORONTO INCUBATOR

You can do as well. Write for circulars. Address: T. A. WILLITTS, 514 DUNDAS ST., om TORONTO, ONT.

SILVER AND GOLDEN WYANDOTTES From imported stock and prizewinners at Boston and Madison Square. Pekin Ducks.

JAMES LENTON, PARK FARM. OSHAWA, ONT. -0

SITUATION WANTED As farm manager in Ontario or Quebec. Five years in charge of stock and dairy farm of W. C. Edwards & Co., North Nation Mills, Que. Married. Wife a capable housekeeper, and would cook for farm hands. Protestant, of Scotch descent. Address:

O EDGAR Melean, Pendleton, Ont.

GOOD POSITION

For fi st-class Tailor's Cutter who could invest some capital. -o Room. 30, Confederation, Toronto.

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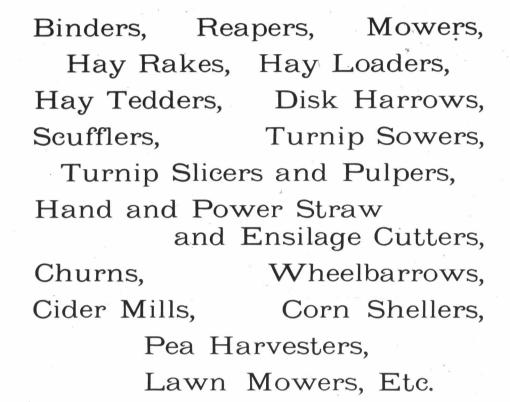
DAVID MAXWELL SONS

ST. MARY'S, ONTARIO.

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HIGH-CLASS FARM IMPLEMENTS





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Agents wanted in all unoccupied territory.



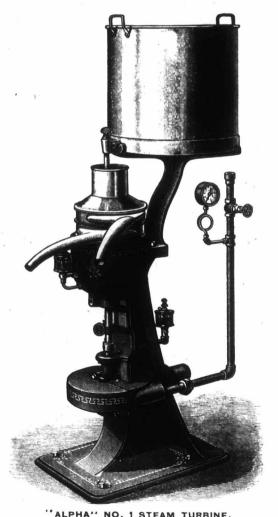


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CHAMPIONS 程 WORLD!



The unqualified superiority of the "Alpha-De Laval" to all other cream separators in thoroughness of separation, actual capacity, necessary power, greater "churnability" of cream, and in all other essential respects, is the universal basis of its sale, and is subject to practical demonstration in actual test or otherwise.

SEND FOR "DAIRY" CATALOGUE NO. 268,

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CANADIAN DAIRY SUPPLY CO.,

SOLE AGENTS FOR CANADA.

MONTREAL.

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FOR SALE...

IMPORTED AND

CANADIAN-BRED

Clydesdale Stallions

From One to Four Years Old. Also

FOUNDED 1866



L MOWER.

REAL.

All registered and warranted sound. Inspection invited.

SEVERAL THREE FILLIES,

ROBT. DAVIES, Thorncliffe Stock Farm, TORONTO.

25 Clydesdales



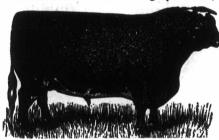
FOR SALE, CONSISTING OF Stallions, Brood Mares. Colts, Fillies, of most fashionable breeding strains, several of them winners at In-dustrial Fair, Toronto.

DEVITT & SONS,

FREEMAN P. O.

Farm quarter mile north of Burlington Station, G. T. R.; nine miles from Hamilton, C. P. R.

Greenwood P. O. and Telegraph Office,



OFFERS FOR SALE

Ass SHORTHORN BULLS YOUNG Big, good, and in fine form. Also cows and heifers of various ages. All of which will be sold at moderate prices. Send for catalogue.

BERKSHIRE BOARS AND SOWS FOR SALE Claremont Station, C. P. R. Pickering Station, G. T. R.



SHORTHORNS 5 BULLS 5

Sired by Revenue 21052 and Oxford (imp.) 2725, and out of grandly-bred dams. Farm one-half mile from sta-tion: C. P. R. and G. T. R. -om

ROBT. DUFF, MYRTLE.

W. G. PETTIT & SON, FREEMAN P. O., ONT.

Twelve choice young Shorthorn Bulls by Indian Statesman = 23004 = . / Fifteen young Cows and Heifers with calves by side, or forward in calf. Twelve yearling Shropshire Ewes, sired by imported ram Flashlight; also Berkshire Boars and Sows of all ages.

All of which will be sold at moderate prices. Farm half mile from Burlington Station, G. T. R. -om 3-Shorthorn Bulls for Sale-3

Two of them fit for service; all reds and well bred. WM. MILLER, P. O. 112. Markham P. O.

Stations: Markham, G. T. R.; Locust Hill, C. P. R.

FOR SALE, 3 HEREFORD BULLS

(REGISTERED), 6, 2, and 1 year old; 954, 955, 956. No finer bred

-om JOHN BERGIN, CORNWALL, ONT.

FARMER'S ADVOCATE.

AUCTION SALE

30 IMPORTED SHORTHORNS 30

The undersigned will offer by public auction at his farm, 1½ miles from Markham Village, on January 11th, 1899, 10 bulls and 20 females, recently imported and selected from the best herds in Aberdeenshire, Scotland; also a few Canadian-bred. They include such families as the Nonpareils, Rosebuds, Minas, Bessies, Claras, Gold Drops, and Violets, and other noted families. Farm twenty miles north of Toronto. Catalogues on application.

JOHN SMITH, M.P.P.,

JOHN ISAAC,

AUCTIONEER, BRAMPTON, ONT.

MARKHAM, ONT.

WE ARE OFFERING FOR SALE 8 HICH-CLASS YOUNG SHORTHORN BULLS

OF THE BEST SCOTCH BREEDING,

HOME-BRED BULLS AND A NUMBER OF COWS and HEIFERS BOTH IMPORTED AND HOME-BRED.

TOGETHER WITH A FEW



CORRESPONDENCE OR A PERSONAL VISIT SOLICITED.

CATALOGUES ON APPLICATION.

H. CARGILL & SON.. CARGILL, ONTARIO

Cargill Station and Post Office on G. T. R., within half mile of barns.

GUERNSEYS.

The grandest of dairy breeds; good size, hardy, persistent producers of the richest colored milk and butter when fed in the stable. A few young bulls and heifers from prizewinning stock for sale.

CHESTER WHITES. The farmers' favorite; easy feeders, early maturers, good breeders, giving in America to select from.

DUROC-JERSEYS. Easiest fed, easiest fattened; will do best when fed on forage crops. Sweepstake herd to select from. Seventy now for sale.

TAMWORTHS. The ideal bacon hog; two boars fit for service; 10 sows (bred); some prizewinners included. Write

WM. BUTLER & SONS, DEREHAM CENTRE, ONT.

INGLESIDE HEREFORDS.

UP-TO-DATE HERD OF CANADA!

TAMWORTES

Orders booked for Spring Pigs. Pairs not akin.

Send for Illustrated Catalogue. Address,

H. D. SMITH, COMPTON, QUE.

HAVEN'T YOU SEEN Our Advertisement?

There is no quarantine law, and now is the opportunity for you to get as good Holstein cattle as there is in the United States. Our herd is near the Canadian line. Expense of transportation is comparatively small. We have 100 head, 90 per cent. of them are strong in the blood of De Kol 2nd and Netherland Hengerveld, the two greatest butter cows ever officially tested. Don't be contented with anything but the best. If you're starting, start right. If you cially tested. Don't be contented with anything but the best. If you're starting, start right. If you started wrong, get right. If you haven't started, start now. Hundreds of dairymen have doubled the product of their herds. We have a few bulls, sired by De Kol Artis, twelve months old, and ready for service; also females of all ages. Prices reasonable, terms easy. Address—om Henry Stevens & Sons, Lacona, N. Y.

"GEM HOLSTEIN HERD." STOCK FOR SALE

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

ELLIS BROS., Bedford Park P. O., Ont. Shipping Station, Toronto.

.. MAPLE HILL..

BULL CALVES from Queen DeKol 2nd, winner of Prince of Wales prize over heifers of all breeds in public test; Lady Akkrum 2nd, 67½ lbs. milk in one day and 24 lbs. butter in a week; Kaatje DeBoer, 63 lbs. milk and 3 lbs. butter per day at 14 years old; Marcena, 57 lbs. milk per day at 14 years old; Daisy Teake, dam of Daisy Teake's Queen, the great test winner, finest cow I ever saw. G. W. CLEMONS, ST. GEORGE, ONT.

Brookbank Holstein Herd 50 CHAMPIONS FOR 50 MILK AND BUTTER.

A number of desirable young BULLS on hand, from one to eight months old, from our great milkers. Write for just what you want. Females of all ages.

HOLIDAY OFFERING

Will sell a few very choicely-bred Holstein Bulls at a reduced price if taken before or during holidays; also B. P. R. Cockerels. For particulars write

CASSEL, ONT. H. BOLLERT,

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

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

SHROPSHIRES

FOR SALE:

30--Ram and Ewe Lambs--30 Mostly sired by the imp. ram Newton Stamp 99631.
A prizewinner at Toronto in 1897.

GEORGE HINDMARSH,

HILL HOME FLOCK of SHROPSHIRES At Hill Home are a few of the best rams and ewes and ewe lambs that money can buy. Write for prices before you buy.

D. G. GANTON, SIMCOE COUNTY. -0 SAURIN P. O.

Shropshire Sheep, Chester White

BRONZE TURKEYS, W. E. WRIGHT, o GLANWORTH. ONT.



\$50.00 REWARD

Lincoln Sheep Dip Co. 855 Ellicett Sq. Bldg. Buffalo, N Y

Canadian Office: WEST CHEMICAL COMPANY, 15 Queen Street East, Toronto,

DORSETS AND CHESTERS

Sheep of all ages and both sexes Boars five to twelve months old.

R. H. HARDING, THORNDALE,

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LEAN, JUICY FLESH, best and heaviest fleeces of all DOWN SHEER, very prolific, good nurses, robust con-stitution, and noted for early maturity.

N, B.—The best General Purpose Sheep in existence, and splendidly adapted for crossing on Merino, long-wool or cross-bred ewes when an **Ideal** Freezer is wanted.

Fat Lambs.—For breeding fat lambs, the Shrop-shire ram is unrivalled, and for that purpose it is extensively used in all parts of the world.

The Shropshire will thrive and do well where any other sheep can exist, and no breed has such a record for readily adapting itself to any country and all classes of pasture. A list of Shropshire sheep breeders entered in the last volume of the flock book may be obtained from

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A choice lot of Large English Berkshires from one to three months old; also some fine young sows ready to breed. Prices reasonable. Being I have moved, address all letters to

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in pig, and boars fit for service, at very reaso n a ble prices. Two good Short-om bulls, red-roans. Write

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200 lbs. and over, extra quality, \$15.00 each. Choice boars and sows, two months, \$7 each; choice young sows in pig, 250 lbs. to 400 lbs., \$25 to \$30 each. Berkshire sows, 200 lbs. and over, \$20 to \$25 each — safe in pig.

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Orders booked for spring pigs. -0
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old, one boar eleven month old, one boar twenty months old, and young pigs of either sex. These pigs have size, bone and quality, from gilt-edge stock. Write for prices

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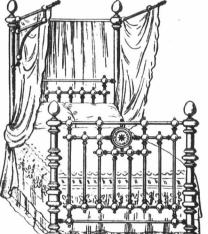
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EXTRACT FROM ANNUAL REPORT FOR 1897

CONSULTING CHEMIST OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Published in their Journal, 31st December, 1897, page 732.

"It has been necessary to call attention to the fact that under the name of 'slag,' and sometimes even under that of 'basic slag,' have been sold refuse materials of a very different character, and having little or no manurial value. These have not been the product of the now well-known 'Basic' or THOMAS process of iron or steel making, and have contained little or no phosphoric acid such as basic phosphate has. In several instances the purchasers believed that they were buying the true basic slag. It behooves one, therefore, to be careful to stipulate for THOMAS-PHOSPHATE, and to have a guarantee of phosphoric acid contained, and of finensss of division."

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Tamworth and Chester White Boars FIT FOR SERVICE.

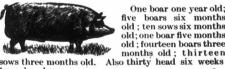
Sows ready to breed, and a choice lot of fall pigs now ready to ship at rock-bottom prices from the sweepstakes herd at the leading exhibitions of Ontario and Quebec





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One boar one year old; five boars six months old; ten sows six months old; one boar five months old: fourteen boars three

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Young boars and sows ready for breeding purposes at prices which should sell them. St., Locust Hill, C. P. R.; Markham, G. T. R. Correspondence solicited. 9-1-y-om

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Ready for service, young sows ready to breed, and young sows safe in pig, bred to an imported boar. A choice lot of pigs, three months old, of either says of the same says of the same says of the sa





rod (Imp.), at \$8.00 each. D. J. GIBSON, Bowmanville, Ont.

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For sale—young boars and sows, 3 and 4 months old, by Sandy 3rd and Nimrod, and out of prizewinning dams; also young pigs. Prices reasonable.

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Tamworths

re in good form this on, and offering young k of superior quality breeding of both

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TAMWORTHS, ng boars and sows dy for breeding pur-at prices which ses at prices which Hill, C. P. R.; Mark-solicited. 9-1-y-om

BOARS



BOARS 3

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sows, 3 and 4 months rod, and out of prize-gs. Prices reasonable. OLVERTON, ONT.

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JANUARY 2, 1899

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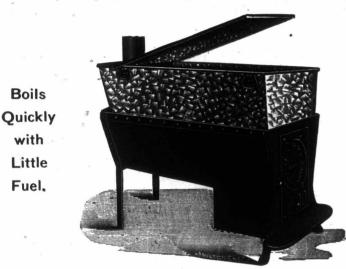
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Deserves the gratitude of mankind, his are the hardships, exposure and wearing work of life. Its pleasures are few and its disappointments many. Dyspepsia, Rheumatism, Bad Blood, Anxious Nerves and worried mind beset the struggling farmer and make his task of providing food for the people harder than it should be. Dr. Ward's Blood and Nerve Pills remove these troubles and give the vim, vigor and vitality that make success sure. You can get a book of information free. Dr. Ward's Blood and Nerve Pills 50c. per box, 5 for \$2 at druggists or mailed by the

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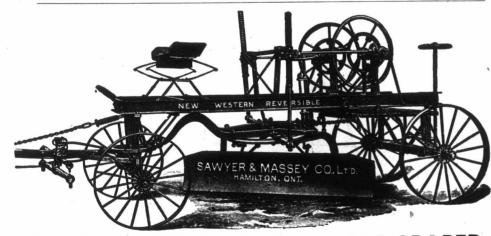
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Farmers! Don't be taken in. There is none "just as good." These twines will not bunch at the knotter, and a Binder will run all day without stoppage, thus saving time, annoyance and a "lot

We pack our twine in bags of the size of ordinary grain bags, and we are not ashamed to put our name upon it. Don't take any

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GOSSIP.

The winner of the championship as the best fat beast, any age or breed, at the Smithfield Club Fat Stock Show, London, Eng., December 5th to 9th, was the two-year-old Aberdeen-Angus heifer, Ju-Ju of Glamis, bred and exhibited by the Earl of Strathmore. The reserve number was the Shorthorn two-year-old heifer. Silence, shown by Mr. W. E. Learner, and sired by Ringleader. The live weight of the champion was 1,757 pounds, and that of the reserve 1,848 pounds.

was 1,137 pounds, and that of the reserve 1,368 pounds.

Mr. C. D. Wagar, of Enterprise, Ontario, has recently purchased from Mr. W. D. Flatt, Hamilton, Ont., a choice pair of Shorthorns, the bull being the ten-months-old Trout Creek Champion = 28497=, by Robert The Bruce = 22635=, sold for \$350 last winter to go to Nova Scotia, where he won second prize at the Provincial Exhibition, his half-brother, Silver Chief, from the same dam, Imp. Mimosa, winning the first prize and sweepstakes. This calf weighed at ten months 900 pounds, and is as smooth as a dollar, and has great constitution and a grand coat of hair, which he inherits from his excelent sire. His dam is Floss, by Edin Chief, by imported Rajah, a son of the Cruickshank bull, Gravesend. Mr. Wagar paid a long price for this youngster, but he promises to prove good value for it. The cow is Hazel, by Nelson Wonder, a son of Prince James, a sweepstakes winner at Toronto Exhibition. He is by imp. Knight of Warlaby.

winner at Toronto Exhibition. He is by imp. Knight of Warlaby.

The annual meeting of the New York State Breeders' Association was held at the Chamber of Commerce, in Rochester, Dec. 14th and 15th. There was a large attendance of breeders of all'kinds of live stock, in spite of the fact that highways were almost impassable, and the various railroads entering the city were badly blockaded with snowdrifts. Among the many excellent addresses were "The Dairy Cow," by Henry Van Dreser, of Cobleskill, N. Y.; "Abortion—Its Prevention," by Dr. W. L. Baker, Buffalo, Mortimer Levering, Lafayette, Ind., gave two addresses on "Home and Foreign Mutton and Wool Markets," and "Judging Live Stock in the Showring," both of which were listened to with great profit. Hon. John Dryden, of Toronto, gave an address on "Ideals in Breeding," which was full of practical points, and was very highly appreciated. The closing address was by the Hon. J. H. Brigham, Assistant Secretary of Agriculture is doing for the Farmer," and like all that preceded it, was listened to with close attention. Officers were elected as follows: President, Frank D. Ward, Batavia; 1st Vice-President, F. C. Stevens, Attica; Secretary, Wm. H. Chamberlain, Kanona; Treasurer, Frank A. Converse, Woodville, Directors for four years—C. D. McLaury, Portlandville; Henry Van Dreser, Cobleskill; N. V. Hamilton, Caledonia.

At the sale of the Sunny Slope herd of Hereford cattle belonging to the estate of the late C. S. Cross, of Emporia, Kansas, held at Kansas City, December 7th, fifty-seven bulls made an average of \$307, forty-seven females an average of \$365, and one hundred and four head in all an average of \$333.17. The sensational feature of the sale was the competition for the young show cow, Beau Real's Maid, which resulted in her passing into the possession of Mr. K. B. Armour, of the great Armour Shipping and Packing Company, who maintains a fine herd of "white-faces" near Kansas City. The price made by this cow, \$2,250, is the highest ever paid for a Hereford cow in America, and so far as we know the highest price ever made by a cow of the breed on either side of the ocean. Mr. Armour also secured the highest priced bull, the two-year-old Climax 4th, at \$1,025. Pretty Maid went to Tom Clark, Bucher, Ill., at \$1,055, and the bull, Sir Battle Beau Real, to Marshall Field's manager at \$900. THE SUNNY SLOPE SALE OF HEREFORDS

SMITHFIELD CHAMPION SHEEP.

The champion plate, value £50, for the best pen of 3 long-wooled sheep or lambs at the Smithfield Fat Stock Show, London, Eng., Dec. 5th to 9th, was won by a pen of Cotswold lambs owned by Mr. W. Thomas. The average weight of these lambs was 205 pounds each. The reserve number was Mr. H. Dudding's pen of Lincoln yearling wethers, whose average weight reserve number was Mr. H. Dudding's pen of Lincoln yearling wethers, whose average weight at 21 months was 355 pounds. The shortwool championship plate, value £50, was won by Mr. P. L. Mills' Shropshire yearling wethers, whose average weight was 245 pounds. The Earl of Ellesmere's Suffolk yearling wethers were the reserve number, and their weight 338 pounds. The Prince of Wales' challenge cup, value £100, for the best pen of three sheep or lambs, any breed, bred by the exhibitor, went to Mr. Mills' Shropshire yearling wethers, and the reserve to Earl of Ellesmere's Suffolks.

DOCKING.

The resolution recently adopted by the Council of the Royal Agricultural Society, prohibiting colts which have been docked from competition for prizes at the Royal Show, has created such a storm of protest from farmers and stockmen throughout the country that the resolution has been practically rescinded by the adoption of another which renders the former inoperative for the present.



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

Barred Plymouth Rocks, Exclusively, I. K. FELCH'S ESSEX STRAIN.

A few more good ones yet. Cockerels large size, well marked, vigorous birds, at \$1 to \$2 each. A few nice pullets left, at \$1.50 per pair. Breeding pens (four hens and one cockerel, good value), \$4.50. Can supply eggs for incubators in season from pure-bred stock, at reasonable prices. Will also have eggs from choice matings. Look out for advertisement in March.

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This is the time to Hatch Chickens. If you are looking for profit from your poultry is the best hatching machine manufactured, Awarded silver and bronze medals. Write for circulars. ADDRESS

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illustrations of Fowis, incessiores, Brooders, Fueltry
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about INCEBATORS. BROODERS and France
Poultry, with Lowest Prices. Price only 18c.
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MAMMOTH BRONZE TURKEYS.

S. G. Dorkings, B. P. Rocks, S. C. Brown Leghorns, Black Minorcas. Finest lot of cockerels we ever had. ot akin. Write T. & H. SHORE, White Oak, Ont.

BARRED PLYMOUTH ROCK COCKERELS

Descended from stock obtained from Miss Coldwell and other noted breeders. We keep no culls, and can ship now. Prices reasonable. THOS. BAIRD & SONS, Chesterfield, Ont.

BARRED PLYMOUTH ROCKS
For sale, A few fine, well-bred cockerels and pullets.
Prices moderate and satisfaction guaranteed. Write

James Row, Avon P. O.

FOR SALE:

Young Bronze Turkeys, at \$4.00 per pair. PETER ARKELL, TEESWATER, ONT.

POULTRY. L. and D. Brahmas, B. and W. Rocks, S. and W. Wyandottes, Black Minorcas, Indian Game, and Red Caps. Young stock and eggs from above breeds. Eggs, \$1.25 for 13; \$2 for 26. Satisfaction guaranteed.

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Bronze Turkeys For Sale.

Also a Yorkshire Boar 16 months old, bred by J. E. Brethour, Burford.

O JAS. TOLTON, - Walkerton, Ont.

W. H. BEATTIE, WILTON GROVE, Ont. offers 100 Bronze Turkeys (farmer's daughter strain), 50 White Holland and Bremen Geese.

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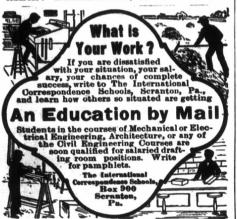
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\$8 to \$15 MACHINE to weave your own fence of Colled Hard Steel Spring Wire, 52 inches high, at 25 Cts. per Rod. 320 buys wire for 100 rod fence. Agenta Wanted Catalogue Free. CARTER Wire Fence Mach. Co. Wire Fence Mach. Co. Box G. Mt. Sterling, Q.

on fence wire. S. CROUCH, Ridgetown, Ont., General Agent for Canada.

GOSSIP.

It will be a serious matter if the success of white Shorthorns in winning prizes at the leading exhibitions should lead to a craze and a run on white bulls; the number being so limited there would be a strong temptation to some Leiter to corner the stock and send prices up to the booming point. We sincerely hope it will not come to this, but more unlikely things have happened.

Mr. John Bergin Cornwall Out who many

will not come to this, but more unlikely things have happened.

Mr. John Bergin, Cornwall, Ont., who many years ago pinned his faith to Herefords as his ideal beef cattle, and who had his confidence in them well tried during the years of depression, when prices ruled discouragingly low, but kept up the struggle till the clouds cleared away, retaining the best and weeding out those not up to the standard, finds himself, now that brighter and better days have dawned and encouraging prices are prevailing, the happy owner of the largest and best herd of "white-faces" in Eastern Ontario. The great success which these grand beef cattle have scored in the Western States and in the ranching districts of our own Northwest, where they have been tried and found eminently satisfactory, has created an active demand for them. Mr. Bergin has many enquiries for them. and has had a tempting offer for his whole herd from a Western breeder, but prefers to continue breeding his favorites, and offers a few young bulls of good breeding and merit at fair prices, as intimated in our advertising columns.

Mr. W. D. Flatt, Hamilton, Ont., reports the

of good breeding and merit at fair prices, as intimated in our advertising columns.

Mr. W. D. Flatt, Hamilton, Ont., reports the following recent sales from the Trout Creek herd of Shorthorns: To Mr. W. H. Easterbrooke, Freeman, Ont. Lady Blythe, by imp. Royal Prince, and her four months heifer calf Lady Blythe 2nd, by Bridegroom, by Sittvton Chief, dam by the famous Barmpton Hero. Also Maggie, a handsome roan yearling heifer, by Kinellar 2nd, a grandson of Barmpton Hero, and out of Red Empress 2nd, of the Kinellar Roan Betty tribe. To Mr. Wm. McCarthy, St. Catharines, Mr. Flatt has sold the eight-months bull calf Senator =27638=, by Carlisle, dam Dewdrop 3rd =30243=. Carlisle was by Prince Royal, a first-prize winner at the World's Fair at Chicago, and at the Toronto Exhibition. Senator is a calf of fine form and quality of flesh and hair. Mr. Flatt has also sold to Mr. O. J. Statton, Cookshire, Que., the bull calf Waterloo Champion, by Carlisle, dam Dew Drop =27173=, a calf of fine promise; also, to the same buyer, the 7-months-old bull calf, Missie's Heir, by Carlisle, dam 4th Missie of Neidpath, by Prince Royal, one of the most promising calves ever sold from the Trout Creek herd.

calves ever sold from the Trout Creek herd.

MR. J. A. R. ANDERSON'S AYRSHIRES.

Mr. Anderson's dairy farm is situated some three miles from the center of the City of Hamilton, Ont., right opposite the Jockey Club, on the Beach Road. The result of some ten years' attention is a very select young Ayrshire herd of 25 or more animals, among which we saw some splendid and useful cows whose udders bespeak for them the class to which they rightly belong. The stock bull, Royal Monarch 1941, by Monarch (imp.) 77, and out of the noted Sprightly 3rd 185, by Royal Chief, is now three past. Royal Monarch was bred by David Morton & Son, and to his strong breeding and true dairy conformation no doubt lies much of the responsibility of the high standing attained by this young herd in the local showrings. Lately purchased from Mr. R. G. Steacy is the yearling bull, Model of Maple Grove 2368, by Carlyle of Lessnessock (imp.) 1655, and out of Blinkbonny (imp.) 2042, and in his purchase we would consider Mr. Anderson has made a wise selection. His strong breeding, coupled with his style, strength and strictly up-to-date type, can scarcely fail to make his impression on the Royal Monarch females. Among the long row of females our attention was especially attracted by Barton Belle 4381, by Forest King 4377, and out of Grace Mass 2nd 4380. She has been a very profitable cow to Mr. Anderson, placing as she has a splendid and useful lot of young things to her credit. Her daughter, Annie Laurie 3267, is a cow capable of attracting attention in any company, having a splendid constitution and a great feeder. Barton Queen, by Jim Henderson 494, with her daughter, Princess Alice 3247, also show strong evidence of the family's usefulness in the dairy. They are splendid-looking cows, with grand udders and full of showring quality. Among the younger females we saw some highly desirable yearlings and calves whose breeding runs along the same family lines, which Mr. Anderson holds himself open to price at any time. In the showring Mr. Anderson MR. J. A. R. ANDERSON'S AYRSHIRES.

BERKSHIRES CHAMPIONS.

BERKSHIRES CHAMPIONS.

At the Smithfield Club Show, London, Eng., December 5th to 9th, the champion plate, value \$10°, and the Centenary gold medal, for the best pen of two pigs, went to J. A. Fricker's Berkshires. The champion plate, value \$25, for the best single pig, was won by the Earl of Carnarvon's Berkshire, and the reserve to Sanders Speneer's Large White. The Duke of York's Challenge cup, value \$250, and the Centenary gold medal, for the best two pigs bred by the exhibitor, went to Mr. Fricker's Berkshires, The reserves in this, as also in the first-named competition, were cross-bred pigs. Writing of the champions, the London Live Stock Journal says: "They had considerable length, combined with high quality, being good representatives of the style of Berkshires now generally sought after."

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East Indian missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Threat and Lung Affections; also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers Block, Rochester, N. Y.

Work Done THOROLD CEMENT



BARN OF WM. PATTON, SOUTH CAYUGA, ONT. Size of Basement Walls, 36 x 60 x 9 feet. Built with Thorold Cement.

Dunnville, Ont., Nov. 1, 1898.

Estate of John Batt'e, Manufacturers of the Thoro'd Cement, Thorold, Ont .: DEAR SIRS,—It is with pleasure that I testify to the good qualities of your Thorold Cement for building purposes. During the past summer I have built a barn 36x60 feet, with basement walls 9 feet high, and with eistern under driveway 8x19x7 feet high. I also put concrete floors throughout, for cow stables as well as horse stables. I consider both wall and floors to be much better and cheaper than if they were built of any other material.

Sincerely yours,

WILLIAM PATTON.

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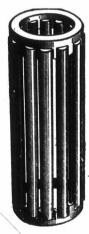
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Merry Christmas Happy New Year

Place your order for whatever kind of machine you are going to require for the coming har-vest, and be sure the order is for



DEERING IDEAL BINDER,

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A DEERING CORN HARVESTER, A DEERING IDEAL REAPER, DEERING STEEL HAY RAKE,

Also have none but Deering Twine to tie your grain, and Deering Harvester Oil for your implements, and your harvest will indeed be a happy one.





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JANUARY 2, 1890

THE FROST & WOOD GO., LIMITED,

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NO. 2 LIGHT STEEL BINDER.

OUR NEW LIGHT

NICE LOOKING.

EASY RUNNING.

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WE SELL IN NO OTHER COUNTRY.

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WATCH THIS PAPER FOR CUT OF OUR NO. 8 MOWER.

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Catalogue with Description.

TORONTO, ONT. 77 Jarvis Street,

GOSSIP.

At a public sale of Berkshire.

At a public sale of Berkshire hogs made by Mr. Reuben Gentry, of Danville, Ky., at Springfield, Ill., on Nov. 16th, the two-year-old boar, Columbia's Duke, brought \$1,20, the highest price ever paid for a Berkshire at auction. He has been a very successful prizewinner and sire of prizewinners. The purchasers were Messrs. John Juneman, Barclay, and Jos. Berry, Dawson. Ill.

HIGH-PRICED SHORTHORNS IN BUENOS AYRES. The well-known prizewinning Shorthorn bull, Sign of Riches, purchased by Mr. D. Maclennan, and exported by him to Buenos Ayres, was sold there last month for \$8,000 to G. Aldo. Another first-class bull, Bapton Victor, imported into Buenos Ayres by Messrs. H. and W. Nelson, was sold at the same sale for \$8,500, his purchaser being J. A. Uriburu. The prices realized for the two bulls named above, even if the dollars be paper dollars, prove the high value attached to first-class imported stud bulls. A late report states that Sign of Riches failed to pass the tuberculin test when he landed. He was not permitted to pass into the country, but was kept in quarantine for thirty days. At the end of that time he was again tested, and passed, and was sold by public auction on 26th October, as above. Now, it does seem HIGH-PRICED SHORTHORNS IN BUENOS AYRES

Half a mile from the G. T. R. station and illage of Myrtle, is the stock farm of Mr tobt. Duff, whose chief aim in stock-rearing as been directed toward the establishment of Shorthorn herd of cattle, and in this respect. Duff has perhaps been more favorably loated than many of the young stock-raisers in the province, as he is so conveniently situates eside some of the leading herds, thus having

VERY SUCCESSFUL farmer who raises fruits, vegetables, berries or grain, knows by experience the importance of having a large percentage of

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in his fertilizers. If the fertilizer is too low in Potash the harvest is sure to be small, and of inferior quality.

Our books tell about the proper fertilizers for all crops, and we will gladly send them free to any farmer.

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SEPARATORS. Write to Headquarters or Ask Name Local Agents.

18 St. Maurice St., Montreal,

The Hoosier Needs No Introduction.

Over 40,000 Drills and Seeders of our manufacture in use in Canada. The only Drill made with lever for instant and perfect regulation of depth of hoe in all kinds of soil while team is in motion. Sows absolutely correct to scale; saves seed, as every kernel is deposited at a proper depth to grow. Purchase only the best and you will be satisfied. We also manufacture Binders, Reapers, Mowers, Rakes, Cultivators, and Pulpers, as good as the best. Send for illustrated catalogue.

NOXON BROS. MFG. CO., Limited, Ingersoll, Ont., Canada.

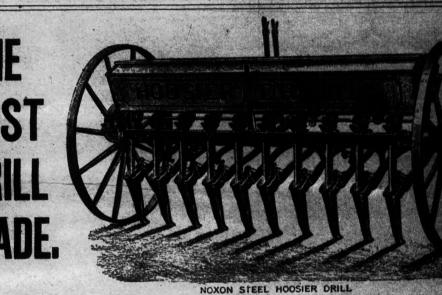
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THE NO. 12 CULTIVATOR IS A MARVEL OF SUCCESS.

The only Cultivator made that both lines of teeth will cut an even depth in the ground. Examine it and you will see why. The only Cultivator with a movable tooth seat so that the angle of the teeth can be regulated to suit any condition of soil. Pressure can be regulated to act differently on every section requiring it. The teeth are carried between the wheels instead of trailing behind, as in other machines, thus securing lighter draught. This machine is furnished with grain and grass seed box when required. It has reversible dia-

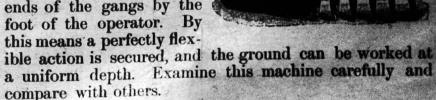
mond steel points for the teeth; also extra wide thistle - cutting points can be furnished. Examine it and you will buy no other.

NOXON BROS. MFC. 60., Limited, Ingersoll, Ontario, Canada.



The Buffalo All-Steel Disc Harrow.

This is the only Disc Harrow made or sold in Canada having independent adjustable spring pressure upon the inner ends of the gang discs, allowing any amount of pressure to be thrown upon the inner ends of the gangs by the foot of the operator. By



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TUBERCULOSIS IN CATTLE IMPORTANT TO FARMERS.

following letter is sent by the Department of liture at Ottawa to persons desirous of having attle tested for Tuberculosis, and sets forth the lons under which the Dominion Government ake to apply the Tuberculin Test FREE or

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easily curable disease. The entire credit for this

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When this remedy was discovered no other real cure was known. No other positive cure is yet known. FLEMING'S CURF was first introduced in Saskatchewan, and from there its reputation has spread over the entire continent. It is the only remedy endorsed by leading ranchers, shippers, and stock journals. It is positively guaranteed; money is returned if it fails. One bottle usually cures one to five cases.

Like all other articles of exceptional merit, it is imitated in external respects, but these imitations wholly lack the distinctive qualities of the genuine.

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DR. HESS' POULTRY PAN-A-CE-A Cures Diseases and Makes Hens Lay.

INSTANT LOUSE KILLER KILLS LICE.

Awarded medals at the Toronto Exhibition; medal at the Western Fair, London; first premium at Chicago Poultry Show; first premium at Rock Island Poultry Show; first premium at Rock Island Poultry Show; instead of the London Poultry and Pet Stock Association, St. Louis Fanciers' Association, Rock Island Poultry Association, Davenport Poultry Association, by the President of the American White Plymouth Rock Club. Thousands of testimonials on file. Sold by dealers generally, or address:

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PRICE: Pan-a-ce-a and Louse Killer, 35c. each; Stock Food, 7 lbs., 65c.; 12 lbs., \$1.00; 35c. articles by mail 5c. extra.

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80 lbs. of steam on "Rapid-Easy" Grinders will do more work than 100 lbs. on any other. Four horses will do as much work as six horses on other Grinders.

Mr. Valentyne Fisher, Ayton P. O., Ont., December 16th, 1898: "I purchased one of your Rapid-Easy Grinders from Mr. Koenig. The machine gives the very best of satisfaction. I ground a bag of gran in three minutes with two teams. I have not seen a machine equal to it. It runs very light."

machine equal to it. It runs very light."

Mr. Gny Bell, Brampton, Ont., December 12th, 1898:

'i have very much pleasure in adding my testimonial to the many you already have as to the efficiency of your No. 2 R.-E. Grinder. I have tested it thoroughly with all kinds of grain. It is easy running, and I can confidently recommend it as a machine that grinds better and faster than any other I have ever seen."

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The Razor Steel, Secret Temper, Cross-Cut Saw

WE take pleasure in offering to the public a Saw
Windhard a temper which toughens and refines the steel, gives
a keener cutting edge and holds it longer than by
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This secret process of temper is known and used
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Now, we ask you, when you go to buy a Saw, to
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Saw, and if you are told that some other Saw is as
good ask your merchant to let you take them both
home, and try them and keep the one you like best.
Silver steel is no longer a guarantee of quality, as
some of the poorest steel made is now branded silver
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It does not pay to buy a Saw for one lollar less,

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It does not pay to buy a Saw for one lollar less, and lose 25 cts. per day in labor. Your saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws. MANUFACTURED ONLY BY

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IS PROPERLY USED IT IS A POSITIVE PREVENTIVE FOR SUCH DISEASES AS Contagious Abortion and Hog Cholera

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