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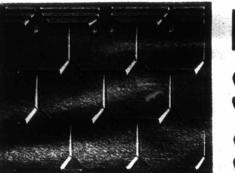
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LONDON, ONT., AND WINNIPEG, MAN., JANUARY 16, 1899. VOL. XXXIV.

EDITÓRIAL.

Fixing the Type.

In breeding live stock for any purpose successfully, the special purpose must first be definitely fixed in the mind of the breeder, who must have an ideal there to which he aims to attain, and which must be constantly kept in view, just as the artist studies his model, and every movement he makes in the line of his ideal is to copy the model as nearly to the life as he can with the materials available. First of all, the special purpose for which the animal is mainly intended, whether for production of meat, milk, wool, or work, must be considered; and the next consideration is the best type for that special purpose in conformation and general characteristics. At the foundation, or as the foundation of all, there must be a strong and robust constitution, which is indicated by a broad chest, sufficient thickness through the heart, depth of foreribs, and width between the fore legs, giving ample room for the vital organs, the heart and lungs to do good work. These characteristics should give health and good feeding qualities, which are essential to success, no matter what the purpose may be. Texture and quality of bone, and the placing of the limbs squarely in the right place, is of greater importance than is generally acknowledged by the uninitiated, and should have a high place in the breeder's ideal, in the model he works by, and in his production. "No foot, no horse," is a sound maxim of breeders of the equine race, for if the foundation, the feet and legs, are not right, no matter how symmetrical the body may be, nor how handsome the head and stylish the carriage, the horse is a failure, and must be relegated to a menial place in the ranks of the race. He must not be permitted to reproduce himself in offspring. The impression is prevalent that the limbs in other classes of stock are not so important a consideration as in the case of the horse, but it is a false impression. The quality of bone, and shape and standing of the limbs, are indications to a large degree of constitution, vitality, endurance and impressiveness in a breeding animal of any class, and cannot be overlooked or neglected with impunity. Perhaps in none of the domestic animals, until recently, was this quality more neglected than in the hog, but intelligent breeders now make it a sine qua non, and a hog with coarse bone and weak pasterns, and not standing straight up on his toes, is unhesitatingly disqualified in the competition for premiums and in the breeding harem, no matter how perfect in all other respects. Just as the foundation of a building must be safe and sound in order to secure a successful superstructure, so the constitution and limbs must be right in order to success in breeding high-class animals, as without these "all other ground is sinking sand." We are free to admit that the development of this quality depends largely upon proper treatment and intelligent feeding of properly balanced food rations to produce the best results, but primarily it depends upon skillful breeding. It is satisfactory to know that in breeding stock there are some general principles that are established and irrevocable, and this requirement of constitutional vigor is one of such that applies in all classes, no matter for what purpose intended. There is danger that in following too closely prevailing theories in relation to form, a fatal mistake may be made. One of these which occurs to us is that of the "wedge shape" in dairy cows, a theory which, if not carefully guarded, may readily degenerate into a mischievous fad, for the simple reason that if it means what it seems to imply-a narrow chest, it is inconsistent with a strong constitution, and it is safe to say that in no class of animals is this requisite more essential than in the dairy cow, which is expected to be a voracious feeder and to have machinery capable of converting large quantities of rich food

into marketable products; and this, with a contracted chest, the seat of the vital organs, upon the strength of which the whole digestive machinery depends, she cannot do successfully, while to attempt to force the machinery beyond its capacity simply means failure, and is often the cause of disease and death. Having laid the foundation broad and deep in the character of the females in a herd or flock, the fixing and perpetuation of a type must depend mainly on skill and judgment in the selection of suitable sires to mate with them. This is not so simple a matter as some may suppose, for the animal selected must not only personally conform as nearly as possible to the ideal of the breeder or to the approved type, but it is important that his ancestors for several generations have been built upon the same lines to insure that he be not an accident, but has inherited his desirable qualities and hence will be likely to impress them upon his progeny. The writer has in mind a flash imported show bull, which won first prize at the Provincial Fair over bulls that were worth a score like him for breeding purposes, as the sequel proved. He had a high-sounding pedigree on paper, and stood highin stature and had lots of style, but he left an impress on the herd in which he was principally used in the one year he remained in the country that the owner has been trying to weed out for these twenty years. It would have been better for his reputation, and for his purse by thousands of dollars, if he had closed them all out nineteen years ago. If that breeder has any doubts about the prepotency of a good bull from good ancestry, we feel sure he has no doubts as to the influence of a mean one with ancestry of the same description. This instance may serve to emphasize the importance of using a sire sparingly in a herd until some of his progeny have proved that he is an impressive sire for good, and it may also serve to emphasize the value of one that has proved satisfactory, and the folly of parting with him hastily and trusting all to an untried one. In the selection of a sire, masculine character and strength, without coarseness, should be sought. A medium-sized, compact, active and spirited animal, as a rule, is preferable as a sire to an overgrown and sluggish one, and more likely to beget a uniform class of progeny. Uniform ity in a herd or flock is a desirable and commendable feature, which can only be secured by the course we have indicated, seconded by selection of the fittest of females and weeding out those below the standard. This, we admit, may in some cases involve considerable sacrifice, as sometimes a plain one proves a good breeder; but if uniformity is to prevail she must go, and generally, if she is offered in good condition, a buyer at a moderate price can be found, in whose herd she may not noticeably detract from its uniformity if there is in it no high standard of excellence. Failing this, there is always an exit by way of the butcher's block or the canning factory.

warded to the company for approval, whereupon yarn galore would be sent out, and soon the hum of the busy and happy knitter would be heard in the land. They proposed to pay 10 cents a pair for bicycle stockings ; woodmen's socks, 5 cents ; motormen's mits, 12 cents; and others in proportion to size; and claimed that a pair could be turned out in 30 minutes. Merely as a sort of preliminary, the person receiving the glowing circular letter was simply to send down \$15 cash net (25 per cent less than manufacturer's prices) for a \$20 machine, with outfit and all instructions complete, or they had the privilege of paying for it on the "instalment plan," \$12 cash down and \$8 worth of knitting! The cash remittance was, however, an essential part of the programme. The company was to prepay the charges on the yarn, and the purchasers on the finished goods sent back. In one section alone we were informed of three parties who were thus induced to part with their money, and when the machine came the letter of instructions required postage to be forwarded for the carriage of the yarn. One of these persons at least sent 14 or 15 cents postage, but no yarn came, and she was never able to get any reply to her letters sent this precious company, though the machine was received months ago, so that the postage was swallowed up with the rest. Furthermore, the machine furnished had no outfit of bobbin for winding the yarn, and "ribber," and the work represented could not be done upon it. Many of the persons, probably the majority of those thus imposed upon, could ill afford to lose their hardearned money in this way. We have rejected these very advertisements, and can only warn the public, as we have done repeatedly before, against all such schemes. The parties at the bottom of them shift from place to place, and when one fake plays out they invent another, by means of which they contrive to fleece the unfortunate readers of papers that accept anything and everything in the shape of an advertisement tendered them. It does seem extraordinary that the authorities, either Federal or Provincial, cannot set some machinery in motion that will stop these impositions upon innocent people.

Utilizing the Institute and Convention. January and February are the favorite months of the year for gatherings of those interested in various branches of agriculture. At this season there is greater leisure, particularly in the evenings, for these rallies of farmers, dairymen, stock-raisers, fruit-growers, poultry-keepers, and others. Rightly conducted, they all make for improvement by bringing those interested in these industries into greater unanimity of spirit, purpose, and methods tending to promote a sociable and intelligent discussion of the business of the farmer, and the adoption of better methods by stimulating thought and awakening a desire to acquire fuller and closer knowledge by subsequent study. In Ontario and New Brunswick Provinces, extended and wellplanned series of Institute meetings are in progress, and if those who attend would derive the most advantage, they should go prepared to take part in the discussions, by closely questioning the official speakers and contributing items from their own experience, because a plan that may succeed under one set of conditions in one section of the country might prove a failure in another where the conditions were radically different. Hence the evidence even of experts or specialists must be thoroughly sifted. Programmes of these meetings are usually distributed in advance, and it is a good plan to look up the subjects to be considered carefully beforehand, and thus be ready to add something of value to the general fund of information. Incidentally they afford an excellent opportunity for the cultivation of public speaking on practical subjects tending to raise the standard of agriculture, by developing the gifts of those engaged in that greatest of all secular callings.

Farmers' Wives and Daughters Duped.

We have received complaints during the past fortnight of several cases where persons have been imposed upon by a so-called co-operative knitting company, the plan of which appears, in a general way, to resemble many fake concerns that have frequently been exposed. It seems that their attention was first attracted by advertisements holding out seductive hopes of remunerative (\$15 to \$20 per week) employment at home. "More help wanted" was the refrain of the philanthropic promoters of this project for turning out socks and mittens, for which the demand was simply unlimited, and their chief anxiety was to enrich the persons who replied to their advertisements, which, we understand, apppeared in a couple of weekly sheets, one of them making considerable pretensions, published in Montreal, P. Q. Their plan was to send out a machine with a partly knitted sock, which was to be finished and for-

THE FARMER'S ADVOCATE. W. W. Kenney, Wellington Co., Ont.:-"We like the ADVOCATE very well. The Xmas number is a gem."

G. N. Gerrow, Ontario Co., Ont .:- "Your Xmas

number is, I consider, a great work of art, the best

Peter Smith, Kent Co., Ont.:--"I consider the Christmas number worth the subscription price.

All my neighbors around take the FARMER'S ADVO-

I have ever received from any publisher.'

joyed it very much.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

32

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY

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

1. THE FARMER'S ADVOCATE is published on the first and fifteenth

of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairy-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.

- 3. ADVERTISING RATES Single insertion, 30 cents per line. Contract rates furnished on application.
- 4. DISCONTINUANCES Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.
- THE ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrearages must be made as required by law.
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- LETTERS intended for publication should be written on one side of the paper only.
 WE INVITE FARMERS to write us on any agricultural topic.
 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 ADVOCATE, 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.
 ALL COMMUNICATIONS in reference to any matter connected 13.
- 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.

"BEYOND PRAISE."

COMMENTS FROM ALL QUARTERS ON THE CHRISTMAS NUMBER OF THE FARMER'S ADVOCATE.

C. B. Beanen, Prescott Co., Ont :-- "The Christmas number is beyond praise.

John Renton, Deloraine, Man .: -- "The Christmas number is very fine, the best I have ever seen."

C. S. Barney, one of the directors of the New York State Agricultural Society, writes :- "Please send me your paper for one year. Mr. Frank Parr sent me your Christmas number, and I have en-

A. V. Wallace, Lamont, N. Y., Jan. 10th, 1899:-I cannot pass this opportunity of inclosing a token of my admiration and congratulations on your Dec. 15th Christmas number. It is not only a fine work of art, but illustrates the highest type of agriculture, for which your magazine will feel proud.

W. A. Hale, Quebec, Jan. 11th, 1899 :- "I must congratulate you upon the Christmas number of the FARMER'S ADVOCATE. It is thoroughly good in every way, free from the cheap chromo style, and admirably represents the leading agricultural paper of the most desirable farming country in the world. You have an important future before

Alex. Glen, Carleton Co., Ont :-- "I think it is as fine a Xmas paper as could be sent out, and could do no better than make my American cousin a New Year's gift of it, to show him to what a height of excellency a Canadian agricultural journal can attain, and the prominent position Canada has gained among the nations as an agricultural country.

A PERFECT GEM.

Senator D. Ferguson, Charlottetown, P. E. I. writes:--"I have to thank you for the beautiful Christmas number of the FARMER'S ADVOCATE which you so kindly sent me; it is to my mind a perfect gem of its kind. The articles are good and the illustrations fine. Wherever this number of the ADVOCATE goes it will convey a capital impression of Canadian agriculture.'

SURPASSED EXPECTATIONS.

Mr. G. de W. Green, of Toronto, writes :- "Please allow me to congratulate you on your excellent Christmas number, which, I venture to say, has greatly surpassed the expectations of your sub-scribers. The illustrations are the best and most lifelike I ever saw in an agricultural paper, and their value is increased from the fact that they repesent farm scenes all over the Dominion. I hope the Dominion and Provincial Governments will circulate copies throughout Great Britain and Europe, for nothing will give intending emigrants a better idea of the advanced state of agriculture and live stock breeding in Canada than the admirable illustrations to be found in your Christmas number.

A SUPERB NUMBER.

The Christian Guardian : - "The Christmas number of the FARMER'S ADVOCATE, London, Ont., is a superb number. All interested in agriculture and in Canada's ability to raise stock, etc., should keep in touch with this live magazine. There is a valuable article on "Canada's Agricultural Re-sources and Her Opportunities," and many others of special interest to our farmers. Mr. J. W. Bengough contributes a stirring poem on "Miss Canada Abroad," which the poet-artist illustrates by his facile pencil. The home and children are treated to a number of pages full of interesting matter especially for them.

FOUNDED 1866

STOCK.

Among the Ayrshires in Scotland.

To the Editor FARMER'S ADVOCATE : On my last trip to England this year, I carried with me a commission to try and import a couple of Ayrshires. It was not my first visit to bonnie Scotland, therefore I knew something of what was

in store for me.

There is no question but that England is the most beautiful country in the world (that is, the rural part), but there is something about Scotland that makes me enjoy it better even than England. I think it must be the Scotch people. I have been visiting among the best farmers and breeders of cattle, horses and sheep of several foreign countries (as well as in the United States and Canada), and there is no class of men I more thoroughly enjoy than the Ayrshire breeders of Scotland. They are not only the most hospitable people I ever met, but, better than that, they are the best breeders of dairy cattle in the world. There is no other breed of dairy cattle that has been brought up to the same high standard in type, style, dairy conformation (and utility as well), as the Ayrshire "coo" of Scotland. I wish some of my Canadian friends who sneer at type, and style, and symmetry, and beauty of form, and go in for what they call utility (dollars and cents at the pail), could have been with me during the four days I spent in Ayrshire. I am sure that unless they are like an Englishman I once knew in Wayne Co., N. Y., who-getting the worst of a political argument, backed himself against a sugar barrel-said "I would not be connced if I wer";-unless they are of that sort, I think they would have taken home with them such a picture of elegance, grace, beauty, carriage, symmetry of form, that when they came to compare it to their own work in their own herds they would acknowledge that as breeders of pure-bred animals for improvement they did not know their A B Cs, and when they asked these Scotch tenant farmers the price of some of their most perfect shaped, perfect styled Ayrshires, and heard them mention sums from two hundred and fifty to one thousand two hundred and fifty dollars, see that they were getting such prices, and not from fancy buyers alone. but from their neighbor tenant farmers; and when they saw other cows in the same stable-utility cows—cows that will give as much milk in a year, perhaps more, go without a buyer at fifty dollars, they would be dull indeed if they failed to notice on which side of the Sected burger burger on which side of the Scotch breeder's (or any other breeder's) bread the butter is. Certainly it is not the thickest on the "utility" side. What I like to see in a man who pretends to be a breeder is that he spreads his bread thick on the dollar side, and then eats it with the dollar and the "utility"

Call these figures fancy prices if you will, but don't say, as many do, that it is only the rich, fancy farmers can have such stock. It is true that the rich can have such stock, and that they want such stock and will pay the price; but it has always been and will doubtless always continue to be a fact that these rich men must ever go to the Scotch tenant farmer and the everyday Canadian farmer to buy these cattle, for those and not the rich men are the ones who are the best breeders of all domestic animals. Look at the peasant farmers on the Island of Jersey. Many of them can neither read or write, but they can breed and grow a heifer to two years , and sell her to Lord Rothschild, or the Duke of Marlborough, or to Her Majesty the Queen, or some wealthy American or Canadian gentleman, for \$750 to \$1,000. True, these American and Canadian gentlemen can buy an animal that will produce, perhaps, twice as much for half the money at home, but it is done up in such an inferior, uncouth-looking parcel, in such a carelessly bred animal as to style and type, and therefore beauty, that they prefer to pay the difference and get an up-to-date animal. I send you herewith a few photos of some of the up-to-date Scotch Ayrshires, which will give you but an imperfect idea of the exalted state of perfection to which the tenant farmers of Ayrshire have brought their cattle. It has come to this in Scot-land, that the style of walking, the carriage of the head, have alone been sufficient reasons for deciding the winner of a \$250.00 champion cup. "Yon's a bonnie coo," said my conductor, "but sa can na walk fer a rood, neither could her mither or her granny." This was his comment on one of his own animals that had, as he admitted, justly lost a prize simply because she could not walk with the proper dignity and grace; or, as Mr. James Howie expressed it, "Sa wer na so queenly in her way o' going as the quays (heifers) that stood aboove her a' the show; a doot na she is as good a coo, but she failed a wee in the walking and they set her doon." There is another point the Scotch breeders of Ayrshires have given special attention, and a point, I regret to say, that has not been as well cultivated among American or Canadian breeders either as it deserves. We have, I fear, made the udder the center and circumference of our aim. This is all right as far as it goes, for I admit an Amathian Statement of the second s admit an Ayrshire cow with an imperfect shaped udder had better be left at home in a dark stable until the butcher calls for her; but breeding perfect shaped cows is such a particular business that we must not lose sight of any other point. The fault I wish to point out is the carriage of the head and the setting on of the neck to the shoulders; the next thing to a perfect udder that sets off an AyrA slopin breed of of a cow am allud neck. V as a droc one that and is a Jersey e

JANUARY

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side up.

W. J. Sackville, Bewdley, Ont .: - "We all consider the ADVOCATE the best paper on the con-

William Sharman, Souris, Man .:- "I beg to congratulate you upon the handsome and interesting character of the Christmas number of the FARMER'S ADVOCATE. It certainly is the best yet.

C. E. P., Hyde, N.-W. T.:-" I feel very thankful to you for the answer to my veterinary question, which appeared in December 5th. Your journal costs \$1.00, but saves thousands in return.'

George Rankin, Hamiota, Man.:-"Just received your Christmas number of the FARMER'S ADVO-CATE, and I think it is the best yet. I am sending it to the Old Country."

W. E. Baldwin, Manitou :- "The Christmas number of the FARMER'S ADVOCATE is by far the best illustrated farmer's paper that has ever struck this Province. The farm and stock illustrations are very tastefully gotten up. The issue is indeed an ornament and a credit to the publishers."

John Gregory, Antigonishe Co., N. S.:-"The Christmas number of the FARMER'S ADVOCATE has arrived, and I must congratulate you upon the success of your undertaking. It is by far the finest number of any agricultural paper I have ever seen. The illustrations are very fine, and more than any-thing else will serve to show what can be done by skill and perseverance in building up a farm in Canada. With best wishes for a happy and prosperous New Year."

"DOES CANADA PROUD."

A Nova Scotia reader, in sending us a list of ten new subscribers, writes :--"I have much enjoyed the ADVOCATE during the past year, and must compliment you especially upon the very excellent Christmas number. I must say it is the very best agricultural number I have ever seen. I think you have hit upon a splendid way of increasing the circulation of your paper and I extend you my heartiest congratulations. It is something to be proud of that Canada can produce such a very excellent agricultural paper. Wishing you every success during the coming year," I remain, etc.

FROM THE ATTORNEY-GENERAL OF NOVA SCOTIA.

DEAR SIR,-I have to acknowledge receipt of the Christmas number of the FARMER'S ADVOCATE. I must say that it is a publication at once beautiful and in every way creditable to its proprietors. It is a periodical which has already a strong hold upon the farming population, and yet I am satisfied that its circulation is not one half that it should be. It could be read with enormous advantage by all intelligent farmers throughout the Dominion. I should like to see it much more widely circulated in Nova Scotia.

Yours very truly, J. W. LONGLEY, Halifax, N. S., Dec. 28th, 1898.

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Refe to the i of Shir five ye two-ve said in is rem those and ma brated breed s continu sires fo and ch fillies a introd The ra althou and po the go lent si produc role in matter horseand th sound.

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gland is the most is, the rural part), land that makes land. I think it we been visiting eeders of cattle, gn countries (as anada), and there ghly enjoy than d. They are not I ever met, but, breeders of dairy o other breed of t up to the same ry conformation rshire "coo" of anadian friends symmetry, and they call utility have been with Ayrshire. I am n Englishman I who-getting the backed himself ould not be cone of that sort, I e with them such eauty, carriage, came to compare erds they would ure-bred animals w their A B C's, tenant farmers perfect shaped, d them mention to one thousand that they were ncy buyers alone, mers; and when e stable—utility milk in a year, at fifty dollars, failed to notice r's (or any other rtainly it is not What I like to breeder is that dollar side, and d the "utility'

if you will, but y the rich, fancy is true that the they want such has always been to be a fact that e Scotch tenant farmer to buy ich men are the Il domestic anion the Island of r read or write, er to two years or the Duke of Queen, or some tleman, for **\$750** d Canadian genoduce, perhaps, t home, but it is -looking parcel, as to style and ey prefer to pay animal.

JANUARY 16, 1899

carry her top line straight to the setting of the tail. A sloping rump is a thing I can not abide on any breed of cattle; nothing so deforms the symmetry of a cow as that. And the next thing is the point 1 am alluding to; *i. e.*, the drooping of the neck, or ewe neck. While this is not as bad in my estimation as a drooping rump, it is a very great eyesore, and one that is too commonly met with in this country, and is a point that Jersey breeders on the Island of Jersey even will do well to study. A drooping neck

shire or any other cow, in point of form, is that she

on an otherwise perfectly formed cow is like a soldier perfect in build and appointment, but stoopsource perfect in ounce and appointment, but scorp-ing. I enclose a photo of a grand stamp of an Ayr-shire cow, Shepherdess, save in this defect. The man who is holding her is elevating her head as much as possible to hide the fault, but no use; he has helped it a little, perhaps, but all at the expense of the carriage of the head. Comparing this photo with others, it will show what a wonderful differ-ence it makes in the symmetry and proportion of the animal to carry a drooping neck.

In discussing this point with Mr. Howie, he replied, referring to a ewe-necked cow, "That is a thing a can na forgive in an Ayrshire coo." These are little things, perhaps, and to a utility man quite beneath his notice, but to a man who would be a genuine breeder for *improvement*, they are of the greatest importance. A strict attention to all these little things is what makes an up-to-date Ayrshire.

These little things, these finishing touches to a cow, are what demonstrates a breeder's skill. It is what makes the difference in a painting between an amature and an artist. It is these finishing touches that brings to both the artist and the breeder the dollars, where without them we must be content with cents. To the artist it means a prize, recognition, fame; to a treeder it also means a prize, recognition, fame. It makes him a credit to his town, county, and state, and his name is mentioned down the line of generations after he has gone away as one who returned his talents with usury. F. S. PEER.

Very truly yours, Mt. Morris, N. Y., Dec., '98.

The Importance of Good Mares.

Breeding good horses of any kind has always been a profitable pursuit. But to breed good horses it is necessary to have good dams and good sires. Breeding, formation, action, substance and soundness on both sides are required, as well as proper management, to be successful in breeding any kind of horse. P. Albert Muntz, M. P., in an article in the English Live Stock Journal Almanac for 1899, says that "during the middle of the present century, say from about 1845 till 1875, the breeding of horses in England, with the exception of the Thoroughbred race horse, was very much neglected; and to this neglect, together with the exportation to foreign countries of a great many of the best mares, may be attributed a deterioration which took place. Since that time breed societies have sprung up to promote the breeding of almost every kind of horse and pony, and selected stallions, free from unsoundness, have been placed at the com-mand of all who wished to avail themselves of their services at a very reasonable fee." One great dif-ficulty on commencing the reform, and one which Canadian farmers find themselves confronted with at the present time, has been and is the great at the present time, has been and is the great scarcity of suitable mares, either as to pedigree, soundness, size or shape. The use of good sires, however, even on inferior mares, will do much in the way of improvement, but many of the produce are bound to fall below the high-class type that brings the long price. While the depression in horse-breeding during recent years did much to drive out really inferior stock, it also called many of the best breeding mares into the labor market in order to secure a mead of revenue from expensively established studs. Reference is made by the above-mentioned writer to the improvement that has attended the breeding of Shire horses in England during the past twenty five years. Yearlings of the present are equal to two-year-olds of the past, and the same may be said in reference to all ages. "This great change," it is remarked, "is not universal, but only applies to those breeders who possess the gifts of selection and mating." In many of the centers formerly celebrated for breeding the very best of Shires, the breed some years ago became almost extinct through continued neglect, but the introduction of first-class sires for five or six years entirely changed the class and character of animals, until recently the mares, fillies and foals of these districts have become fit for introduction into the best studs in the kingdom. The rapid change is attributed to the fact that although sadly neglected, and therefore stunted and poor looking, the mares still contained some of the good old blood, and the introduction of excellent sires, together with more intelligent care, has produced a class of females fitted to play a leading role in the select Shire life. In conclusion, the matter is summed up by stating that "success in horse-breeding depends upon the selection of mares and the study of mating. Let them be well formed, sound, with good action, and, above all, well bred."

THE FARMER'S ADVOCATE.

Rearing the Dairy Calf.

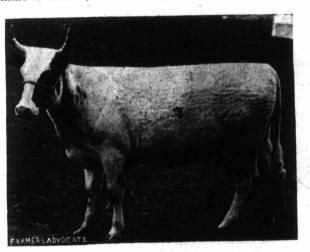
As soon after a cow calves as her milk is fit for human food, the dairyman, who is looking closely after the profits, is anxious to secure as much as possible of the cream from which his revenue is procured. This may seem like robbing the calf of its necessary nourishment, but with the exercise of judgment the young animal can be supported with a very little full milk to the advantage of its future usefulness. For a few days after it is taken from its dam the whole milk is necessary, and should be given at least three times a day. The first taken from the cow is the poorest in fat, and will answer the calf very well, leaving the richer strippings to go to the dairy. In a week or ten days it is quite safe to add a quart of skim milk at blood heat to the new milk given at each feed. As the calf the new milk given at each leed. As the call thrives the skim milk may be increased, until the whole milk is withdrawn by the twentieth day if the vigor of the calf will warrant it. The skim milk is often improved by the addition of a little oil meal or one of the meals specially prepared and sold



AYRSHIRE BULL, WHITE COCKADE. A NOTED PRIZEWINNER IN SCOTLAND.

for that purpose. In the Old Country immense quantities of these "calf meals" are used, and the practice is growing in Canada. By this time it will have learned to nibble a little hay and chop, which, if provided fresh daily, will soon be liberally taken. It sometimes occurs that a calf's digestive organs become deranged. If it shows itself in costiveness the milk should be given cooler, but if too loose, at a the milk should be given cooler, but if too loose, at a higher temperature and in smaller quantities. To the decreased quantity two raw eggs may be added, or the eggs may be given alone night and morning if the scouring persists. If further treatment is necessary, give a tablespoonful of castor oil and the necessary, give a tablespoonful of castor off and the same of olive oil, with a teaspoonful of paregoric, mixed in a pint of hot milk. Follow the oils with a teaspoonful of pulverized chalk and pulverized charcoal alternately, in each feed of milk until the symptoms disappear. It is not well to resort to medicines to hastily, as the hot milk in small cuantifies and correst markly fail quantities and eggs rarely fail.

To avoid getting the young animals, whether male or female, into the habit of laying on fat is



skimmed milk, grass, hay, straw-in fact, everything to distend and tax their digestive organs—and with nothing more stimulating before they drop their first calf than oats or shorts or similar food. The rule for keeping young heifers to make good cows is rather extravagantly expressed by saying, 'A heifer should have a paunch large enough to turn herself round in.' Unsightly as they are in such a condition, such heifers make the best cows. Oatmeal, maize meal, or anything else necessary, should be fed as an alternative to keep a young animal in a thrifty growing condition, which is, from any cause, getting out of condition, or to restore one that is off. But an animal that main-tains its vigor and thrift with none, other things being equal, gives far more promise of future us fulness than one that must be pampered. The rule is to feed just enough of such things as are found necessary to keep the animal in a thrifty growing condition and no more -the less the better-and never allow a milk or butter animal to lay on fat. Experienced dairymen never go into herds that are fat and sleek for their cows. They know that the Iat and sleek for their cows. They know that the feeding necessary to produce such conditions in milk and butter animals impairs their power to accomplish the thing for which they are to be kept, namely, the making of milk or butter. Meat, not milk or butter, is what they will ever after make. They will take better care of themselves than of their owners." their owners.

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Does Feed Alone Influence Quality of **Bacon** ?

To the Editor FARMER'S ADVOCATE :

SIR,-During the last few months a great deal has been written about the cause of soft bacon by pork-packers and others. In most of these articles as far as I have seen, the cause is mainly attributed to the food fed, corn and clover being especially blamed. There are in my opinion two other causes which influence the firmness of the bacon as much, or even more so, than the food fed. For example: A few years ago it was thought to require three years to mature a beef animal to bring it to the proper degree of ripeness for the block; now this can be accomplished in 24 to 26 months, with the can be accomplished in 24 to 20 months, with the beef just as good, or better, than in the former case. How has this been accomplished? By selection in breeding, good care, and feeding. In the case of the hog, early maturity is of more recent date, and we still have, through the country, a great many hogs that are not sufficiently improved by breed-ing to be "ripe" enough at six to eight months old, even if they have reached the required 185 lbs. to even if they have reached the required 185 lbs. to 225 lbs. live weight. These may be still growing, 225 los. live weight. These may be still growing, and laying on flesh rapidly, and are what are com-monly termed "sappy" or "growthy." Such pigs as these fed in the same pen with others that have about reached their growth and are ripe at 200 lbs. live weight it is reasonable to suppose that the quality of bacon will not be the same in both cases. I have often noticed in our feeding experiments with swine at the Central Experimental Farm, that during the last few weeks of a feeding test the gain in weight is often put on by one or two pigs in the pen, the others being practically at a standstill, and are, in my opinion, ripe. This will be more noticeable with pigs of different breeding, but is often shown in pigs from the same litter. The second cause is from marketing runts and unthrifty, imcause is from marketing runs and untillity, im-mature hogs (which have not done well from some cause), when the average weight of the pen is up to the standard. A number of recent experiments have shown that soft and firm bacon can be produced from hogs fed on the same diet. The ques tion of food is important, as it is not advisable to feed young growing hogs largely on carbohydrates, such as corn alone, but a mixture of grains with an allowance of skim milk (say 6 to 9 lbs. per head per day) and a certain amount of exercise is much better and will give better returns than any single grain, when fed to the right class of hogs. A look through an average carload of hogs picked up through the country will show quite a number that should have been retained for further feeding. Central Experimental Farm. R. R. ELLIOTT. tion of food is important, as it is not Central Experimental Farm. R. R. ELLIOTT.

of some of the will give you state of perfec-Ayrshire have to this in Scotcarriage of the ons for deciding

onductor. "but uld her mither nent on one of dmitted, justly l not walk with as Mr. James queenly in her rs) that stood ne is as good a king and they int the Scotch ecial attention, as not been as or Canadian have, I fear, cumference of s it goes, for l perfect shaped a dark stable breeding per-business that er point. The ge of the head shoulders; the ts off an Ayr-

Non-Breeding Sows.

"Someone may have non-breeding sows that will not become impregnated. Give them daily a gill of fine ground hemp seed, in dry meal of corn and shorts, or ground feed."—*Theodore Lewis*.

TWO-YEAR-OLD AYRSHIRE HEIFER. WINNER OF FIVE FIRST PRIZES IN SCOTLAND.

essential to the maintaining or improving of dairy qualities. To feed any substance especially calculated to produce fat to a bull, or at any time to a heifer before she comes in milk, will induce the habit of laying on fat, which will continue through all its subsequent career. The younger the animal is when this habit of making flesh and fat begins, the more controlling it will be, and the more likely the animal will be to transmit that habit to its offspring. The observing of this truth has been largely responsible for the success of Channel Islands cattle for the dairy and Scottish Shorthorns for beef.

A successful English farmer, in discussing this subject in the Farmer and Stockbreeder, says: "Nothing should be fed to the young bulls more stimulating than good hay, and at times a few oats, shorts, or both, with coarser food. Plenty of coarse hay, straw, and grass even should be given at times. nay, straw, and grass even should be given at times. The digestive organs of a butter bull, especially when young, should be taxed and distended pre-cisely as should those of a female designed to produce butter. Heifers should be fed on nothing but

Shying Horses.

Shying is one of the most frequent causes of car-riage accidents, yet with a correct knowledge of why a horse shies, and the proper use of the reins, the shying may be partially cured, and accidents often averted. A horse shies from fear, and, while keeping its eves fixed on the cause of its terror, moves away from it as much as he can. The com-mon practice of drivers is to keep nulling the rein mon practice of drivers is to keep pulling the rein on the side he shies on. The consequence is, he on the side he sides on. The consequence is, he runs you into danger he does not see perhaps int a ditch, up a bank, or against some obstacle that overthrows your vehicle. You blame the horse, when you yourself have caused the accident by pullwhen you yourself have caused the accident by pull-ing his head towards the thing he shies at. A good driver always shies before his horse—that is, by noticing the prick of the ears of his horse or by some previous acquaintance about his failing. The driver gives light but continuous snatches to the rein opposite to the side at which it is expected to shy. the horse feels that he is being pulled away shy; the horse feels that he is being pulled away from the source of terror, and passes without shy-ing in most cases. Learners of driving, and those who wish to correct a bad habit with their horses, have only to try once or twice to be assured of the soundness of this advice.

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

Results of English Showyards Competitions, 1898.

The tabulation of the above results, so far as relates to sheep, is yearly undertaken by Mr. W. W. Chapman, of Fitzalan House, Arundel street, London, Eng. Herewith is given a condensed re-port of the list, from which the position of the most successful showyard exhibitors will be seen. LEICESTERS.—This breed was shown in consider-

able strength, and the leading winner was Mr. G. Harrison, whose flock is undoubtedly one of the best of the breed at the present time. We give the results of the first four exhibitors in each breed, and the several columns of the tables given hereunder refer as follows: (1) exhibitor; (2) number of shows at which the awards were won; (3) champion or special prizes; (4) first, second, third, fourth prizes, and R. N., respectively.

(1)	(2)	(3)			(4)	
G. Harrison.	7		16.	14.	6.	 _
E.F. Jordan	2		5.	1.	1.	
J. J. Simpson	4 4		4.	1.	4.	 _
J. Cheers	3		5.	4.		 -
~			-			

COTSWOLDS.-The exhibition of this variety during the past year was not a large one, the best exhibition being undoubtedly that which was seen at the Royal Show, Birmingham, when Messrs. R. Garne took so high a place, Mr. R. Swanwick's flock being more successful at the Oxford County Show and the B. and W. E. Show at Cardiff.

	(1)	(2)	(3)			(4)
R.	Swanwick	2	1	6.	3.	2.
	Garne			4.	8.	1.
	Craddock			1.		
Γ.	Bedford	1		1.		

LINCOLNS.—The exhibition of this breed during the past year has been marked by the high quality and merit of the breed, and also by the particularly and merit of the breed, and also by the part of the strong competition that took place on every occa-sion when full classification at any show permitted the breed to be represented in full force. The most the breed to be represented in full force. The most notable event of the year was Mr. H. Dudding's premier position throughout the whole of the season, culminating in the exceptional victory at the Royal Show, Birmingham, when the first three places in the shearling ram class and champion of the breed went to three grand sheep from his flock, which, when sold, realized the record average for three Lincoln rams of \$2,362.50, the first prize and champion ram making the record individual prize of \$5,000, a certain testimony of the high merit and quality of this, perhaps, the most celebrated and widely-known in the world.

(1)	(2)	(3)				(4)		.*	
H. Dudding	6	5	12	5.	12.	6.		5	
S. E. Dean & Sons.	8	3	10).	ā,	2	3.	4	
R. & W. Wright	5	1	. (i	2.	1.	1.	4	
J. Pears	4	_		i.	6.	2.		3	
0 D		 							

OXFORD Downs.—This breed was more largely shown during the past year than has been the case in the immediate past. Mr. J. C. Eady's flock was deservedly the most successful one throughout the season, and the ewes as well as the ram he won with found new owners in either Canada or the States.

(1)	(2)	(3)			(4)	
J. C. Eady	5	1	8.	9.	1.	_
J. & S. Treadwell.	2	1	2	1.		
H. Arkell	3		4	2	1	
W. A. Treweeke	4		4.	5,		-
Supoportiona 1	-					

SHROPSHIRES.—Large, even, and true-to-type exhibitions of this breed were found at all the leading shows. The principal characteristic in ref-erence thereto being the uniformity of type and character. The great and deserved success was achieved acter. The great and deserved success was achieved by Mr. D. Buttar at the Royal Show, when his ram secured the champion prize. Mr. A. E. Mansell was not, however, exhibiting at the Royal Show, and therefore his grand shearling ram, to whom went the champion award at the great Shropshire and West Midland Show had not the opportunity of West Midland Show, had not the opportunity of meeting Mr. D. Buttar's Royal champion.

(1)	(2)	(3)			
d of Carnarvon.	6	3	11.	6.	
rle Mornay	4	2	7.	3.	
Flower	4	1	4.	4.	
F. Buxton	5	1	6.	3.	

J. T.

SUFFOLKS.—The competition in the showyards in respect to this mutton breed of sheep has of late years been a very restricted one, and last year, owing to the retirement of Mr. A. J. Smith, Lord Ellesmere's highly and carefully bred flock had practically no competitor for premier honors.

(1)	(2)	(3)	1		(4)		
Earl of Ellesmere.	6	5	17.	9.	1.		
Arthur Paley	3	-	4.	1.	1.		1
S. R. Sherwood			2.	6.		1.	1
J. W. Eagle	1		2.	2.			
RODDED LEICES	REDO	0 100	II bro		NL	anth.	

BORDER LEICESTERS, a well-known North Country breed, and principally exhibited in the northern district of England and Scotland. Whenever ex-hibited, the breed generally shows well, both in respect to quality and strength.

(1)	(2)	(3)			(4)	
C. M. Doyne	1		4.	1.	1.	 1
F. Clark	3		3.	2.	2	 1
R. Taylor	3		2.	1.		 _
J. W. Hall	2		2.	1.	_	

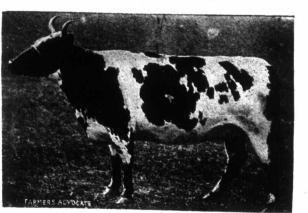
DORSET HORNS were not largely shown during the past year. Two winners-i. e., Messrs. W. R.



LADY GRACE OF HILLHOUSE. YEARLING AYRSHIRE HEIFER.

lowers and H. L. B. McCalmont – practically divided the honors between them, the former taking 4 firsts, 1 second, 1 third, and 1 R. N., and the latter 3 firsts, 2 seconds, 2 thirds, and 1 R. N.

KENT OR ROMNEY MARSH.—Throughout the past season this breed was seen in capital force at every show wherein classes were open for it. The grow-ing importance of this breed is most noticeable, especially in respect to the demand for it from abroad. Go where it will, it goes to stop; exposure to cold it is perfectly indifferent to; nor does it fear either the ravages of the liver fluke or foot rot. There's money in these sheep for those who take them up in your country. Mr. W. Millen, in the present as in the past few years, takes clearly the most prominent place, and although he did not



unless breeds as a whole show uniformity of type and character it is always an open question as to the results that will accrue from their use.

(1)	(2)	(3)			(4)			1
J. Elliott	4	1	7.	8.	4.		1	
. Robson	4		4.	3.	1.	1.	ĩ	
I. & C. Slack	1	1	4.	1.	2.		_	
J. T. Dodd	1		3.	1.	1.			

DEVON LONG-WOOL, a West Country breed of considerable merit, producing heavy fleece of very excellent wool, partaking largely of the character of the Lincoln.

(1)	(2)	(3)			(4)	
R. Cook			11.	9.	3.	 2
G. C. Thorne	. 2		2.	2.		 _
A. C. Skinner	. 3				2.	 4
E. R. Berry-Ton	. 1		2.	2.		

BLACK-FACED MOUNTAIN, a most picturesque and hardy breed of sheep used in the high mountain lands of Scotland, and shown at the leading Scotch shows and the Royal of England, the following being the leading exhibitors of the breed, which always forms a great source of attraction wherever shown.

(1)	(Z)	(3)			(4)		
C. Howatson	1	2	3.	1.	1.	1.	
T. Dargue	3		9.	10.	3.		
Tom Irving	4		6.	5.	2		2
T. Blackburn	2		5.	2.	1.		1

The other breeds, that in different districts are seen at the leading shows of the districts, are not of any particular interest to outsiders. We may, however, say that most creditable exhibitions thereof were made by them thereat, the breeds referred to being Exmoors, Herdwick, Lonk, Dart-moor, Welsh Mountain, Kerry Hill, Roscommon, Ryeland, and South Devon.

At Lambing Time.

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

It was once wisely remarked to me by an old shepherd that preparations for lambing should begin six months ahead of the time at which the lambs are expected to arrive, and should continue until they come, by which he may be supposed to have meant that well-bred, vigorous and wellconditioned parents mean the same kind of offspring if careful attention is given besides through the winter season. You will be able by looking over your flock to pick out the weaklings now-those that are going down in flesh and strength, that are being shoved away from the troughs by the fittest to survive, and have lost heart to continue the struggle for existence. Their lambs will not be faring any better than themselves, and you may look for an offspring perhaps big enough at birth but weak and watery in constitution and likely to turn out a hard-looking sheep, for want of milk. It will be worse luck if such a ewe presents you with twins. You will probably go through the usual experience of bringing them to the stove, putting them in a two-bushel basket with straw and blankets, and summoning to your aid cow's milk, sweet nitre, etc., to meet with weakness, indifference, cold mouth, and probably ultimate loss of the lambs; or, if they do rally, the ewe may have meantime forgotten her maternal instincts-as ewes in low condition are apt to do-and you keep on with the cow's milk, to make an ungainly, constipated, tightskinned, and scant-fleeced specimen, a nuisance to everybody, and worth two dollars and a quarter by fall

But perhaps you have culled your ewes judiciously in the fall and have a fine bunch of buxom dames, omfortable and fresh lo oking, with heavy chest broad loins, and plenty of room below. You perhaps take more than ordinary interest in them, and besides satisfying them inside you like to see them clean and nice outside ; no clover or pea chaff on the necks or backs, no ticks to bother them, and no softness or dirt behind from an excess of turnips. You will see that they have plenty of exercise, and will feed them a good deal of their coarse food outside. If you have the dark-faces you may even steal a surreptitious half-day to run the shears over them and take off the ragged ends. Wool makes faster growth immediately after shearing time than at any other time of the year ; trimming may help the growth at any time. At least, you do not deserve to be found fault with for wishing to have your to be found fault with for wishing to have your flock look plump and tidy, and dirt will not adhere to the smooth surface. If you have been around among them a good deal, and are good to them, they will be more tractable at lambing time if you have to handle them. One should be on good terms with his flock if for no other reason than this. If your ewes are in the condition indicated above, you will likely have luck at lambing time. Your pen is a comfortable one, It has been made so that you can have it open and well ventilated at all times, but it can be made warm if desired. Your ewes will run out on the south side, and you will have plenty of windows on that side. The spring sun in this quarter will strengthen your lambs when they follow the ewes out. If the place in which your ewes have been running is not warm enough for the new-born lambs, have your ewes in the lambing quarters beforehand, if possible, so that they may become quiet and contented with the change. The completion of the period of gestation is an interesting and momentous occasion, but ordinarily is not to be regarded as a sickness. Overfeeding may produce an over-developed lamb, and difficult labor may result; accidental and sudden movements, or other circumstances about which certainty is impossible, may cause malpresentations, and danger may result to both mother and young. Overfeeding immediately before or after lambing

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(1)	(2)	(3)			(4)			
D. Buttar	2	2	6.	2.	9		3	
A. E. Mansell	3	1	6.				9	
R. P. Cooper	12	1	15.	10	9		3	
J. L. Naper	2	1	5.	2				
					•	•		

SOUTHDOWNS.—The past year's showyard exhi-bition of this highly popular breed of sheep has not been altogether satisfactory, the principal points one would call attention to being the want of uniformity in type and character, and to the strange vagueness in the decisions given by the judges. The flock that heads the record this year is the Pagham Harbor Co.'s, and there is no doubt but that the flock is, from its own intrinsic merits, fully entitled to its premier position, for few, if any, other flocks in the present day represent in so marked degree the true type, conformation and character of this breed.

(1) (2	(3)			(4)			
Pagham Harbor Co.5	2	7.	2	6.		5	
E. Mathews 6	2	7.	2.	1.		4	
W. Toop 5		7.	10.	1.	····	3.	
Earl Cadogan 5	-	5.	3.			4	
AMPSHIDE DOWN	T						

HAMPSHIRE DOWNS.—Large and most meritori-ous exhibitions of these sheep have been seen at the leading shows during the past season. The most noticeable feature of the breed, namely, its early maturity, was most clearly apparent, especially in those grandly developed ram and ewe lambs from the noted flocks of the Earl of Carnaryon and Mr. James Flower, the latter breeder's exhibit being particularly noticeable for their first class quality, which merit is most judiciously combined in this flock with that other great characteristic of the breed, namely, early maturity, which means great growth and wealth of flesh at so early an age as only to be found in this breed.

AYRSHIRE COW, SHEPHERDESS. CHAMPION AT CASTLE DOUGLAS, 1896.

secure the challenge cup at the great annual sale of rams of this breed at Ashford, he had the satisfac-tion of knowing that he bred the sire who for his owner, Mr. A. Amos, produced this excellent ram.

(1)	(2)	(3)			(4)			
W. Millen F. Neame	5	3	11.	10,	2.	· · · · ·	4	
A. Amos	1		ə. 1	3.	2.		4	
H. Rigden	2		i.	2	1.	_:	4	

WENSLEYDALES, a breed of great value and utility, producing an excellent fleece of lustrous, long staple wood, and mutton of very fine quality. The breed, though largely in the hands of small owners, made throughout the year an excellent and first-class exhibition.

(1)	(2)	(3)	,		(4)	
Exrs. of T. Will J. Rodes	is 4		9.	11.	1.	
J. Hundley			6	8. 10.	4.	 1
M. Willis	1		5.	1.		

CHEVIOTS, essentially a Scotch breed, but exhibited at the Royal Show and the other leading North Country shows of England in most creditable form, always forms a pleasing feature in the sheep section. Its great uniformity of type and even character are always to be relied upon, thus making it a breed whose power to impress their qualities upon their progeny wherever used, for

niformity of type n question as to heir use.

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8. 3. 1. 1. country breed of vy fleece of very of the character

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host picturesque he high mountain e leading Scotch d, the following he breed, which action wherever 1. 3. 2. 1. 1. 10. 1. _

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, ONT. o me by an old lambing should ne at which the should continue y be supposed to orous and wellkind of offspring les through the by looking over ngs now—those trength, that are hs by the fittest to continue the nbs will not be , and you may enough at birth on and likely to vant of milk. It esents you with ough the usual e stove, putting vith straw and aid cow's milk, ess, indifference, oss of the lambs: have meantime as ewes in low eep on with the nstipated, tight-, a nuisance to nd a quarter by

ewes judiciously buxom dames.

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may induce garget or caked udder, and an occa-sional extrusion of the womb may occur, but, generally speaking, nothing more than temporary un-easiness or partial exhaustion after severe labor is to be apprehended. In the case of over-developed offspring, assistance may be given the ewe, but not until she is heaving, and then only simultaneously with the heaving, pulling gently at first, stronger if required later and the ewe is failing in strength. The ewe may be uneasy almost half a day before this, but there is no excuse for your interfering until heaving begins. Cases of malpresentation are better in the hands of a veterinary surgeon, but gentleness, patience, care and good judgment may see you through. The problem is to bring the foctus forward in natural presentation, fore legs downwards and head coming forward with and above them.

It will probably take a half or three-quarters of an hour for the lamb to get on his feet, during which time the ewe gives him constant attention. If the lamb is not strong enough to get on his feet and suck he may be assisted to the teat and the milk started. If he continues weak give him a tea-spoonful of gin in warm water, and hold him in a bucket of water warmed a little above blood heat for a couple of minutes; wrap him in blankets for a while to absorb the moisture—don't keep him too near the stove-and when he gets noisy take him back to the ewe again. Once he sucks alone he will be all right. Don't expect the ewe to eat immedi-ately; she will see to her lamb first. An hour or an hour and a half after she has lambed give her a drink of a quart and a half of warm water with a handful of oatmeal in it, and a little salt. If the ewe is exhausted half an ounce of ground ginger and half a cup of black treacle added to the drink will be found a good stimulant. The ewe should not be crowded too heavily with milk-making food until the lamb is able to keep the bag in a mellow condition, generally three or four days after lamb-ing. Heavy feeding immediately before on after drink of a quart and a half of warm water with a

condition, generally three or four days after lamb-ing. Heavy feeding immediately before or after lambing is likely to induce garget. In such cases the bag should be subjected to frequent fomentations, with the water heated to with the water heated to 115° to 120°. After the fo-mentations the bag should be protected from cold by woolen cloths, held up to it by strings over the hips and back. The milk should be drawn frequently. On the other hand, a twoshear ewe may be short of milk, in which case milk secretion should be stimulated by slops and by fre-quent drawing of the teats. In case of inversion of the womb the ewe should be placed on her back and the hind parts elevated. All dirt should be washed from it by tepid water, and then washed with alum water and forced back to its place. In case of a second extrusion a cross stitch in the bearing will have to be put in.

If a ewe has but one

THE FARMER'S ADVOCATE.

straw to our idle horses and yearling colts, especially if hay is scarce. They do nicely on it, but the idle horses require to be fed a moderate ration of crushed oats for a month before they commence work. And we generally give a good large swede turnip every day to each horse. Nothing is better for sheep during the winter than well-kept ensilage.

Peterboro Co., Ont. F. BIRDSALL.

Advantages of an Independent Canadian Live Stock Record.

To the Editor FARMER'S ADVOCATE :

DEAR SIR,—As you are aware, our older breeders of Holsteins deemed it advisable to secede from the Holstein-Friesian Association of America and to start a Canadian second some eight or nine years ago. As the American Association is now managed on entirely different lines, and is working side by side with our Association in the most harmonious manner for the interests of the breed, it is scarcely worth while to discuss the old grievances. The success of the Canadian Association is due in the first place to the inherent merit of the Holsteins as dairy cattle, and in the second place to the able and progressive breeders who have directed the affairs of the society and the high standard maintained. By retaining the work of registration in the country, even at greatly reduced fees, the Association was placed in a good financial position, and the surplus funds have been freely used to encourage our breeders to bring out their cows for public test. We have always contended that a cow's capacity should be judged from her production of total solids, and we have shown in practically all the leading tests of recent years that no cow can equal the big black-and-white double-deckers in this line. The rapidity with which our breed has advanced in favor of practical dairymen is phenomenal, and it cannot be denied that this success is in great measure due to the formation of an independent Herd Book in Canada. Our registrations this year will be one-



Progress of the Farming Industry.

Under the above heading the Stratford, Ont., Herald publishes a lengthy article suggested by a study of the articles and illustrations of our Christmas number. Thus surveying the past, the Herald not incorrectly reaches the conclusion that no such progress has been wrought in any country during any former century. This is a fitting tribute to the intelligence, enterprise and industry of the people of the Dominion. It apparently needed the realistic portrayal of what has actually been accom-plished to give the people of Canada itself, not to mention outsiders, a fair idea of Canadian achievements in agriculture. Referring to the series of illustrated descriptions of the experimental farm system and numerious private farms throughout the country, the *Herald* says that many of the latter "rival the Government institutions, with this difference, that they are sources of wealth to their owners." In recommending every wealth to their owners." farmer to subscribe for the FARMER'S ADVOCATE, the Herald adds that all should not only read the descrip-tions given of the farms near their own homes, but the whole seventy two pages, all "fraught with the most valuable articles and suggestive illustrations."

How to Make Concrete Walls.

To the Editor FARMER'S ADVOCATE:

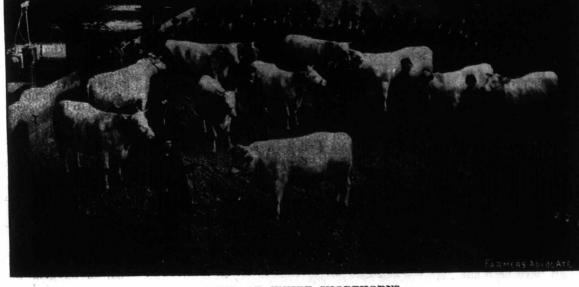
SIR,-In my last letter I gave the way I make my concrete. I will now, according to promise, give the way I build concrete walls. There are two ways I build concrete walls: Interest the other with uprights. Where one is building a new barn he generally has enough 2x4 scantling that can be used for uprights; and the plank used for the

threshing floor can be used for building the walls, and will save the expense of getting plank especially for building the walls. In building the same should building walls, care should be taken to get a good foundation, for no matter how good a wall may be built, if there is not a good foundation it will not stand. The trench should be dug deep enough to be below frost and 8 inches wider than wall above ground, and to extend the same distance inside and out, so that building will set in center of footing course. After the trench is dug, fill in with about 3 or 4 inches of concrete; then place in all the stones that can be put in and ram in concrete well around them until height of foot-ing is reached. Then take two planks and nail them together lengthways, and stand them on end for outside corners of building, and put another on end for

A GROUP OF WHITE SHORTHORNS

EXHIBITED AT GUELPH FAT STOCK SHOW, DEC., 1898.

make her support an orphan, rub the orphan with third larger than any previous year, and the num-the newly born lamb. To do this, take the younger ber of new members is greater than ever before. doing this it makes a more solid corner. These



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n neavy chest. w. You perhaps in them, and ike to see them pea chaff on the em, and no soft-f turnips. You ercise, and will se food outside. ay even steal a ears over them ol makes faster ime than at any may help the do not deserve to have your will not adhere e been around d to them, they me if you have ood terms with this.

ndicated above, ng time. Your n made so that ted at all times, d. Your ewes you will have e spring sun in nbs when they in which your enough for the n the lambing that they may change.

gestation is an but ordinarily Overfeeding b, and difficult sudden moveut which cerpresentations, er and young. after lambing

lamb away from the mother, rub the back and sides of the two together, and return both at the same time in the dark. Lambs do not suffer from moderate cold after they are three or four days old.

The hours of the shepherd during the lambing period begin at seven in the morning and end at seven the next morning for seven days of the week. Most lambs, however, that come in the night come before midnight. The loss of a lamb is not regarded as very serious by many flock-owners, but it is a real loss nevertheless, as it means that the ewe has been supported for a year for the fleece alone, which the fleece cannot do, so that instead of being regarded as a lessening of possible gains, the failure to save a lamb is an irreparable loss.

The Feeding of Ensilage.

To the Editor FARMER'S ADVOCATE:

SIR,—Ensilage, not being a complete ration, requires to be fed in conjunction with fodder and grain, or fodder, grain and roots. To cows rearing calves I would feed 40 lbs. of ensilage; about 10 lbs. hay, or all the oat straw they would consume; 30 lbs. of turnips, and 4 lbs. of chop; a mixture of barley, peas and oats. When we cut our straw we mix the ensilage and straw 24 hours before feeding, placing the pulped turnips and chop on top of the mixture when placed before the cow. The above ration to be divided into three feeds. Of course, some cows consume more than others, and we have to be guided by the capacity of the cow as to the exact amount fed each one, but no more should be fed than can be eaten up clean by the animal.

For milch cow, 30 lbs. of mangels or 8 lbs. of bran should be fed with the ensilage and hay or straw. All left in the manger should be scraped out before the next feeding time. Young cattle we give all they will consume of the ration for cows rearing their calves; with the exception that we only give about 2 lbs. of chop for each animal. We also feed a good deal of ensilage and cut

Volume III. of the Herd Book has been printed, and is now being distributed free to members, while money has been spent freely for public tests, yet our surplus is now larger than at any previous time. I estimate this year's registrations at 550-say 250 bulls and 300 cows. If 150 bulls and 200 cows were owned by members our fees would amount to \$562.50; the fees under the American rates for this year would amount to \$1,350. In this calculation no account is taken of the few animals over a year old, but this makes no practical difference in the total. Our fee for membership is \$5.00, while the American fee, which was formerly \$100, has recently been reduced to \$25. However, our members pay an annual due of \$1.00, which the Americans do not. In view of these figures I think that our fees may be considered quite reasonable, and as we now have the support of all the breeders of note in Canada, except a few in the Maritime Provinces, it may reasonably be supposed that our Association is likely to be not only permanent but influential.

-I take pleasure in mailing you a copy of Vol. III. for your office library. Our annual meet-ing will be held in the Albion Hotel, Toronto, on Tuesday, Feb. 7th, at 1 o'clock.

G. W. CLEMONS, Secretary. Brant Co., Ont., Jan. 12th, 1899.

Back Numbers Wanted.

Owing to the constant demand for extra copies to supply new subscribers, and for others purposes, our spare supply of a good many late issues has 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: July 1st, August 15th, September 1st and 15th, October 1st and 15th, November 1st and 15th, and December 1st, 1898. We are particularly short of July 1st numbers for binding, and will allow readers 15 cents each for those sent us in good condition, and 10 cents each for the other dates.

planks should be braced to a stake in the ground to keep them plumb, and a strip nailed to each other at top to keep them from spreading, and wired together at bottom. These wires are built into the wall and are cut off after the work is completed.

After the corner planks are put in their proper position, stretch a line from one corner of the building to the other, both at bottom and top of corner plank, and stand uprights about 6 feet apart and three inches from these lines, to allow room for plank and wedge between wall and uprights. If the wall is to be 1 ft. thick, stand uprights on inside of wall and opposite the outside ones and 18 inches from them, nail a brace to inside and outside uprights at top, to keep them from spreading, and wire them at bottom the same as the corner planks, and brace at bottom the same as the corner planks, and brace them to stakes in the ground to keep them plumb. After the uprights are in position, place in the planks and put in inch wedges between them and the up-rights and at bottom and top edges of planks – the top wedge to have a small nail driven in it so as to hang over the top of plank to keep it from falling down. Take spread sticks a foot long and drive them between plank to keep plank tight to wedges and uprights—these spread sticks to be removed when filling in concrete. When planks are in their place, fill in with concrete about 3 inches deep, and before ramming place in all the stone you can in before ramming place in an the stone you can in center of wall, and ram them down in the loose con-crete and then ram the concrete well next the plank and around the stone until the top of planks is reached. The stone should be kept from 14 to 2 inches from face of wall. If concrete is properly made and rammed, these planks can be raised three or four times a day. In raising the planks can be raised three the wedges and keep the plank to upright—by doing so the planks are lifted free from the wall—and let the bottom edge of plank extend down 1½ or 2 inches on concrete wall; put in the wedges and spread sticks as before, and repeat until top of wall is reached. By tacking a small piece of board to

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upright and letting the planks rest on top of it will keep plank from slipping down. By using bolts the corner planks are put up the same as for uprights. Saw notches in bottom edge of planks about 14 inches deep, for the bolts and to allow the planks to go below the top edge of con-crete wall; place another bolt or clamp on top edge of planks and put in spread sticks to keep them to their place. In raising the planks these bolts are drawn out of the wall and placed under planks again the same as before. In putting in the door again the same as before. In putting in the door and window frames, take a 2×4 scantling and dress and window frames, take a 2x4 scanting and dress off the two corners and nail it to the door-jamb uprights next concrete wall, so this will be dove-tailed in concrete wall. It keeps jamb to wall, and no wind or cold can get through. In my next letter I will deal with stable floors, silos, etc. Welland Co., Ont. NORVAL B. HAGAR.

Welland Co., Ont.

Whole Corn in a Silo.

To the Editor FARMER'S ADVOCATE :

SIR,-Last fall I was blessed with five acres of excellent corn, of the Whitecap variety and excep-tionally well eared. I have a tub silo, 16 feet high by 15 feet in diameter, and the problem which pre-sented itself was to find the cheapest and best way of placing this corn in my silo without buying a cutter and power, for it was impossible to hire one at the right time.

Finally I decided, in spite of the protests of my friends, to put the corn in whole. One man said that the silo would not hold one-third of the crop unless it was run through a cutter, and it did look preposterous to think of stowing all that rank growth in so small a space. Some said that I never could get it out without an axe, and others were sure it would all spoil.

I was very uncertain myself how it would come out, but I had made up my mind not to invest any money in a power and cutter last year at least, so when the corn was well glazed we went at it. One man and a boy remained in the field cutting and loading; another man drove the team back and forth from the field, leaving the loaded wagon at the silo and taking the empty one back. Two men unloaded the corn and handed it to me in the silo. The first layer was placed with tops to the north and in three rows, the first row lapping about two feet against the side of the silo. The second row was lapped on the first and the third on the second, was lapped on the first and the third on the second, in such a way that the butts of the third row reached the south side of the silo. This process was repeated for the next layer, except that it was laid at right angles to the first; *i.e.*, the tops pointing west. The tops of the third and fourth layers pointed to the south and east respectively. This process was continued till the silo was full, which occurred at the close of the second day. Fully half process was continued that the showas full, which occurred at the close of the second day. Fully half the crop remained standing in the field. It was at this time that I heard such remarks as "There, I told you so." But I only smiled blandly and said, "Wait." I had seen silos filled before, and knew "Wait." I had seen silos filled before, and knew something of the settling power of heating ensilage. On the third day after filling it began to sink, and one could almost imagine that the bottom had dropped out of the silo. Then we began to fill again with less help until all the corn was in except a little which we husked, and most of these stalks went in afterwards. They could all have been put in by allowing time for settling, but some of them became too dry. For a covering we used the scrapbecame too dry. For a covering we used the scrapings of the barn floor, consisting of chaff and husks.

We opened the silo on Nov. 1st. After remov-ing the covering, the center of the silo was found to

being (exclusive of the outlay for a spraying ma-chine) a little over 1s. per acre. The reason given by Dr. Somerville for the destruction of the charlock, while the corn and other plants escape, is because the latter has a smooth, upright leaf, on which the liquid cannot rest, whereas the leaves of charlock are rough and broad, and lie more or less horizontally. The consequence is that the latter catch and retain the poison, which has thus the opportunity to be absorbed and to bring about the portunity to be absorbed and to bring about the death of the plant. The result is the same on all rough-leaved plants, and thus it is that such weeds as thistles are also blackened and crippled by the spray. With the object of bringing this method to the notice of farmers who have infested ground, the agricultural department of the Newcastle-on-Tyne College of Science is proposing to demonstrate its efficacy by undertaking to spray a few hundred acres of land in the counties named above. The college proposes to supply the spraying machine, the material, and a superintendent to direct operations, while those taking advantage of the offer will be expected to supply three workers and two horses during the progress of work, and also to contribute a small charge per acre towards the expenses of the undertaking. In order to show the effect of the spray on each area dealt with, half an acre will be left untreated in each field."

Holyrood Chiel 46927, Imported Collie Dog.



We have pleasure in presenting above a lifelike photo-engraving of Holyrood Chiel, a notable year-old collie, imported by Mr. McEwen, of Byron, Ont., old collie, imported by Mr. McEwen, of Byron, Ont., from the Isle of Man, where he was bred by Mr. T. Caley. As will be seen, he is a dog of striking ap-pearance, being beautifully marked sable and white, carrying an abundant frill and coat of proper tex-ture, and is built on the galloping lines of a worker. His head and expression bespeak an intelligence which only requires time to be directed in the proper channel, making him a farm assistant as useful as he is ornamental. His sire was Champion of Wellsburne Conqueror, dam Onchan Queen, by Champion Ormiskirk Emerald, sold a few years ago for \$8,000, by T. H. Stretch to A. H. Megson, of Manchester, Eng. The other collie dog used by Mr. McEwen in his kennels at "Alloway Lodge Farm" is "Old Hall Paris," that won the championship at New York last year. At the same time Holyrood Chiel was brought out, a two-year-old female, "Holyrood Duchess," was imported. She was sired by Rossendale Don, sire of many champions, and herself won six 1st prizes and several specials in England. It has been young collies of the above type that we have been sending out during the past three years as premiums to persons obtaining new subscribers to the FARMER'S ADVOCATE, and that the premium was a popular one is not to be wondered Apart from its utility, there are few individuals who do not appreciate the comradeship of a noble dog. We have accordingly decided to renew the offer of a collie pup from Mr. McEwen's kennels to anyone sending us the names of twelve (12) new subscribers to the ADVOCATE at \$1.00, and trust the offer will be very generally taken advantage of.

FOUNDED 1866

Rotation of Crops.

BY A. A. BRODIE, MIDDLESEX (EAST) CO., ONT.

Rotation of crops, or the alternation of any one crop on the same land, has been known to a more or less extent from earliest history. We have ample reasons for believing that the antediluvians observed in the small areas of land they cultivated that with a continual repetition of the same crop the land gradually ceased to respond bountifully. The first land gradually ceased to respond bountifully. The first intimation that we have of rotation or something approximating to the same purpose was when the Israelites were commanded to rest the land every seven years. Flax was grown in Egypt, as well as barley and wheat, and analogy would lead to the conclusion of a kind of rotation. Little light is through on the practice or science of agriculture in thrown on the practice or science of agriculture in ancient history; incidentally a gleam may be ob-served here and there in obscure nooks and corners, showing that it was not wholly lost sight of amid the terribly devastating wars and pestilences. Coming down to the Roman occupation of Britain, and especially in Tacitus' account of the campaign of especially in Tacitus' account of the campaign of Agricola, he simply mentions that corn grew abundantly on the alluvia. Over one thousand years ago, according to Geddes' History of the Russian Empire, wheat, rye and barley were extensively grown on the southern steppes of Russia, supplying many countries with bread. Flax and hemp were also largely cultivated. Ex-perience had already taught them that when the land ceased to produce abundantly they had reland ceased to produce abundantly they had re-course to breaking in a new piece of land or

alternating the crops. When manuring became a fixed necessary ad-junct to successful farming I have failed to ascer-tain. No doubt its beneficial effects had been observed long before it had been generally practiced. It would appear that what we understand as mixed farming raising domestic animals in connection with tilling the soil—is of comparatively late date. Abel was a keeper of sheep and Cain was a tiller of the ground. We notice that Abra-ham and Lot had large flocks and herds, and Jacob and his sons were shepherds, following a kind of nomad life. Not until their settlement in the land of Canaan do we hear of them raising grain. No further back than our grandfather's, or at least our great-grandfather's, time, they knew as well as we do now that dung made crops grow, but possibly not the reason why; nor did they care much, as long as the result was remunerative. As the demand for human food increased with the population, and virgin soil was no longer within their reach, a new era began in the science and practice of agriculture.

We therefore lay it down as an axiom, that rotation is necessary to successful agriculture, and the desideratum would be rotation suitable to the production of the various kinds of crops our soil and climate are best adapted for, and which the market demands, with this understanding, that one of the alternations must be bare fallow or a crop in which the land can be cleaned. Let us now take a cursory glance at the principle of rotation. Science has domonstrated that no two plants of different kinds require the same elements of food and in the same proportion. The air is of practically the same combination all the world over when not corrupted by foul gases or decomposing matter, viz., of oxygen, nitrogen, carbonic acid, water vapor, ammonia, nitric acid, and ozone. Oxygen and nitrogen constitute by far the greater bulk and weight of the air; the others are present in much smaller quantities. It is quite evident, then, that every plant has free access to the air to draw from it what it requires for its growth. It follows, then, as an incontrovertible fact, the growth and lux The uriance of the plant devolves on the soil. quantity of ash left by different plants when burned is quite various. A hundred parts of wheat leave two parts of ash; oats, 4 parts; beans, 3 parts; clover, 9 parts; potatoes, 12 parts. This ash or saline food of plants must first become soluble before it can be assimilated as plant food. Every root and fiber are so many mouths sucking, as it were, nourishment from the soil. As a plant cannot move about like an animal, bird or insect, in search of food, it is forced to put up with what is within the sphere of its roots; and if there is not sufficient there it will be more or less dwarfed, if not actually starved. There are some plants that require a larger amount of humus than others in order to obtain a good crop. Turnips and potatoes desire an abundance of alkali ; corn delights in rotten sod in which there is present plenty of humus: while beans, peas and clover require a good deal of lime-in fact, all legumes like a calcareous soil. Wheat and other cereals also require lime. A soil must contain a good deal of silica to secure a good crop of wheat. Silica is more or less abundant in most all soils. It is this that forms the glaze on the stems of cereals, especially between the head and the upper leaf, rendering it more or less impervious to rust or mildew. It is also the principal agent in stiffening the straw against lodging. It is quite noticeable that in any part of a field very rich in humus or black earth the straw is more apt to be soft and more prone to rust and fall down for lack of sufficient silica. Now, falling back on the fact that different plants require different food for their growth, experience as well as science has taught us that a continual growing of the same plant on the same land will ultimately end in the crop refusing to respond bountifully. Lands in some of the Southern States become almost barren through continuous tobacco growing. A tract of country that has been lum-bered seldom grows up again with the original

contain excellent ensilage, but a good deal was hurt around the edges, especially on the east and west sides, where the roof prevented proper treading near the top. We have fed ensilage now for a month, and find that the lower we go the less there is spoiled at the sides. Most of it comes out in good shape, and the cattle eat it eagerly. No trouble is found in throwing it out. We contain excellent ensilage, but a good deal was hurt

simply keep track of the layers and courses, and take it out in armfuls, just as it was put in.

take it out in armius, just as it was put in. Next year I shall put the corn in whole again, as it is less labor and saves the expense of buying or hiring a machine. I shall do it with less help and give plenty of time for settling, keep the sides high-er than the center, and take more pains in tread-ing. By so doing I how to alignight a start of the ing. By so doing I hope to eliminate most of the loss which took place this year. C. S. MOORE. Missisquoi Co., Quebec.

Sulphate of Iron as a Weed Destroyer.

A few months ago, in the FARMER'S ADVOCATE, accounts were published of experiments that were being made in France and England in destroying certain noxious weeds, principally wild mustard, with a sprinkling of bluestone solution. The fol-lowing additional reference to the subject, taken from a leading Old Country exchange, will be read with interest: "Repeated reference was made in these columns during the autumn to certain experiments which were carried out at the Durham College of Science and elsewhere during the past season, with the object of testing the value of solutions of sulphate of iron in destroying that bane of the arable farmer, charlock (wild mustard). After an extensive series of experiments in Cumberland and Durham, Dr. Somerville found that by applying a solution of iron or copper sulphate by means of a suitable spraying machine at a time when the charlock plants are one or two inches high, the weeds are at once killed. The best results were obtained by a $7\frac{1}{2}$ per cent, solution of iron sulphate applied at the rate of about 40 gallons per acre, the cost

The Agricultural Education of the Future.

In an address before the Northern Illinois Horticultural Society, the President, Mr. J. L. Hartwell, in referring to the deplorable lack of interest of many farmers, who could neither be induced to read the agricultural press, to attend Farmers' Institute or horticultural meetings, made the following prophecy :

"They must be reached, and it is purely and simply a matter of education. The agency by which they can and must be reached is our public schools. I wish to go on record as making the prediction. By the time the child now in its mother's arms becomes the father or mother of a family, the children in our rural schools will be studying the physiology of plants and animals, farm economics both of the household and the field), under a teacher skilled in these things. A well-equipped country school will include a well-conducted farm of from one to four acres, and a successful candidate for a position in a rural school must be thoroughly qualified along the lines suggested by this prediction.

CO., ONT.

tion of any one own to a more ry. We have ry. e antediluvians they cultivated e same crop the tifully. The first n or something was when the the land every Egypt, as well would lead to

Little light is agriculture in m may be obks and corners, ght of amid the Coming ences. f Britain, and ne campaign of hat corn grew one thousand History of the d barley were ern steppes of es with bread. that when the y they had re-ece of land or

necessary adfailed to ascerfects had been generally pracwe understand stic animals in of comparatively sheep and Cain tice that Abranerds, and Jacob wing a kind of tlement in the m raising grain. her's, or at least knew as well as ow, but possibly e much, as long the demand for population, and eir reach, a new e of agriculture. an axiom, that agriculture, and suitable to the crops our soil and which the anding, that one allow or a crop Let us now take le of rotation. two plants of elements of food is of practically l over when not posing matter, nic acid, water ozone. Oxygen greater bulk and present in much lent, then, that air to draw from It follows, then, rowth and lux The the soil. plants when l parts of wheat parts ; beans, 3 parts. This ash become soluble nt food. Every s sucking, as it s a plant cannot insect, in search h what is within is not sufficient arfed, if not acplants that rethan others in ips and potatoes orn delights in olenty of humus; re a good deal of calcareous soil. lime. A soil must cure a good crop bundant in most he glaze on the en the head and less impervious rincipal agent in It is quite ng. ield very rich in more apt to be all down for lack

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kind of trees, indicating that a large amount of the ash necessary for its growth has been re-moved. It becomes, then, a logical conclusion that the further apart in a rotation crops of the same kind be kept the more abundant will be the food available. Thus we see that the plant is dependent available. Thus we see that the plant is dependent on the soil for its saline or earthy food, and the soil in turn derives its constituents from the abundance of mineral matter contained in nature's great store-house, the earth itself, which is being continually disintegrated by the action of the atmosphere, frost, and the percolation of water through the soil.

In many counties in England where grain-grow-ing obtained principally what is known as the four years course was and perhaps is yet pursued. Commencing with turnips 1, barley and oats (seeded) 2, clover 3, wheat 4. This plan produced much engine and turning the turning being fed off much grain and turnips, the turnips being fed off during autumn and winter to sheep raised on higher and poorer land, often from a distance. In the five years' shift oats followed the wheat, and in the six years' shift it was turnips, barley, grass, grass, wheat, and oats. In other counties they have adhered for many years to the seven years' shift, or a modification of it, and this rotation once unior a modification of it, and this rotation once uni-versally practiced in Aberdeenshire I will particu-larly notice. Whatever was the size of the farm, it was divided into seven equal parts as nearly as possible. Commencing with turnips as the fallow or cleaning crop 1, barley 2, then grass 3 years, oats 2 years, completing the rotation. Every farmer was bound by his lease to adhere strictly to this rotation, and it was thought to be the magnuum homum for and it was thought to be the magnum bonum for both laird and tenant. But times changed, and with it facilities for sending fat cattle from the north to the London market became common, consequently the London market became common, consequently the demand and price increased, also a stimulus to produce more beef. Turnips being the principal element of food, it soon became apparent that the element of food, it soon became apparent that the more turnips they could raise the more cattle they could feed. Farmers then got liberty, when entering on a new lease, to choose the five years' shift or con-tinue the old seven. After a number of years in the four years' course the turnips became affected with "finger and toe"; the cereals failed, especially wheat; the clover became puny, or, in the ver-nacular, the land became "clover sick." Science attributes the failure to too close cropping. attributes the failure to too close cropping.

To lay down any permanent plan of rotation for any large extent of country would be absurd. The soil is so variable even in a Canadian town-ship that a rotation that would be successful on one farm might not be so on another. When cattle feeding or dairying is the main object or view, I think a modification of the seven years' shift would in time be more profitable than any of the other rotations mentioned. I am personally acquainted with a few farms in the Counties of York and South Ontario that have been wrought under a modification of the rotation for at least 60 years, and last year's crop showed no sign of diminution. What-ever the size of the farm, it would be divided into eight fields or four plots representing two fields each. eight fields or four plots representing two fields each. Beginning with corn or turnips, or mangels and corn, as the fallow or cleaning crop, 1st; barley and peas, or all barley or all peas, 2nd; oats, 3rd; then prepared for wheat and manured; wheat and seeded with clover, 4th; hay, 5th; pasture, 6, 7 and 8. On a farm of 90 acres cleared there would be 8 eleven-acre fields clear of fences. The crops would stand thus: 11 acres wheat; 33 acres pasture; 11 acres hay; 11 acres oats; 11 acres corn; 11 acres barley or peas. These crops can be alternated in harley or peas. These crops can be alternated in different ways without violating the main principle, so that none except the grass will come on the same field but once in the eight years.

FARMER'S ADVOCATE. THE

DAIRY.

Buttermaking in Canada on the Creamery Plan.

SEVENTH PAPER.]

COLD STORAGE. I. - ICE.

Cost of Building.-If a room of a creamery is available that may be used as a storage room and ante-room for the same, then the cost of insulating these will not exceed \$150-\$225; that is, for a creamery whose summer make does not exceed 800-1,000 ery whose summer make does not exceed 800-1,000 pounds butter daily. But there is a storage room, over or beside these, to hold the ice that must be supplied. This will about double the cost men-tioned. These figures are from careful estimates made by a competent and experienced contractor. If a separate building has to be put up the cost will be about one-half more than that necessary to line the rooms, the insulation being the expensive part

of cold storage building. Material and Insulation.—Pine may be used for the outside of the building-if one has t , be put up but not for the insulation work, on account of the strong odor. Spruce or basswood we esteem the best for this purpose, together with the use of a best for this purpose, together with the use of a good quality of building paper, mineral wool, and dead-air spaces. The arrangement of these may vary somewhat, but there should be at least *two* dead-air spaces. The insulation necessary in a creamery cold storage room to entitle the owner to the Government (Dominion) house of \$100 is as the Government (Dominion) bonus of \$100 is as follows: Next to the existing wall one layer of building paper; then $2^{\mu} \ge 3^{\mu}$ strips; building paper (tac paper must not be used); 1" rough boarding; building paper; $1^{\mu} \ge 2^{\mu} \le 3^{\mu}$ strips; building paper; 1" rough boarding; building paper, two thicknesses; 1" rough boarding; building paper, two thicknesses; 1" tongued-and-grooved boarding. We are of the opinion that the six layers of building paper here used would give better satisfaction if put in as follows: Two on existing wall, then strips, boards, two of paper, boards, strips, boards, two of paper, and the finish or inside lining of tongued-and-grooved material, and we think, too, that the paper would be easier put on, and with less probable injury, if tacked to boards than if tacked to strips. In any case the paper and the hollow spaces must the Government (Dominion) bonus of \$100 is as In any case the paper and the hollow spaces must be continued from the sides right over the ceiling and under the flooring, that the insulation may be



LEICESTER YEARLING EWE. Winner of 1st prize at the Provincial Winter Show at Brant-ford, 1898. Owned by J. M. Gardhouse, Highfield, Ont.

complete. At least six inches of mineral wool should be placed in the bottom of all dead-air spaces to make more thorough the insulation.

from \$1,000 to \$1,500. This outlay should be within the range of any creamery that handles \$40,000 to \$50,000 worth of product annually.

Cost of Operation .- One charge of ammonia (if on the ammonia-compression system) annually is all that is required, and this will cost about \$10-\$15. The fuel bill is more difficult accurately to estimate, but we can come within a little of it.

To do this work of cooling in this manner the compressor should be operated about 10-12 hours daily, and the extra fuel bill will be just about what it requires to drive the engine during the time that it is not needed in the regular creamery work. This

it is not needed in the regular creamery work. This outlay, we think, would not be greater than that needed to put in the ice each year. Summary and Comparison. As far as cost is concerned, it may be taken for granted that the cost of operation of the two systems is not materi-ally different. The cost of the plant for chemical refrigeration is the matter for the creamery to consider and settle. The efficiency of the chemical system stands unquestioned, and the evidence is from all quarters of the globe. The temperature of the various rooms is readily and absolutely control-lable. The ice does not run out at some inoppor-tune time in this system and leave the maker at the mercy of the elements. There is no undue damp-ness, nor any leakage.

mercy of the elements. There is no under damp ness, nor any leakage. There is one great advantage resulting from the chemical system to which we have not yet referred, viz., that it may be used to cool the water supply. With a water supply at 45° Fahr. (or lower if you want it), what is not possible in the creamery, even in July! And, too, the churning room and working room can be kept at a moderate temperature, so that the butter is not injured by heat before it ever in July! And, too, the churning room and working room can be kept at a moderate temperature, so that the butter is not injured by heat before it ever reaches the storage—a very vital point. In short, the one system—the ice—stands to the chemical system as the man with a half-balky, untried team, of nondescript rearing, hitched to a cubic yard of gravel in a river bed, stands to his neighbor who draws rein over a team of true, tried Clydes. The latter is sure of his ground, and never more sure than when most tried. A break in the proper con-trol of temperature in a creamery may (and often does) mean a loss of 4c. per lb. on the day's output— a serious matter, and not only in its present or im-mediate aspect, but also eventually, since, when we face a glutted market (as we are frequently called upon to do), it is "extras" only that sell, and past reputation is a bank on which to draw. To him who makes and markets "seconds" there will surely come a reckoning day. All praise to our Dominion Government for their soundly workable refrigera-tion system from creamery to consumer. And if Canadian creameries do as well by themselves, "Canadian " will soon be as choice a brand as the Englishman can buy. F. J. SLEIGHTHOLM. Western Dairy School. Englishman can buy. Western Dairy School.

The Use of a Cream Separator on

the Farm. To the Editor FARMER'S ADVOCATE :

SIR,-During the three years and a half experience using a cream separator we have found out many points in which it surpasses the old way of skimming milk. Time, strength, labor and money are saved, and the skim milk can be fed warm. In are saved, and the skim milk can be fed warm. In the first place, a great amount of cream is saved when a separator is used. In the winter time by the old method the cream is frozen (unless you have a frost-proof building), and is thus greatly deterio-rated in quality. By the separator all the cream is taken out of the milk at once and while warm, and is much superior in quality and will make better but-ter, which will sell for a higher price. We have tested and set the skim milk skimmed by a sepa-rator, but could find no trace of cream; but by the setting and skimming process a considerable

t different plants wth, experience that a continual same land will sing to respond Southern States tinuous tobacco has beem lumth the original

I do not recommend this rotation as a plan to get rich in a few years, but I have good reasons for believing that by the time three courses are run you will have secured for products sold as much if not a greater return, and have the land cleaner and more fertile than by having the crops closer together.

Re Commercial Fertilizers.

To the Editor FARMER'S ADVOCATE:

SIR,-The letter contributed by J. L., Grey Co., Ont., hits the nail pretty fairly on the head; he is only one of a good many farmers that are puzzling their brains on this problem A good deal of the free literature that is in circulation I think tends more to evade the direct question and to confuse the general class of farmers. I have been getting a few quotations and circulars of different brands of fertilizers, but the prices and percentage of the different ingredients vary to quite an extent. and some do not have all of the same ingredients, making it difficult to tell which would be best and most profitable to secure. If some farmer who has used commercial fertilizers would give his experience in that line it would perhaps help to solve the problem. I think the price of a good many of the brands of commercial fertilizer is too high. W. U.

Yours, etc,.

Prince Edward Co., Ont.

Mr. Geo. Isaac, Bowmanton, Ont., advertises for sale three imported Clydesdale stallions, one of which was a prizewinner in 1898 at the Royal Northern Show, and was sired by the noted Prince Alexander.

In very warm weather it will be necessary to use ice and salt in galvanized iron cylinders to keep the temperature sufficiently low, the ice being smashed up and mixed with about 3-6% salt.

Cost of Operation. - This include the annual storage of the ice and the daily filling of the cylinders during the hottest weather. Seventy-five to one hundred tons of ice will be needed to fill the requirements of a cold storage for a creamery of the capacity herein indicated. The cost of this will vary materially with the locality. The labor of smashing two to three tons of ice weekly for the cylinders during the major portion of the busiest season of the year is an undesirable item, and one, I find, not much appreciated by creamery operatives.

Efficiency.-This system of refrigeration may be made to give very fair satisfaction if well carried out. The dampness usually attending it is an objection. We find that it is a general experience that butter molds much more readily in ice storage than in chemical storage. Unless the construction of the building be A1 leakage frequently results. But the great drawback and inefficiency to ice cold storage is the fact that it is not easily enough controlled. The temperature very frequently reaches too high a pitch, and as a result the contents of the place suffer. Another drawback the writer has experienced is that the ice very frequently does not hold out until the new ice is available, and many do not realize that there is really only a very short period during the whole year when refrigeration is not needed.

II.-CHEMICAL REFRIGERATION.

Cost of Building.—This is at least one-third less than in the case of ice, as the storage for the butter and entry for the same is the only room needed.

Cost of Plant.—I have by me as I write, esti-mates of a complete chemical refrigeration outfit, large enough for creamery use, at prices varying

the setting and skimming process a considerable amount is lost. Besides the loss of money there is amount is lost. Besides the loss of money there is a waste of time and labor in washing pans, cans, warming calves' milk and thawing out creamers in cold weather by the old way. This means drudgery and hard labor. When a separator is used the milk is skimmed as it is milked, and when the cows are milked their milk is alward advertised and the string milked their milk is already skimmed and the skim milk ready to be fed to the calves and hogs, and the only things to be washed are the milk pails and separator, instead of a host of pans. The separator is much more easily managed than skimming milk, and is done in less time.

and is done in less time. There is a great advantage in having the milk separated while warm, because the skim milk is warm and the calves and pigs like it better, and it does them more good. The warm skim milk mixed with bran and shorts makes an excellent food for growing hogs. Calves do almost as well as upon whole milk. A little warm skim milk is good for poultry in winter.

I might mention another point of importance. Where milk is skimmed with a separator at home and the cream sent to the butter factory the cost of manufacture would be reduced one-half or more. Besides, it would do away to a great extent with tampering with milk. I am convinced that a man with a herd of twenty-five cows cannot afford man with a herd of twenty-live cows cannot afford to do without a separator, for two reasons: (a) A large amount of time is wasted in hauling whole milk to the skimming station and skim milk from it; (b) the skim milk is often sour, and not so good for calves and hogs, especially in warm weather. A separator for from thirty to fifty cows and a one-horse tread power can be got for about two hundred dollars. A separator can be run by a horse

one-horse treat power can be so be so by a horse hundred dollars. A separator can be run by a horse or bull, or any animal having the proper weight, and the running expenses are almost nothing. Middlesex Co., Ont. S. C. MILLSON.

Middlesex Co., Ont.

No Trouble in Churning when Separator is Used.

SIR,-In the FARMER'S ADVOCATE of Jan. 2nd SIR,—In the FARMER'S ADVOCATE OF Jan. 2nd there appeared a timely article inviting those who had used separators to give the result of their ex-perience in their use as compared with the older perience in their use as compared with the older methods in separating the cream from the milk. There is perhaps no other branch of industry that has been as badly bungled in the past as dairying. We Canadians had become too much wedded to old worn-out conservative ruts, and only in the old worn-out conservative ruts, and only in the later years has there been a waking up to the fact that it is high time to be divorced from systems which have been a hindrance, and search for better and more profitable methods of conducting this highly important branch of inductor. For this highly important branch of industry. For years we used pans, which at the best is a laborious method; had an excellent cellar, and everything methou; had an excenent cenar, and everything connected with our dairy was managed with as much intelligence as in the great majority of farm houses. Still there were always uncontrollable influences, as changes of temperature and so on, which rendered the results frequently disappointing. Next we got creamers and ice, and with that we had decidedly better results in every way. we had decidedly better results in every way. With that too there are drawbacks. Getting the ice means several days of hard work, besides paying for cutting and hauling sawdust, and although packed with the greatest care, we were generally surprised to find that the ice had not kept well (which was also the experience of our neighbors). surprised to find that the ice had not kept well (which was also the experience of our neighbors), and we were without during the greater part of September and October, just at the time when the cream is slower to rise. This meant a loss of cream at the time when butter is invariably a good price. Last year we were induced to get a hand separator. Last year we were induced to get a hand separator. In comparison with the old methods we consider this decidedly better. In the first place the labor is greatly lessened. To put the milk of six cows through takes from fifteen to twenty minutes. This is a little too hard for women, but not at all hard for a man. Next, washing the separator and belongings takes about another fifteen minutes, and all is done and the separator ready for the next all is done and the separator ready for the next milking. In the warm weather we separate just as the milk comes from the cows, but as soon as the weather gets a little cool better results are obtained by missing the temperature a little. This would not by raising the temperature a little. by raising the temperature a little. This would not be necessary had we a dairy building at the barn. The milk as it comes from the separator is still warm and ready for the calves: no heating required, as in the old methods. Beside separating the cream as in the old methods. Deside separating the cream from the milk, the impurities are also separated, and lodge on the inside of the bowl. Separating the milk as soon as the milking is done, it is much the milk as soon as the milking is done, it is much easier protected from contracting taints, of which milk is so susceptible. These combined, the butter produced is of a much better quality, for which fastidious people are continually in search, and for which they are willing to pay a good price. Since which they are willing to pay a good price. Since using the separator we get more butter from an equal quantity of milk, also never on one occasion have we had the least trouble in churning, and can always depend upon the same results when the cream is churned at the same temperature.

MRS. H. H. SPENCER. " Dorset Farm," Ontario County, Ont.

Entirely Satisfied with the Cream Separator.

Editor FARMER'S ADVOCATE:

that the manufacturers are still asking too high

prices, and so lessening the number of sales. When buying a separator it is well to take time to examine the different kinds in operation, and to to examine the different kinds in operation, and to note the strength and simplicity of their construc-tion, as well as the thoroughness of skimming and ease of running. A weak, complicated affair is likely to be a source of trouble as long as it lasts, but a good machine, properly oiled and cared for, will scarcely ever cause any trouble or expense. Some machines also are very troublecome to weak Some machines also are very troublesome to wash, if the skimming parts are numerous or complicated, and it is well to consider this point before buying. In conclusion, I may say that I am entirely satisfied with the separator, and would never think of going back to the old gravity process of creaming. G. W. CLEMONS. Brant Co., Ont.

The Merits of "Dilution Cream Separators" Investigated.

Within the last year a number of forms of what are known as aquatic cream separators have been patented and placed upon the market both in the United States and Canada. They consist of large milk cans or boxes, some round and others rectangular, fitted like Cooley creamers with graduated strips of glass, so that the milk and cream can be seen through the side of the can or separator. It is made large enough to contain several pails of it is made large enough to contain several pairs of milk and an equal quantity of water. The can is fitted with an outlet in the side of the depressed bottom, through which the diluted skim milk is drawn. The claim made by the advocates of this system is that the added water discolves the viscous system is that the added water dissolves the viscous system is that the added water dissolves the viscous matter, allowing a rapid and complete rising of the fat globules in the form of cream. That all the claims made by the promoters of the new system were warranted we were doubtful, and to having all skim milk diluted to twice its bulk we could see grave objections.

In order to learn of the merits or demerits of the dilution system of creaming milk, Prof. H. H. Wing, of Cornell University, conducted a series of tests during the past summer, and found the cream-ing by it very imperfectly done. The room in which the cans were set was at a temperature of



POLAND-CHINA SOW. First prize, Toronto, London, Ottawa, and Brantford, 1898. Property of W. & H. Jones, Mt. Elgin, Ont.

65-75 degrees. The water used was at a temperature between 50 and 60, and in all cases the cans stood rather more than twelve hours before they

Weeding the Dairy Herd --- A Practical Dairyman's Method Outlined.

To the Editor FARMER'S ADVOCATE : SIR,—Eight years ago we commenced to weigh the milk of each cow in our herd one day every the milk of each cow in our herd one day every week, and take that day's record as the average for the week. A correct account was kept throughout the year. At the same time we bought a twelve-bottle Babcock tester, and applied the test often enough to find out the cows that were not paying a profit on the feed consumed. At that time we had about fifteen cows, "grade Shorthorns," which made an average of 250 pounds of butter each per year. Last year our herd of about thirty grade year. Last year our herd of about thirty grade year. Last year our neru of about thirty grade Jerseys made an average yield of 340 pounds of butter each. We think it would be a hard matter to decide just what were the direct financial results secured by weighing and testing the milk, as shortly after we commenced to use the scales and test, we purchased a first-class Jersey bull, and have several cows in our herd now, sired by that bull, that make from 400 up to 450 pounds of butter each per year. We also bought a cream separator, and built silos, and, in fact, had a kind of a general awakening, and I think a majority of those who commence to use the test and scales will be effected in the same way. We use a spring balance scale for weighing the milk; have it suspended from the ceiling behind the cows in a convenient place, and it is the work of an instant for each milker to weigh and record each cow's milk. In fact, it does not appear to take any longer to do the milking when we weigh the milk than when we do not. When we test, we take sample bottles to the room in the barn, where the milk is strained as soon as drawn from the cow. The milk is stirred and a sample taken ; the same

is done in the evening, and then the test is made. The use of the scales has opened our eyes to the The use of the scales has opened our eyes to the merits of the persistent milker. By this we mean the cow which gives about the same quantity of milk every day for eleven months in each year, and we are doing our best by breeding and weeding to secure a herd of just such cows. To illustrate this point I will give the record of a three-quarter-bred Jersey heifer, Keepsake, that we are fortunate to possess. She dropped her first calf Oct. 1st, 1897, when she was twenty months old, and continued to when she was twenty months old, and continued to give milk until Nov. 5th, 1898. During this period she gave 7,763 pounds of milk, testing 4.80% butterfat ; her highest daily milk yield was 23 pounds per day, and her lowest for the first ten months, 19 lbs. per day, and she was giving 15 pounds per day when we put her dry. She dropped her second calf Dec. 7th, 1898, and is doing better than ever. This letter is already too long, but I would just add a word of caution to those who commence to keep records of their cows, to carefully consider all the circum-stances, and that it is often advisable to give cows or heifers that have not done very well a second year's trial, and then if they don't respond to liberal feeding, do not breed them. Feed well, and continue milking them until ready for the butcher. Brant Co., Ont. ROBT. BAIRD.

The Use of the Cream Separator.

To the Editor FARMER'S ADVOCATE:

SIR,—In your article in the FARMER'S ADVOCATE of the 2nd inst. on the above subject you invited those of your readers who have had experience to give it for the benefit of those who are interested. While we quite agree with all the advantages set while we quite agree with an the advantages set forth in that article, which are quite within bounds, we see two great obstacles which will have to be re-moved before the small separator will come into general use amongst our dairymen; i. e., first cost of the machine and cheap convenient power to run it; the latter is the greater of the two. Considerable has been written on this point, and windmills and tread powers have been recommended, but neither of the above is quite satisfactory, as power for run-ning a separator must be under the absolute control of the operator. Those who have had experience know very well that some days the separator runs much harder than others, and if the speed is not maintained throughout the separation will be imperfect, and instead of the machine being an advantage it will be the opposite. Hand power is too expensive, and besides it is not always convenient for the "man o' the house" to be on hand just the moment the milk is ready to separate, and as a matter of fact it is a man's work to turn the crank to separate two or three hundred pounds, and a healthy, full-grown one at that. If the manufactures can put upon the market a machine that will do good work and separate 250 pounds per hour, at a cost of \$50.00, and cheap power can be made use of, we would very strongly advocate their use to those who are an unreasonable distance from a cheese factory or creamery, or those who are contemplating the manufacture of butter in the home dairy ; more and better butter can be made, but the greatest advantage we see is the extra value of the skim milk. The dairyman has it just when he wants it and when it is at its best. W. H. & C. H. MCNISH. "Elingrove Farm," Brockville Co., Ont.

SIR,-Your article in the January 2nd issue on SIR,—Your article in the January 2nd issue on "The Use of the Cream Separator" was a timely and thorough exposition of the advantages of cen-trifugal creaming of milk. I have had considerable experience with the separator in my private dairy, and can endorse everything you have said on the question. We can skim quickly and thoroughly, and feed the warm skim milk at once to our young Holstein-Friesians, which is a decided advantage in and leed the warm skim milk at once to our young Holstein-Friesians, which is a decided advantage in a breeding herd at least. Then, again, the cream is obtained in the best condition, and from its lesser bulk is not so liable as milk to be exposed to the "two-and-seventy distinct smells and several stinks" which are too often the near neighbors of the farm-er's milk can, especially where the milk is kept for two or three days in anticipation of the tri-weekly or perhaps semi-weekly trip to the winter creamery. After seeing some of the strange and "aromatic" places in which milk is kept, I often pity the poor buttermaker who is expected to convert such tainted raw material into first-class export butter. It seems to me that the general use of the cream separator among farmers would tend decidedly to raise the quality of our butter to the highest standard. As my herd is not a large one, I find a hand machine of twenty-five gallons capacity quite satisfactory. Where a large number of cows are kept a power separator would be preferable, and the tread power, which is now found on a good many farms, could be utilized to run it and to furnish a bull with necessary exercise at the same time. While I have no experience with them, I should judge that the machine run by steam, with boiler attachment, would be quite satisfactory, and would furnish hot water for washing, etc., at no additional cost. It looks as if the gasoline engine is the coming power for farmers, but the cost is too great at present for the most of us. Farmers usually have a good deal of money invested in machinery which lies idle or worse than idle the greater part of the year, and I would hesitate to advise anyone to buy a separator or engine without due consideration of the cost and probable gain from its use. Though prices have been materially reduced lately, I believe

were skimmed, while the dilution separator people claimed that two hours was time enough to secure a thorough rising of the cream. The cans were skimmed by drawing the mixture of skim milk and water from the bottom till the cream line was within one inch of the bottom of the can. The fat in the skim milk and water was determined by the Babcock test, and then corrected for the water added. The results were that the per cent. of fat remaining in the skim milk from fifteen tests ran from .40 to 1.90, with an average of nearly 1 per cent.

Occasions were also taken to test several of these cans, or so-called separators, in actual use by farm-ers. The whole milk contained from 4 to 5 per cent. of fat, and was largely the milk of Jersey and Jersey grade cows. Equal parts by measure of milk and water were used, with the results that on five farms, with five tests on four, and four tests on the fifth, the averages ran from .66 to 1.20 per cent. of fat remaining in the skim milk.

Compared with the shallow pans, Cooley creamers, and separators, we find the dilution or aquatic system grossly lacking. Centrifugal separators seldomleave more than from .1 to .2 of 1 percent., while the average per cent. of fat found in skim milk of forty farms using shallow pans was .39, and on thirty farms using deep setting, .30 of 1 per cent. The conclusions reached by Prof. Wing are that

under ordinary circumstances the dilution of the milk to twice its bulk is of no benefit. It may, however, be of some use when the milk is all from stripper" cows, or when the temperature of melting ice cannot be secured. The system is less efficient than the best forms of deep setting, such as the Cooley creamer, and no more efficient than the old-fashioned shallow pan.

Denmark, in order to preserve its export butter trade, has passed a law making it a misdemeanor to use salicylic acid, formaline, or any "preservative" of any kind, in milk or its products.

An occasional cause of a spoiled churning is rusty milk cans. Every now and then there occurs a tallowy, half-rotten smell in the output of a creamery or dairy, the origin of which seems wrapped in Sometimes the cause is not discovered at mystery. all. In other cases it is traced to the rusty can, which seems capable of imparting a peculiarly vile odor.

A Practical lined.

nced to weigh one day every the average for pt throughout ught a twelve-the test often e not paying a at time we had horns," which outter each per t thirty grade 340 pounds of a hard matter financial results milk, as shortly es and test, we nd have several bull, that make each per year. and built silos, awakening, and mmence to use n the same way. r weighing the ceiling behind it is the work of and record each pear to take any weigh the milk e test, we take barn, where the from the cow. aken; the same e test is made.

our eyes to the By this we mean me quantity of n each year, and and weeding to To illustrate this ree-quarter-bred are fortunate to lf Oct. 1st, 1897, and continued to ring this period ing 4.80% butter-vas 23 pounds per n months, 19 lbs. nds per day when second calf Dec. ever. This letter st add a word of keep records of all the circumble to give cows ry well a second don't respond to Feed well, and for the butcher. ROBT. BAIRD.

Separator.

MER'S ADVOCATE oject you invited ad experience to hò are interested. e advantages set ite within bounds, will have to be reor will come into n; i. e., first cost of t power to run it; wo. Considerable and windmills and ended, but neither as power for run-e absolute control e had experience he separator runs the speed is not ration will be imhine being an ad-Hand power is too lways convenient on hand just the eparate, and as a to turn the crank ed pounds, and a

JANUARY 16, 1899

THE FARMER'S ADVOCATE.

Hand and Tread Power in Cream Separation.

Mr. R. H. Harding, the well-known breeder, of Thorndale, has made a specialty of producing cream for the Toronto market for three and a half years for the Toronto market for three and a han years past, and has used hand power exclusively and is well satisfied, though a dairy professor once gave him just six months in which to get sick of turning the crank. He has used an Alexandra No. 11, run-ning at an average of about 225 pounds per hour, and has usually milked from fifteen to twenty-five cows. Would rather run a hand separator for an hour than any fanning mill he ever saw. For a herd of twenty cows or under he considers hand power all that is necessary. For over that he is inclined to think a gasoline engine would be the

Mr. P. H. Lawson, of Nilestown, Ont., who keeps a herd of some forty milk cows, largely Jer-seys, has successfully catered to the London (Ont.) seys, has successfully catered to the London (Ont.) cream trade for a good many years past. For a couple of years he used an Alexandra No. 7, at about 600 pounds of milk per hour; for some three years a De Laval No. 3 at 650 pounds per hour, and latterly a De Laval No. 3 Improved, at about 750 pounds per hour capacity. Hence his experience is somewhat extended, but from the first he has used a two howse tread nower (one of Moody's), and a two-horse tread power (one of Moody's), and thinks that when provided with a good "governor" nothing better could be desired. It gives a very gradual motion on starting and is steady. He uses a light team or one light horse and a heifer or young bull. One horse on a two-horse tread is not satisfactory, but would be if it were constructed as a single horse prover. If however, the construct satisfactory, but would be if it were constructed as a single horse power. If, however, the separator drive wheel were about two feet in diameter in-stead of one foot he believes that one horse on a two-horse tread would be all right. During the past few weeks the milk flow dropped down to how to be and he has much his No. 2 about 500 pounds per day, and he has run his No. 3 separator by hand without any trouble.

Dividing Whey and Skim Milk.

One of the most vexatious questions with which factorymen have to deal is the division of skim milk and whey among the patrons. These by-products are usually run into a tank, and the individual patrons or milk drawers are allowed to help themselves. If the maker is careless and lacking in backbone, exercising no strict oversight, as he should, the exercising no strict oversight, as he should, the greedy and dishonest appropriate more than their share, to the loss of others. Endless squabbling is often the result, and not infrequently some facoften the result, and not infrequently some fac-tories lose good patrons in that way. Supt Sleight-holm, of the Western Dairy School, the other day showed us a simple automatic device which allowed showed us a simple automatic device which allowed each patron to get his share exactly and no more. It resembled a small oblong box, through which the skim milk pipe ran and worked on the "nickle-in-the-slot" principle. The drawer is given a set of iron checks (one for each patron) bearing figures showing the number of pounds to which he is en-titled, according to the milk weighed in a few mo-ments before. The weight is dropped in the slot, and the patron's share of skim milk runs through. It was an American-made device, costing some \$60, including duty, and proved thoroughly satisfactory. It was an American-made device, costing some \$60, including duty, and proved thoroughly satisfactory. Were it obtainable at a somewhat lower cost, Mr. Sleightholm thought it would be very generally used, but he would not think of trying to run an establishment of any considerable size without it. Whey could be handled in the same way.

Protect the Game.

To the Editor FARMER'S ADVOCATE : I would like to enter a protest against the mistake the Manitoba Government has made in allowing the only big game we have in the Province to be slaughtered wholesale, as was done last fall. The destruction of deer has been terrible. Prairie chickens are now nearly a thing of the past. I be-lieve if the Government prohibited the slaughter of such game, for say five years, it would be better for the Province.

The depredations of the prairie wolf have been worse this season than ever. Chickens and turkeys have been killed by the score, and I could name a number of farmers around Manitou who were compelled to sell their flocks of sheep at a great sacri-fice; in some cases flocks of 200 have been disposed of. I see reports from all over the Province of destruction caused by these little pests, and I believe the sooner the Government takes hold of this question and by increasing the bounty on this question and, by increasing the bounty on wolf skins, assists in exterminating this worst of pests, the better. P. B. P., Manitou. pests, the better.

Stock Essential to Successful Wheat Growing.

BETTER MANAGEMENT ON A WHEAT FARM.

To the Editor FARMER'S ADVOCATE:

I was sorry I was not at home when your repre-sentative called.

The cattle I keep are none of them thoroughbred except the buil, but I have kept a thoroughbred Shorthorn bull for about nine years now, changing him about once in two years, so the catle are getting pretty well graded up. The calves were some of them suckled, but most of calves were some of them suckled, but most of them raised on separated milk. I do not let the calves run with the cows unless it is a cow that has only milk enough for one calf. I milk all the best cows, and any cow that gives a good quantity of milk, but is hard to milk, I put two calves on to, keeping them in the stable and letting them suck keeping them in the stable and letting them suck twice a day when the other cows are being milked. I find the calves do as well this way as if running with the cows, and it is much easier on the cow. The hand-raised calves get new milk for about a month, then separated milk with a little flax-seed



WAITING FOR THE STEAMER ON A B. C. STREAM.

meal in it. When they are big enough to eat oat chop I mix the flax-seed meal with it instead of putting it in the milk. The steers I am feeding are doing very well. This is the first year I have tried fattening cattle loose. I altered my stable last fall, in consequence of the numericable results of Mr. in consequence of the remarkable results of Mr. Mulock's experiments given in FARMER'S ADVO-CATE last year. It certainly saves work, and the cattle seem to eat quite peaceably together. The only cattle I tie up now are the cows and heifers in calf. The calves have a place to themselves, the yearlings another place, and the two-year-olds another place—all loose. They are all dehorned. I have done the calves with the caustic potash for several years, and I don't want to handle any more horned cattle.

it the remainder of the year the hay is grown, all the next year, and until the field is plowed up in the third year after being seeded down. It is while the field is being pastured that I like to put the manure on it. The cattle tramping over it break it all down so that it does not bother the plow, and they also tread the weed seeds into the ground, so that they grow and are eaten off. A field of mine that had been so treated and plowed up in '97 yield-ed in '98 five bushels per acre more, and ripened ed in '98 five bushels per acre more, and ripened several days earlier, than land near it which was summer-fallowed. Of course, to follow this system the farm must be all fenced and divided into six or the farm must be all fenced and divided into six or seven fields [Forty- or eighty-acre lots make a nice division for our square survey.—ED. F. A.], but if we can keep up the fertility of our land by this system it will repay the outlay, for there is little doubt that the all-grain and no-stock system is rapidly exhausting our land. Wishing the F. A. a prosperous New Year— CHAS. E. IVENS. Wallace Municipality, Man.

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GARDEN AND ORCHARD.

Selection and Buying of Fruit Trees.

Since transportation facilities for carrying such fruits as apples and pears to the British markets are approaching a condition to be depended upon are approaching a condition to be depended upon for their safe carriage, no doubt a large number of trees will be set out the coming spring, with the ex-portation trade in view. Not only that, but the improved financial condition of our people gener-ally will tend to increase the planting of more garden fruits for home consumption, which has been so sadly neglected during past years. Unfor-tunately the business of farming has for a number of years been such as to keen men hustling to tunately the business of farming has for a number of years been such as to keep men hustling to make ends meet, with the result of causing some of the comforts that might be enjoyed to be over-looked. A well-assorted fruit garden has more about it to afford comfort and good health than we are accustomed to realize, and it behooves everyone who tills a piece of ground to secure for himself and family, at very little expense, the luscious product of the tree, bush and vine. In selecting plants for a fruit plantation it is

family, at very little expense, the fuscious product of the tree, bush and vine. In selecting plants for a fruit plantation it is wise to determine, 1st, what is, and 2nd, to select, first-class stock. Ordinarily the nurseryman con-tends that he grows just what the planter needs, and generally he has those sorts, but too often efforts are made, especially by the travelling agent, to sell some high-priced novelties, which it is usually wise to leave strictly alone. It is impor-tant to secure good, vigorous, straight stock in trees, but if they be of an undesirable variety their other desirable qualities are of very little moment. The nurseryman's business usually ends in the growing of the young trees, and those that make the straightest, most rapid, and cleanest growth usually find the readiest sale. Some sorts, such as Baldwins (a good sort, however), are straight, stalky and smooth growers in the nursery row, and therefore have been widely planted, while some other good varieties, such as Canada Reds, which are poorer growers in the nursery row, have been to little planted. What we should learn is the are poorer growers in the nursery row, have been too little planted. What we should learn is the characteristic form of the best varieties to plant, and purchase only those of that which present the most likely any any of commission into strange most likely appearance of growing into strong, healthy trees.

healthy trees. A medium-sized tree for its age, shapely in body and head, stalky and straight, with abundant roots, is likely to do well if carefully planted in suitable soil and given proper attention. They should also be free from borers and other injuries, and in case of budded trees it is well to see that the union is very near the ground. One may have to pay extra for the best grade of trees, but the differ-ence over the price of a poorer grade is a good in-vestment. vestment. The age at which trees should be planted must be governed by circumstances and by variety. When varieties are new and scarce it may be econ-omy to buy young stock. Some of the free-growing apples and pears are large enough when two years old if grown from buds, but these fruits are usually set at three years from the bud or graft. Dwarf pears may be set at two or three years, preferably at the former age. Peaches are set at one year from the bud. Strawberries are set only from new plants (those which have never borne), gooseberries plants (those which have never borne), gooseberries and currants preferably from two-year stock, and raspberries and blackberries from stock not more than one season old. Trees to be planted in spring are usually pur-chased in the winter season. It is wise to buy at a near nursery if reliable stock of the desired sorts, which should be such as do well in the locality, and honest dealing can there be secured. A more leisurely inspection of the trees can be made, freight can be saved, and the stock will likely be received in fresher condition. Some nurserymen employ than one season old. can be saved, and the stock will likely be received in fresher condition. Some nurserymen employ regular and reliable agents, who carry a certificate from the nursery they represent. With these it is usually safe to entrust orders for small lots, but when an orchard is to be set out it is much the better plan to select and deal with the nurserymen themselves. The buyer should make up his mind just what varieties he wants, and then find the nursery which has them and order early enough to nursery which has them, and order early enough to nursery which has them, and order early enough to get them. Before buying stock for any extended area, it is well to have a talk with some nurseryman of reputation, as well as with fruit-growers of ex-perience. The exercise of good business principles, caution and common sense in buying trees will save a deal of future trouble save a deal of future trouble.

pon the market a and separate 250 \$50.00, and cheap ould very strongly are an unreasonry or creamery, or he manufacture of and better butter vantage we see is k. The dairyman d when it is at its C. H. MCNISH. Co., Ont.

poiled churning is then there occurs a output of a creamseems wrapped in is not discovered at to the rusty can, ing a peculiarly vile

Some Points in Feeding Beef Cattle.

To the Editor FARMER'S ADVOCATE:

In regard to winter feeding of cattle for beef, great care should be taken when the cattle are first great care should be taken when the cattle are first put up that they are not overfed. To start them off right there is nothing better than a fair allow-ance of pulped turnips, with a little ground grain ance of pulped turnips, with a note ground grain sprinkled over them, morning and evening, together with all the bright oat straw they will eat. After the animals are once tied in, I don't believe in turnthe animals are once tied in, I don't believe in turn-ing them out again, as the quieter feeding cattle are kept the faster they will put on the beef. In feeding cattle successfully a well-planned system is neces-sary : regularity in feeding, both as to time and ration, and watering. The temperature of the stable should be maintained as uniform as possible; about 40° to 45° I consider right. Every farmer should have a thermometer hanging near the center of his stable. For watering, I prefer troughs fastened along in front of the cattle, as the water then gets the chill off it by the warmth of the stable. The stock should be watered about 9 a. m. and 5 p. m. I find cut oat sheaves, or good wheat and 5 p.m. I find cut oat sheaves, or good wheat chaff dampened, and barley and wheat chop mixed in it is as good a food as can be used; a little salt added twice a week helps to keep them in healthy condition. Another point : After cattle have been on full feed about a month they frequently get very on full feed about a month they frequently get very restless and itchy, and it is generally concluded that this is caused by lice, but in nine cases out of ten it will be found that the dust and chaff has settled into the long hair on their backs, and from the heat of the stable and the internal heat of their bodies caused all the irritation. The best way to remove this annoyance is to clip off the long hair along the this annoyance is to clip off the long har along the full length of the back and well along to the sides of the animals; and with curry-comb and corn brush remove all the dust and dirt. Cattle thus treated will keep cool and contented and feed rapidly. Pembina Municipality, Man. W. E. B. Pembina Municipality, Man.

GRASS ROTATION AND MANURING.

I am spreading manure on land which I am going to plow in the spring for barley and seed down with a mixture of McIvor's rye grass and timothy. This is the grass I use now for rotation. I mothy. This is the grass I use now for rotation. I see Brome grass is boomed a good deal just now for a rotation with grain crops. To anybody think-ing of trying it for that purpose I would give Punch's advice to people about to marry: "Don't." I broke and backset half an acre of it last summer, and then hed my stars the other fifty acres I had and I thanked my stars the other fifty acres I had and I thanked my stars the other fifty acres I had to break up was timothy and rye grass instead of Brome. The Brome was tougher than any slough bottom I ever plowed and after the two plowings it is almost as lively as ever. What I will do to it next I hardly know. I suppose I will have to plow it again in the spring. For a permanent pasture I believe the Brome would be far the best, but not for rotation. To return to the manure. I do not burn it off, but plow it all down. I believe burning it must he a great waste. It should be spread thin. burn it off, but plow it all down. I believe burning it must be a great waste. It should be spread thin, to plow down well in spring. I would never think of putting manure on land I was going to summer-fallow. My land is a deep black loam, with a clay subsoil (rolling prairie), and in a wet year summer-fallow grows too much straw without any manure. But spreading manure on land to be plowed in the But spreading manure on land to be plowed in the spring is not the way I like to use it at all. I am only doing it this winter because the grass field it only doing it this winter because the grass held it ought to be on is too far away from the yard. The system of farming I have been gradually working into for the last eight years is to take three or four crops of grain off the land and then seed it down with grass, take one crop of hay off it, then pasture

VETERINARY.

The Horse's Mouth as It Effects His Manners.

There is no point in connection with a horse that contributes so much to the pleasure, comfort and safety of either riding or driving him as what might be called a responsive mouth, which obeys the slightest intimation promptly of restraint or guidance. Dr. F. C. Greenside, who for a number of years was Professor of Veterinary Science at the Ontario Agricultural College, read a paper upon this subject at a recent New York veterinary convention, which has appeared in the journal of Veterniary Archives of Philadelphia, from which we summarize the chief points. He says: "Horses whose mouths are not good are very

"Horses whose mouths are not good are very subject to soreness occasioned from injury from the bit, and the result of this soreness is manifested in a variety of ways. Curb bits with stiff mouthpieces often bruise the branches of the lower jaw at the points where the bit presses. Jointed or snafflebits seldom injure the branches of the lower jaw, but sometimes press the cheeks against the forward molars, and abrade the inner surface of the cheeks.

cheeks. "Of the numerous ill results of soreness and discomfort in connection with the mouth the following faults and troubles are mentioned as being noticeable when riding or driving, viz.: Crossing the jaws, keeping the mouth more or less open, lolling the tongue, slobbering, tossing the head, carrying the head on one side or the other, pulling out in double harness, or crowding in, going cornerwise, side-lining, not going into the bit, carrying the head unsteadily, pulling, balking, rearing, plunging or rushing when starting off, especially out of the stable, restlessness in standing, breaking or going unsteadily in harness when going within the horse's speed, mixing, hitching or hopping either in front or behind, interfering, and bridle lameness. Other causes operate in producing the faults enumerated, but the most prolific one in the majority of instances is some discomfort with the mouth.

"As a rule troubles attributed to the mouth are sought to be corrected by rasping the teeth, when the real source of irritation—the bit—is used day after day applied to the tender spots. It is not a matter for wonder that a horse with an abrazed jaw should hang back, especially in the morning when first taken out. Such horses, if predisposed, become balkers. The high-couraged horse, though he may hesitate at first, will, as soon as the part becomes numbed by pressure, or he becomes desparate with the pain he is suffering, begin to pull and show evidence of the discomfort in the many ways already described, such as crossing the jaws, going with the mouth open, head on one side, etc. The irritable, sensitive horse is apt to manifest his pain in a more demonstrative manner, and we may find him going off with a rear, rush or plunge, which may soon become a confirmed, dangerous and disagreeable habit. Unfortunately, the condition is by no means uncommon and could be easily prevented were it realized that it is due to soreness of the

mouth, and rational measures adopted. "Besides the discomfort, difficulty and danger of driving a horse with a bad mouth, there is also apt control of the legs. What is called "hitching" or hopping off one leg, generally a hind one, although due to weakness, too heavy a load, driving beyond speed, heavy shoes, etc., is not infrequently due to tenderness or soreness of the mouth or placing the bit too high in the mouth. In high-couraged horses whose mouths have become permanently injured from the bit, it is a difficult matter to overcome the habit, but if the mouth is allowed to heal thoroughly, the bit placed as low in it as the animal will stand and face it with a moderate degree of firmness, and not put his tongue over it, the fault will often be remedied. "Seeming lameness from a sore mouth is by no means uncommon. A horse will nod his head or hitch on a hind leg as rhythmically as if he were actually lame. And it is very difficult to persuade people sometimes that a horse is not lame when he nods or hitches from a sore mouth. Sometimes green horses with sore mouths will appear to be lame when driven with a certain kind of bit, that will go all right with another, and occasionally a horse will show lameness on one side in a pair that will show no irregularity when driven on the other. Before deciding such horses are lame they should be jogged on the line. "While want of balancing or proper distribution of weight in shoeing will to some extent cause mix-ing of gait, trouble in the mouth is more commonly to blame. A horse inclined to mix usually has an unsteady mouth He does not take the bit with unsteady mouth. He does not take the bit with necessary firmness, and keeps retracting his tongue or putting it over the bit, so that the pressure usually comes on the branches of the lower jaw, giving rise to irritability and a want of confidence in the animal's manner of going. In such cases a comfortable bit should be used and placed well up in the mouth. Sometimes a bit with a flexible rubber mouthpiece or an arched stiff one will answer, and it is also well to leave the bit in mouth for several hours a day in the stable so as to get the tongue used to its pressure. Applied pressure from day to day with a dumb jocky is also recommended.

a moderate degree of firmness keep his head steady and his tongue under it. In those horses, however, which do not force the bit steadily, it is usually better to raise it in the mouth, and as the mouth becomes firmer lower it. Fatigue, bad shoeing, rough and slippery roads, and the swaying of a heavy cart, are all exciting causes of interfering, but there is do doubt that imperfect bitting, with incidental soreness, is an important exciting factor in causing the awkwardness of 'striking' or 'bruising.'"

Abortion in Cows.

Soon after the Midland Dairy Institution was opened, abortion among the cows began to give trouble, and continued up to the end of June, 1897. In the preceding year nearly thirty of the cows had aborted. Mr. J. W. Cave, F. R. C. V. S., of Not-tingham, was asked to take charge of the herd on the 20th of February, 1897, and in a pamphlet just issued by the Agricultural Department of Notting. ham University College he reports his treatment of the cows and the results. He decided to proceed on the lines suggested in a leaflet published by the Royal Agricultural Society, giving directions for the treatment of contagious abortion; also to try the internal administration of carbolic acid. In the first place he ordered that each of the twentyfour cows shall receive one dram of pure carbolic acid (diluted) twice a week. Three ounces (twentyfour drams) of the acid were dissolved in a quart of hot water, and two gallons of cold water were This weak solution was thoroughly mixed added. with the manger food of the cows, and they showed no repugnance to it; but they did not improve in condition while they had the carbolic acid, and Mr. Cave thinks it may have hindered digestion. It is doubtful whether it was of any value in warding off abortion, in our opinion. The other measures adopted were as follows: The sheds were thor-oughly lime-washed, one pint of common carbolic acid being added to each bucketful of the wash, and the more were sprayed with a strong solution and the roofs were sprayed with a strong solution of disinfectant fluid, while the channels behind the cows were washed down with the same solution several times in each week. The under part of each cow's tail, the anus, the vulva, and the backs of the thighs were washed with a warm solution of permanganate of potash every other day. Every aborting cow was removed to a separate shed, the afterbirth being burnt promptly, the litter under



THE FIRST SOD TURNED BY A BRITISH COLUMBIA PIONEER.

the cow removed and buried, and the stall in which she had been washed with a solution of the fluid. Each aborting cow had her vagina syringed out with a warm solution of permanganate of potash, either daily or every other day, while the discharge lasted, and every such cow was fattened and sold. This treatment was begun on February 20th, 1897, and cases of abortion ceased after the end of the following June, nor had any cases occurred up to the time of the writing of the report, October 25th, 1898. On the other hand, six heifers out at pasture and not treated all aborted. Mr. Cave, therefore, has good reason to conclude that his treatment was the cause of the immunity of the cows.—Live Stock Journal (Eng.).

who were with me attending the breeders' meetings and the fat stock shows at Brantford and Guelph, in December, from what they noticed in Ontario when there, can attest to those statements.

There is quite a contrast between farming in Ontario and our Western prairies. The Ontario farmer has to clear his land of timber and prepare it for farming as a beginning for a home; and afterwards the soil requires nursing and care to continue to produce abundant crops; while on the Western prairies is deep, rich soil, free from any obstructions. It is customary with us that one farm hand will sow and harvest 50 acres of oats; and with three horses, and a 16-inch plow and a cultivator, attend successfully and do all the work in planting, plowing and gathering fifty acres of corn in six months. It is said that out west, where they sow spring wheat, that the plowman starts out in the morning and gets to the other end of his plow land by noon, has his dinner, and returns home in the evening, having plowed four acres and only two furrows in a day.

When Americans go over to Eastern Canada to purchase fine stock, if it be in a cold winter, he will find almost all animals housed and comfortable—so comfortable that I have known many of their sheep clipped when the thermometer was 15 degrees below zero. Of course, this had to be done for the health of the sheep; so said the late Tom Frinship, an old breeder and exhibitor near London. Let a Canadian visit our Western plains and I will show him thousands of cattle for hundreds of miles on the lea side of a barb wire fence when the thermometer is from 10 to 20 degrees below zero. He can see them with eyes askance, as with a desire to say, if they could, "Can you do anything for us : we have plenty of feed, but no shelter from the stormy blasts of winter."

The joint meeting of the various live stock associations, held in the opera house, Brantford, on the evening of November 30, was more enjoyable to the Americans present than any similar meeting held in the States could be. What a grand spectacle to see the British and American flags hanging side by side on the stage, evidently an omen of a more brotherly feeling between the two countries. I have noticed, with regret, the absence of our good old conservative Johnny Bull, so much talked of. Neither did the dear old Uncle Sam, with his cranky, crotchety nature and clown-like apparel, show up at the meeting.

The caption of this article would indicate that I would give your readers something worth reading; but like the schoolboy reciter, I must say the FARMER'S ADVOCATE has spoken my piece in advance.

The FARMER'S ADVOCATE has given an elaborate and concise review of the greatness and prosperity of the Dominion Hence, it should be preserved by every one of its readers as a souvenir for future reference. D. C. GRAHAM. Cameron, Ill., January 6, 1899.

POULTRY.

American Poultry Association's Meeting.

This Association held its twenty-third annual meeting in Toronto on January 10th, during the drogress of the Ontario Poultry Show. The first session was held in a room adjoining the pavilion where the show was taking place. There was a very fair attendance, which would doubtless have been considerably increased had the room been properly heated, instead of being the ice-chamber it really was. President I. K. Felch, Natick, Mass., was in the chair.

"A driver should exercise much vigilance in placing the bit in a horse's mouth. The lower the bit is placed in the mouth, within certain limits, the better providing the horse will take it. With

MISCELLANEOUS.

Canada's Greatness and Prosperity,

AS VIEWED BY D. C. GRAHAM, OF ILLINOIS.

I am in receipt of the Christmas number of the FARMER'S ADVOCATE for 1898, and of which the manager, editors, and the great array of the sterling farmers of the Dominion, whose illustrations appear on its pages, should receive encomiums and congratulations from the people of Canada for proclaiming to the world, through the FARMER'S ADVOCATE, what Canada has been in the past; its progress, its resources and prosperity in every branch of business.

In 1857, I moved from Brant County, Ontario, to my present prairie farm home in Illinois. Since 1868, I have shipped from Ontario, to my home in Illinois, several carloads of the improved breeds of horses, cattle, and sheep; one load of which were Shorthorn steers for feeding purposes, on which I had to pay an ad valorem duty. Therefore, I state what I know, that Ontario is the garden spot of all the British possessions; the population of which are the best governed at the least expense, the best fed and clothed, and enjoying the fruits of their industry better than those under any other government on earth. Those Americans

The warlike spirit that spread through our American cousins a few months ago did not pass the poultrymen by. This was evident from the fact that Theodore Sternberg, the Secretary-Treasurer for the past year, is now in Manilla with his regiment. In his absence his duties have been undertaken by A. E. Felch, a son of the President.

In his address, the President, among other things, referred to some errors in the Brown Leghorn and other standards, some of which were due to the printer's mistake, others had been overlooked by the Revising Committee. The color of the feathers on the back and hackle of the Brown Leghorns had been described as dark brown instead of light brown.

Acting-Secretary Felch read an informal report from the Secretary at Manilla, but no definite financial statement could be given until his return, which might be in March. He also read his own statement from the time he had assumed office, which showed that 4,004 copies of the standard had been disposed of up to the end of the year. The Treasurer's part of report was referred to the Finance Committee.

Sixteen new members were admitted into the Association. The election of officers resulted as follows: President, Allan Bogue, London; Secretary, H. A. Bridge, Columbus, O. The competition for the latter place lay between the successful candidate and A. E. Felch. Some few changes were made in the Advisory Board and Executive Committee. The meeting throughout was concerned with business and no papers were read. An adjournment was made to meet at the Elliott House the next evening, the members in the meanwhile taking the opportunity of visiting the Agricultural College at Guelph.

College at Guelph. When the meeting was again called to order, the few errors in the standards for Brown Leghorns, Barred P. Rocks, and Pekin ducks, were rectified.

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nty-third annual 10th, during the Show. The first ning the pavilion ce. There was a e. d doubtless have room

JANUARY 16, 1899

Ontario Poultry Show.

The pavilion in the Horticultural Gardens, Toronto, has often held within its walls musical talent of a more or less high order, but it is safe to say that never before was there ever such a concentrated volume of musical sounds heard there as fell on the ears of the visitor to the twenty-fifth annual show of the Ontario Poultry Association, which was held in this building from January 9th to 13th, 1899. The trouble was that there was rather too much of it at a time. The shrill treble of the dimin. utive but self-important bantam, the deep bass of the Brahma and Cochin, varied with the shrill cries of the geese and quackings of the ducks, issuing from hundreds of throats, at times made up a concert that was perfectly deafening.

The show was a grand success. The total entries, Ine snow was a grand success. The total entries, including pheasants, pigeons, rabbits, etc., were 2,422, as compared with 1,812 at the last London Exhibition. Of these 2,422 entries, no less than 1,989 were of fowls pure and simple, and 181 of turkeys, geese and ducks. At the big New York and Boston shows last year the entries were only and Boston shows last year the entries were only 1,668 and 1,819, respectively. The Ontario Show thus takes the cake for poultry shows on this con-

A number of American breeders had brought over their birds for exhibition. They found, how-ever, in Canadian exhibitors foemen worthy of ever, in Canadian exhibitors formen worthy of their steel, and the home birds more than held their own in the competition in most classes. Nearly every class was well filled with entries of a high order. Backs — Barned Plymouth Backs could everyled

Rocks.—Barred Plymouth Rocks easily excelled all other breeds in point of numbers, there being no fewer than 171 entries of this popular breed in the building, and their excellence could scarcely be sur-passed. J. H. Thompson, jr., Patterson, N. Y., had the winning cock. E. M. and W. Ferguson, Fisher's Island, N. Y., secured first for pullet. G. W. Miller, London, exhibited a fine

London, exhibited a fine cockerel, whose under-markings were so good that the judge gave him first, beating another Am-erican entry. Jas. McCor-mack & Son, Rockton, secured first with a good-bodied hen. bodied hen.

White Plymouth Rocks were good. E. M. and W. Ferguson scored here for cock; while Thos. Rice, Whitby, won for hen and cockerel; J. M. Muirhall, Brantford, carrying off 1st

for pullet. Buff Plymouth Rocks Buff Plymouth Rocks were well shown. Jas.For-syth, Owego, N. Y., took the red ribbons for old birds; T. H. Scott, St. Thomas, and J. J. Foley, Brantford, having the best cockerel and pullet, re-spectively

spectively. Wyandottes — There were 22 pens of Golden Wyandottes, nearly every one of which contained a pair of birds. In such strong competition, A. W. Graham, St. Thomas, won 3 out of 4 firsts, viz., for cock, hen, and pullet; the remaining red ticket going to Wray Bree?

THE FARMER'S ADVOCATE.

thing worth taking. J. S. Carter, Toronto, had the best Black aged cock. Thos. S. Senior, Hamilton, won the red ticket for cockerel, and also special for male and cockerel with a grand bird. H. Muir-hall won the first and specials in both the female sections.

Buff Minorcas.-Robt. H. Ewen, Toronto, was

winner in this class. *Cochins* — White and Black Cochins were extra *Cochins* — White and Black Cochins were *Cochins* — White and *Cochins* → *Co* Voser, London, were the principal winners. R. Oke, London, had a magnificent Partridge Cochin cock, which stood first. Hugh Wyatt, London, excelled in females, the hen having a grand cushion and feather; his cockerel was good enough to take first. Puffs were shown by F. C. Hare, Whitby; Chas. A. Stewart, London; and Dr. Bell, Toronto. Brahmas were numerous and nicely shown. T.

A. Cox, Brantford, had a capital hen and cockerel with good, full breasts, which won in their sections. F. G. Hutton won the other red tickets. Sage & Garside made a pretty complete haul in the Dark

Brahma class. Dorkings — None of the Dorking classes were very large. A. Bogue won for Whites, and also for Colored cock. J. Laurie, Malvern, beat other competitors with his cockerel and pullet. John McKee, Norwich, and J. L. Corcoran, were success-ful among the Silver-Grays. Orningtons of which so much has been written

Orpingtons, of which so much has been written in English papers, were shown by W. H. Chambers, Toronto; only Single and Rose Comb Blacks were forward. The Single Combs are hardly, if at all, distinguishable for Black Javas.

Games.-The Canadian birds shown by Barber & Co., John Crow, and W. Main, in a very full class of Black-Red Games, beat the American exhibits of Black-Red Games, beat the American exhibits hollow; but in the Brown-Red class, which was not so well filled, Pierce Bros., Winchester, N. H., were more successful. Duckwings, Pyle, and Indian Games were all fairly represented.

Dominiques were shown by Geo. Bogue, Strath-roy; A. Fink, Woodstock; and A. G. Luxton, Georgetown.



MEMBERS OF THE ONTARIO POULTRY ASSOCIATIO ATTENDING THE ANNUAL MEETING, TORONTO, JAN., 1899.

Polands — Each variety of Polands was nicely represented. As usual, W. McNeil and Allan Bogue, London, carried off the bulk of the prizes. Hamburgs.—R. Oke and W. McNeil, London, divided up the prizes in the several varieties of this

C. J. Daniels, Toronto, had a display of poultry foods, including Dr. Hess' Panacea; and also had an incubator in working order, which hatched out its chickens during the show. On his stand could be seen the Pickhardt-Renfrew Co.'s disinfectant, with which the hell was disinfected twice a day with which the hall was disinfected twice a day.

Fattening Poultry in England.

At the banquet given on Thursday evening by the Toronto Poultry, Pigeon, and Pet Stock Association, Prof. Robertson gave the following method of fattening poultry for market as the one practiced by English poultrymen :

he ice-chamber it h, Natick, Mass.,

ad through our ago did not pass vident from the Secretary-Treas-Manilla with his uties have been of the President. ong other things, wn Leghorn and were due to the n overlooked by or of the feathers wn Leghorns had instead of light

informal report but no definite until his return, lso read his own assumed office, the standard had of the year. The referred to the

dmitted into the icers resulted as London; Secre-The competition e successful canew changes were Executive Comt was concerned re read. An adhe Elliott House n the meanwhile the Agricultural

alled to order, the Brown Leghorns, , were rectified.

the remaining red ticket going to Wray Bros.' cockerel from London.

cockerel from London. Silver Wyandottes, though numerous, were a rather weak class in quality. Jas. Arthur, London, secured the leading prizes for cock and pullet. The ribbons for cockerel and hen went to Henderson & Billings, St. Mary's, and Wray Bros., respectively; all four good birds

all four good birds. Although Jas. Forsyth, Owego, N. Y., captured 3 of the 4 red ribbons for Buff Wyandottes, it must not be supposed that the class was a poor one. On the contrary, the grand character and feather of the birds were a surprise to all. Mr. Shales, To-ronto, deservedly won first for a fine pullet. There was a great display of White Wyandottes,

42 pens in all, and a grand lot they were. A. A. Shilling, Egypt, N. Y., secured first on cock and cockerel; F. G. H. Moore, London West, and Chas. Massie, Port Hope, heading the roll for hen and pullet pullet.

Black Wyandottes were not so numerous. Here Jas. Wedgerey, Woodstock, excelled, winning all the firsts, except for hen, which went to Chas. Grimsley, Toronto.

All the Leghorn classes had a good number of entries. Jas. Forsyth, Owego, N. Y., won for hen and cockerel in the Single Comb Brown class. Dewar Bros., Milton, had the leading cock, and James & Taggart, Ottawa, the best pullet. The winnings in the Black Single Comb class were divided between C. J. Daniels, Toronto, and A. G. Brown, Watford, the latter winning for males. Buffs were shown by G. Bemer, and Spry & Wick, Toronto. Rose Comb Browns and Whites by An-derson & Billings, St. Mary's, and H. R. K. Tozer, London. Silver Comb Whites by H. G. Doyle, Woodstock; John Ramsay, Owen Sound; and W. J. Wolfe, Toronto. Minorcus.—Both White and Black made a fine display. In the Whites C. W. Jerome & Co., Fabius, N, Y., made a clean sweep, winning every-All the Leghorn classes had a good number of

divided up the prizes in the several varieties of this

breed Spanish were not very numerous. F. C. Hare, Whitby, won first for cockerel, hen, and pullet. Mr. T. Brown, Tilsonburg, had the winning cock. Black Javas. — Thos. Brown, Durham, who showed other varieties of fowls, won the prize for the best collection of this breed Turpin & Peters won first and special for cock, and W. R. Knight, Durham, first and special for hen.

won miss and special for cock, and w. R. Knight, Durham, first and special for hen. Andalusians.—Newton Cook, Brantford, won everything worth getting in this class. Houdans La Fleche, Sultans, Creve Cœurs, and White Wonders had each a small representa-tion

Turkeys.-There was a splendid show of all tion. kinds of turkeys, especially Bronze. Besides several seconds, W. H. Beattie won first for aged and yearling hens, and hen of 1898. Jas. Ford, Drumyearling hens, and hen of 1898. Jas. Ford, Drum-quin, won on his old tom, and also on his tom under a year old. W. J. Bell, Angus, had the best yearling tom. Beattie was very successful in the White, and also in the class for any other variety, winning easily in the latter with his Narragausetts over Luxton's Buffs. Thos. Brown, Durham, had the best old White tom.

Geese.—Toulouse geese were very good. Allan Bogue won the largest share of the prize money, with O'Brien & Colwell and W. R. Knight next in order. O'Brien & Colwell were strong in Bremen geese, their opponent being F. R. Webber, Guelph. The former won for any other variety with pens

of Chinese. Ducks.—A. Bogue and O'Brien & Colwell divided the honors in Aylesbury and Pekin ducks, the for-mer being strongest. John Colson, Guelph, was to the fore in Rouens, while Geo. Bogue scored with Cayugas, and M. T. Burns with Muscovies in the A. O. V. class.

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."

David M. Ballantyne, Perth Co., Ont., writes : We appreciate the ADVOCATE most highly, and think the Christmas number downs anything I ever saw. It is worth the amount (\$2.00) enclosed itself."

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.'

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FARMER'S ADVOCATE. THE

QUESTIONS AND ANSWERS.

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

Veterinary. COLD ABSCESSES.

E. A., Halton Co., Ont.:-"1. I have a couple of horses used up, and would like some information from you. My driving mare, ten years old, began to

beside the mercurial tube may indicate too high or too low, just as it happens; but a thoroughly at-tested thermometer is what a farmer requires."

[NOTE.-We are obliged to Subscriber for his kindly interest on behalf of fellow readers as indicated by his revealed lessons of experience. We cannot, however, agree with all of his advice, and deem it necessary to point out the dangers that are likely to follow the administration of the prescribed medicine. The aniseed and cumminseed are known in medicine as stomachics, and are useful in strengthening the stomach and stimulating its action, but the juniper berries and cantharides have irritating action on the bladder, kidneys and urethra, causing an inflammation that may be dangerous to the patient's life. The inflammation may have the result of inducing the animal to accept service, which would in all probability be of no advantage, as conception is not likely to take place under such circumstances.

Regarding the temperature for churning, it is true what subscriber says, it was folly to keep on churning so long with the cream at 60 degrees, as a higher temperature would in all probability have materally shortened the task. While this is true, it is a fact that very much of the present-day churning is done at a temperature lower than 60 degrees, especially in creamery work, when quite rich cream is used, though in winter work at many farm dairies the churning temperature is as high as from 68 degrees to 70 degrees. We must also find fault with the advice to pour boiling water immediately into the cream, as it tends to cook a portion of the cream, interfering with the texture and flavor of the butter. A much more popular plan among practical dairymen, which involves some labor, is to heat the cream in a cream or milk can set into a vessel of quite warm water. By constant stirring in this position the temperature will soon rise to the desired temperature without injuring the texture or flavor of the butter.

The point regarding the unreliability of certain thermometers is well taken. Every thermometer should be proved correct before depending upon it in dairy work. To do this one should always keep a correct thermometer with which to test others. This can be done by tying them in water with bulbs

EXTRACTED HONEY PRODUCTION.

G. L. P., New Brunswick :- "I have kept bees for about ten years, and have produced considerable honey in the comb, but wish to change to that of extracted. What are the chief conditions to be observed in an apiary when running for extracted honev?

[Honey to be extracted like comb honey is stored by the bees in supers above the brood chamber, the difference being that comb honey is stored in square pound sections, and extracting honey in stored in square extending across the hives. (We take it for granted Mr. G. L. P. uses modern box hives.) The writer used 14-inch Langstroth hives of a sufficient width to take eight frames. The frames used were six inches deep, and were the same in the extracting super as in the brood chamber. Some of the most successful beekeepers use 12-frame hives nine inches deep, from which they claim better results than with the smaller hives. When the swarms are set out in spring they are confined to the brood chamber intil honey commences to come in freely from the arly blossoms. Supers with empty frames or comb oundation are then put on, and the brood is spread n the brood chamber by placing the center frames, yhich contain most brood, on the outside, and exhanging for them the outside frames, which conain more or less honey. This is uncapped, so that he bees can readily remove it to the super, leaving oom for the queen to lay in these combs when mpty. It is not advisable to make this exchange of frames except the bees are sufficiently numerous nd strong to keep the outside frames of brood As soon as the frames in the super become varm. lmost filled and capped the first time in the season, he fullest half of the frames are selected out of each nive, and the remaining half shoved to one side, und empty frames with comb or foundation placed in the empty half of the super. The removed full frames are then extracted by a centrifugal extractor, after uncapping the combs with a sharp, straight knife with bent handle. This allows the bees to keep hard at work, and as fast as the frames are filled they are exchanged for empties and extracted. It is well to mark the date and the side extracted each time extracting is done. This is the plan followed by Mr. S. T. Pettit, one of the leading Ontario beekeepers. This is the plan he adopts until the last extraction, when all the combs are exchanged for empties about the end of July. From that time till fall a little honey is gathered, till brood rearing ceases about Sept. 15th, when the supers are all removed. This is done by Mr. Pettit throughout the whole yard as nearly as possible at the same time. Each super is left uncovered and placed on the ground in front of the hive from which it was taken. In a short time the bees have the honey in the super frames all stored in the

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brood chamber where they are to pass the winter. A reply to a question of this sort could be made much more helpful if specific questions were asked, and some reference made to the size of apiary, sort of hives used, etc. We might remark in closing, that in the production of comb honey, swarming that in the production of comb honey, swarming should be guarded against as much as possible by giving plenty of room and by keeping the bees supplied with empty combs continuously, because it is much easier to keep bees at work than to start them after a period of forced

GREEN OATS AND CLOVER FOR THE SILO.

idleness.]

AUGUSTUS CONVERSE, Richmond Co., Que.:-"Please find enclosed \$1.00 for my renewal subscription. I like your paper very much. I want to know if green oats cut at the proper want to know if green outs cut at the proper stage would keep in a silo_and make good ensilage, and if so, when would be the best time to cut them? Could they be put in the silo without having been run through a cutter? Would it be difficult to get them out? How would a mix-it be difficult to get them out? How would a mixture of oats and peas do cut green and put in silo? Has it been ever tried? Would there be any risk in trying it? How does the second growth of clover do put in the silo without cutting? I think those crops would make grand feed; in fact, a better balanced ration than corn. I would feel greatly obliged for any information on the subject

[Such crops as green oats, millet, etc., have been repeatedly tried in the silo, but the results have been generally unsatisfactory. The trouble seems to be that the fodder does not heat up sufficiently to destroy the decaying organisms, or does not pack close enough to exclude the air, and the result is that the entire bulk goes down in a rotten mass. few years ago green millet was repeatedly tried to be siloed at the Ontario Agricultural College farm, with the result of furnishing the students with the job of wheeling it out to the manure heap. Later attempts were made to put in layers of green mil-let with corn, and it invariably came out in mouldy condition. Whether or not success has been made of siloing green oats we are not prepared to answer, but we will be glad to hear from any who have succeeded.

With regard to the siloing of green clover, better results have followed attempts to do so than with the other crops we have mentioned. In fact, the practice has become quite general in some sections. The crop has to be cut while in full bloom, and not allowed to wilt before being but into the silo. It can be put in whole, but greater risk attends the practice. When so done it should be built into the silo in a systematic manner, beginning each layer at the outside and building round and round to-horse fork or sing may be used, but the work of packing the clover closely enough in the silo is thereby increased. The surest way to succeed is to cut the clover into two-inch lengths, and fill con-tinuously and tramp firmly. A few loads of green corn filled in on top will help to weigh the clover down and exclude the air. We would like to hear from persons who have succeeded in making good silage with other crops besides corn.]

CROPS FOR HOG FEED.

GEO. H. JOHNSTON, Montreal, Que.:-"Will you kindly answer me the following questions through your valuable paper, the FARMER'S ADVOCATE? I want to raise eighty pigs per year, and would like to know what kind of feed and how much per acre get al should I sow for the above. TUE pig the milk, after making butter, from twelve cows. The breed of pigs are Yorkshire sows and Tamworth boar. [The question before us would in all probability have been more satisfactorily answered for Mr. Johnston had he specified at what weights he proposes to dispose of the pigs, at what weights he pro-poses to dispose of the pigs, at what seasons of the year they will be farrowed, and the suitability of his land for certain crops. We infer, however, that the litters will be coming at all seasons, so that both winter and summer feed will be necessary; and that the pigs will be turned off at the bacon weights of about 180 pounds, at seven or eight months old. Since the demand is for lean bacon, and long, deep sides, pigs should be allowed plenty of exer cise while growing, up till they are about 100 pounds, during which time they should be supported on rather cheap, bulky food. In summer this is supplied in such crops as clover, vetches, together with skim milk and a small amount of grain daily, so that rapid growth and good condition be main-tained. Whether feeding large quantities of these "soft pork" is a point not yet definitely settled, and until it is caution should be exercised. A run on a pasture plot or in the orchard we have always found advantageous. In winter, pulped mangels or sugar beets mixed with well-cured clover hay cut short forms a satisfactory bulky food to be given with milk and fine-ground grain or millfeed. It is important that a warm house be provided at this season, as roots are not conducive to the production of heat. It is well to have large pens, even though many pigs have to run together, as long as they are about the same age and size, so that plenty of exercise be provided during the cold season of the year, but if exercise can be given otherwise the pigs will do better in lots of from five to eight in a pen.

the urinary passages and procures regular evacua-

He seems to have a difficulty with his churning, too. I am surprised that he got butter of any kind at 60 degrees. After 40 years' experience I've found that for power churning, horse or steam, 62 degress may do in moderate weather, but to fight away two hours churning by hand at that heat is a mere waste of strength; try the milk with a thermometer, and if it won't rise to 66 degrees or 67 degrees, pour in boiling water till it does, churning all the time ; then by steady, easy churning you will get first-class butter in from twenty minutes to half an hour.

I am of the opinion that few of the thermometers indicate correctly. Apparently they are made by machinery, and the strip of printed paper placed

As to the food, we will assume that Mr. Johnston's land will produce good crops of mangels, red clover, vetches, peas, barley, and oats. To raise

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s the winter. uld be made were asked apiary, sort k in closing, y, swarming as possible by keeping combs conkeep bees at od of forced

IE SILO.

Co., Que.:my renewal ry much. I the proper make good be the best t in the silo ter? Would would a mixput in silo? be any risk d growth of ng? I think fact, a better feel greatly ject. c., have been

results have o sufficiently loes not pack the result is ten mass. tedly tried to College farm, ents with the heap. Later of green mil-ut in mouldy as been made epared to anom any who

clover, better so than with In fact, the ome sections. oom, and not the silo. It attends the built into the g each layer and round totramping is ughly. The ughly. the work of the silo is succeed is to and fill conoads of green sh the clover like to hear making good

-"Will you ions through DVOCATE ? nd would like nuch per acre get al twelve cows. ws and Tam-

JANUARY 16, 1899

eighty pigs a year to bacon weights would require, approximately, 200 bushels of barley, 200 each of peas and oats, five tons of shorts, and 1,000 bushels of mangels, besides green clover and vetches for pasture or soiling, and the skim milk. Reckoning the land to produce per acre, of barley, 25 bushels; of peas, 18 bushels; of oats, 35 bushels; and of mangels, 400 bushels, the following number of acres should be sown, at the following rates per acre: Barley, 8 acres, at 7 pecks of seed; peas, 11 acres, at 2 bushels of small or 3 of large seed; oats, 6 acres, at 2 bushels per acre [Norte.—It may be well to sow 12 acres of oats, part of the crop to be exchanged for shorts]; and mangels, 3 acres, at 5 to 8 pounds of seed per acre. Vetches may be sown about one bushel per acre, and if seeded at the same time with clover a good pasture will be secured for time with clover a good pasture will be secured for considerable of the season if sufficient pigs are turned on when the crop is about ten inches high to keep it cropped off fairly close. Five acres handled in this way, together with a small clover field, will produce pasture for a considerable number of pigs. We have based our conclusions upon our own experience and that of other bacon-raisers with whose methods we are conversant, and would be pleased to hear from others who can suggest a more economical or profitable bill of fare.]

SOFT MAPLE PLANTATION

GORDON L. LAMB, "River View Farm," Prescott Co., Ont.:—"I am very well pleased with your paper and find it a great help to me. You will please find enclosed one dollar to renew my subscription. I shall be obliged also to get an answer from you as soon as is convenient for the following from you as soon as is convenient for the following questions: I wish to thin out a young soft maple bush that grows n the flat of the Ottawa, and is overflowed nearly every spring. When is the best time of the year to save the trees that are left? I ask this because I have noticed that some stand-ing on the edge of the clearing made in recent winters have had the bark dry up and peel, and I suspected that it was the spring frosts and sun coming too soon after the trees had lost their shelter. The trees are very tall and slender, some not more than three or four inches through. How much space should be allowed between them? much space should be allowed between them? Where two or more grow in a clump, separating only a short distance from the ground, should I cut

all down but one, or allow more than one to grow?" [Regarding the thinning of a soft maple planta-tion, 1 would suggest the following methods for him to adopt:

1. Thin during the summer months, as at that time when the trees are in full leaf one can tell better what to cut out, so that the leaves on those remaining will shade the ground more or less completely, which is necessary in order to produce the best results.

2. Leave a belt unthinned, or but little thinned, all around the woods, so that it will protect the other trees from either the hot, dry winds or wind storms. This belt should vary in thickness accord-ing to the density of the wood. In this belt under-

growth should be encouraged as much as possible. 3. Every man must use his own judgment to a certain extent as to how many trees he should remove. Gradual thinning is the best, for when trees are grown very thickly and are tall and slender and have not much root growth, if they are liable to thinned out too much those remaining are liable to

be blown down or injured in other ways. 4. Your correspondent could probably thin his trees with safety to about three feet apart, cutting out the poorest; and where two or more are grow-ing together, leaving only the best ones, if he can do so without endangering its life. In a few years, when the trees seem to be too thick, he should thin again. 5. If a permanent crop of wood is desired, it is very important that the seedling and smaller trees should be preserved; and in thinning, care should be taken not to injure them, and above all things keep the cattle out of the woods. W. T. MACOUN, Horticulturist.] Central Experimental Farm.

THE FARMER'S ADVOCATE.

STABLE-CLEANING CAR.

W. J. WEIR, Middlesex Co., Ont .:- "In the issue of June 1st, 1897, there was a manure carrier highly spoken of. Would it be infringing on a patent to put it up ?"

The stable-cleaning car described and illustrated in the FARMER'S ADVOCATE of June 1st, 1897, was invented, constructed and used by Mr. Duck, in whose stable we saw it in operation, but it was not at that time covered by a patent. We understand a manure carrier similar in principle, but different in some of its minor points, has been covered by a patent. This gives the patentee the *exclusive* right to manufacture or sell the contrivance, the principle of which is covered by the patent. Unless the manure carrier referred to by Mr. Weir differs sub-stantially from the one that is patented, his building it would infringe on the patent. A mere difference in material or in the manner of operating the car-rier would not free one constructing it from obligain the FARMER'S ADVOCATE of June 1st, 1897, was rier would not free one constructing it from obligation to the patentee.]

SCALDING HOGS.

H. C. R., Brandon, Man.:—" Can you kindly in-form me what the exact temperature the water should be for scalding a pig? It is known that the water if too hot will cook the meat so that the hair will stick as badly as if the water is too cold. If you

will stick as badly as if the water is too cold. If you or some of your subscribers will answer this ques-tion, you will greatly oblige." [Water should be at a temperature of 185° or 195° for scalding hogs. While scalding, the hog should be moved up and down to get the air and prevent cooking the skin. As soon as the bristles will come off easily, the animal should be taken out, as if left too long the hair is apt to set. A shovelful of wood ashes thrown into the water helps to make a clean scald.] scald.]

FEEDING RACKS FOR SHEEP.

FEEDING RACKS FOR SHEEP. ARTHUR F. O'NEILL, Middlesex Co., Ont :-"Please give through the FARMER'S ADVOCATE plan of best feeding rack for feeding sheep. I think the rack I saw at Ontario Agricultural Col-lege, Guelph, is the best, but I don't know the dimensions of it or plan I think the Xmas num-ber well worth year's subscription." [See Oct. 15th issue, 1898, for description and cut of useful rack on page 492, also Jan, 2nd issue, page 16.]

MARKETS.

Toronto Markets.

Toronto Markets. The last two market days have been fairly active: prices firmer; the quality of cattle not first-class, but all offered sold; prospects for a good market next week, with trade better in the near future; deals were effected early; market cleared by noon. *Export Cattle.*—Only a few odd lots of shipping cattle selected from various loads; there was a fairly good demand. Prices quoted export cattle, choice, \$4.35 to \$4.624 per cwt. Light exporters quoted at \$3.85 per cwt. to \$4.25. A load of mixed cattle, averaging 1,070 lbs, sold at \$3.80 per cwt.; five dollars over on the deal. Mr. Dean is asking for good shipping steers weighing 1,100 lbs. One load of mixed cattle, averaging 1,100 lbs, sold at \$3.80 per cwt. Mr. W. H. Reid, of Kingston, shipped one load of good exporters for Liverpool per G. T. R. *Butchers' Cattle.*—Choice butchers' cattle in demand; handy weights, 1,000 lbs. to 1,150 lbs. each, equal in quality to export, youde at \$3.90 to \$4.10 per cwt. Loads of good butchers' cattle sold at \$3.45 to \$3.50; medium, \$3.30 to \$3.45; common, \$3.00 to \$3.45; inferior, \$2.35 to \$2.60 per cwt. T. T. Halligan bought one load of butchers' cattle, heifers and steers, average 980 lbs., at 8.40 per cwt. *Butchers* were common to a steers average 980 lbs., *Butchers* were common the steers average 980 lbs., *Butchers* were common to a steers average 980 lbs., *Butchers* were common to a steers average 980 lbs., *Butchers* were common to be steed by the steers were builts of choice anality. \$3.65 to \$4.124

one load of butchies clutter, insisted and a state of the second s

Chatty Stock Letter from Chicago. FROM OUR OWN CORRESPONDENT.

43

Following were the prices lately current, with comparisons o weeks and one and two years ago: Top Prices

and the state of the	Extre	me	Two w		Prices-	
Beef cattle.	Price	8.	ag	0.	1898	1897
1500 lbs. up	4 80 to	\$5 85 i 5 95	\$6 2 5 8	5	5 50 5 40	\$5 40 5 45
1200 to 1350 lbs	4 20	5 70	58	0	5 40	5 20
1050 to 1200 lbs 900 to 1050 lbs	4 00 m 3 85 m	5 65 5 40	5 7		5 00 4 85	5 20 4 85
Fed Westerns	3 85 "	5 85	5 6		5.00	4 90
Hogs.	2 25	3 85	3 5	21	3 72	3 55
Mixed Heavy	3 35 " 3 30 "	3 85	31	55	3 72	3 55
Light	3 30 "	$377\frac{1}{3}$ 3 50	34		3 70 3 60	3 60 3 55
Pigs	2 75 "	3 00			5.00	
Sheep. Natives	3 00 "	4 25	4		4 85	3 75
Western	3 25 "	4 15 5 35	4 5		4 50 5 90	3 75 5 75
Lambs Actual receipts of	3 75 "			sheep	a forest to make the	5 3 C 1 S 3 C 3
Kansas City, Omaha, a	and St. I	ouis, i	or 1898	, with	ompari	son of
totals:		Catt	le.	Hog	s. SI	heep.
Chicago Kansas City		2,480	897	9.357.1	14 3,3	589,439
Kansas City Omaha			244	3,672,9 2,101,	187 1.	980,303 085,136
St. Louis		683	,622	1,728,	266	135,893
Tata) 1908		5.734	727	16,859,	676 6.	090,771
Total 1897			.011	14,956, 13,099, 12,660,	274 5.	972,317
Total 1898			.000	13,099, 12,660	091 4	532,819 933,532
Total, 1895 Total, 1894		6,148	,725	18,099,	907 4,	933,532 225,348
				10,197,	030 4;	203,005
Largest receipts a Cattle, April 25, 1892.	t Chicag	o of st	ock in	one da	y :	32,677.
Cattle, April 25, 1895 Calves, June 25, 1895	<u>.</u>					3,089
Hogs, February 11, 189	5	• • • • • • • •	• • • • • • •		11101	74,551 31,334
Calves, June 23, 1835. Hogs, February 11, 189 Sheep, October 1, 1894. Horses, June 13, 1898.						1.608
Cars, July 30, 1038				·····		2,364
Largest receipts of					et of average	95,524
Cattle, week ending S Calves, week ending J Hogs, week ending N Sheep, week ending S Horses, week ending S Cars, week ending J	uly 16.	892				8,479
Hogs, week ending No	ovember	20, 188	0			300,488 99,863
Sheep, week ending S	eptemo March 3	0, 1895				4,369
Cars, week ending Ja	nuary l	6, 1892.				8,457
Largest receipts of	f stock i	n one i	nonth	:	a a A a	995 400
Cattle, September, 18	91					31,398
Hogs, November, 1880)					111.997
Largest receipts of Cattle, September, 18 Calves, September, 18 Hogs, November, 188 Sheep, September, 18 Horses, March, 1897	97	•••••				17,782
Cars December, 1891						31,910
Largest receipts 0	f stock	in one	year:	TIN A A	Contraction of the	a de la constante
(1-141- 1909						,571,796 210,557
Calves, 1893 Hogs, 1898						
Hogs, 1898 Sheep, 1897 Horses, 1898			······			118 744
Horses, 1898 Cars, 1890						311,557
Average weight	of live st	tock at	Chica	go:	e	1
				10250	1897 1,091	1,118
Cattle Hogs				234	212	246
Sheep.				. 86	85	85
Average prices a	t Chicag	;o:	an start	1898	1897	1893
Beef cattle				\$4 65	84 50	\$4 05
					3 05 3 75	2 65
Western rangers				4 05	3 90	3 50
					3 70 3 85	3 50
Sheep.				5 35	4 95	4 50
Highest monthly	prices i	n Chíc	ago du	ring 18	98 wore	1. 2014
TTR HOST MONTHLY		в	eef	Range		Sheep.
January		St	eers. 8 5 50	Steers.		#4 85
E hanna a war			00		4 274 4 174 4 15 4 50	5 00 4 75 4 90 4 65
					4 174	4 90
April			5 50			4 65
					4 50	5 25 5 25
July			75	4 90	4 20	5 00
August. September October		6	85	4 75 5 00	4 15 4 00	4 75 5 00
October			90	4 55	3 85	4 75
ATO Y CLEAN OF A A A A A A A A A A A A A A A A A A				4 43.	9 64	

ll probability ered for Mr. eights he proeasons of the suitability of fer, however, asons, so that be necessary ; at the bacon ven or eight

on, and long, enty of exer re about 100 ld be supportummer this is ches, together f grain daily, tion be maintities of these what is called cised. A run e have always ed mangels or lover hay cut d to be given nillfeed. It is ovided at this he production , even though ng as they are hat plenty of season of the otherwise the

hat Mr. Johnmangels, red ats. To raise

e to eight in a

WELL WATER FOR ANALYSIS.

READER :- "What is the cost of having samples of well water analyzed at the Central Experimental Farm, and how large a quantity of water is required ?"

[There is no charge, providing samples are sent according to the following directions prepared by Prof. Shutt, the chemist: "Procure from a druggist an empty 'Winchester quart' bottle, which, how-ever, must not have held ammonia. If such be not obtainable, a clean, new, stoneware gallon jar may be used. In either case rinse the vessel several times with the water about to be sent, finally filling it up to the neck. Close tightly with a new cork, and tie over the cork and round the neck a piece of new cotton, which will prevent the cork from coming out and dirt from entering the bottle. Pack the bottle in sawdust or other suitable packing material, to prevent it from shifting in the box en route. Ship the sample as soon as possible after taking it, prepaying express charges. At the same time send particulars as to the nature of soil and subsoil or rock through which the well is sunk, the depth of well, the usual height of water in well, the distance of well from barn, stable or privy; state whether the well has been lately cleaned, the material and condition of crib-work, and add any other information regarding the water which may assist in drawing conclusions as to the nature of the source and the normal condition of the sample sent for analysis."]

property of Mir. 1. Value, out halls, averaging 1,400 lbs., sold for \$3.65 per cwt.
Stock rs - Very few stockers on offer ; prices ranged from \$3.00 to \$3.40 per cwt.; choice picked lots at \$3.50 per cwt.; all sold for Buffalo.
Feeders. - Very few feeders are coming forward ; they are wanted to fill vacancies at the byres; prices are firm; unchanged at \$3.60 to \$3.70 per cwt.
Sheep in good demand. Ewes are quoted at \$3.40; bucks at \$2.50 to \$2.75 per cwt. Mr. Morrow, of Tara, Ont., had on the market eleven wethers, the only specimens during last year; they brought \$3.50 per cwt., or about half a dollar more than common ewes. It is difficult to understand why the farmer does not learn this simple lesson of castrating and docking lambs.
Lambs. - Only a few on offer : prices unchanged at \$3.00 to \$6.00 per head; for extra choice quality yeals, \$5.00 per cwt.
Milk Cows. - Only about five milk cows on offer, which sold readily at \$25.00 to \$45.00 per head; a few choice milkers wanted.

readily at \$25.00 to \$45.00 per head; a few choice milkers wanted. Hogs.-Deliveries still very light; feeders are holding off; hogs are getting fat: packers are resolved to cull at any above 200 bbs; top price paid for choice selections only \$4.25 to \$4.374 per cwt. Light fat. \$4.00; heavy fat, \$3.75 per cwt. Sows, \$3.00; stags, \$2.00. The ruling price for car lots of hogs as they run was from \$4.30 to \$4.40 per cwt. Eggs.-Firm, choice stock scarce; receipts light; choice boiling stock sells at 20c.; cold stored at 16c.; warranted new laid, 25c. to 30c. per dozen. Butter.-Steady movement in best quality; receipts fair of both dairy and creamery; small dairy prints, 15c. to 16c per lb.; creamery, 18c. to 20c.; in lbs, 20c. to 21c. per lb. Cheese.-Market unchanged; choice stock sells at 10c. per lb. Huy.-Firm, at \$9.00 to \$10.50 for timothy, and \$6.00 to \$8.00 for clover.

for clover. Straw.—Steady; two loads sold at \$7.00 per ton; sheaf straw always in good demand. Dressed Hogs.—Market steady; farmer holding stock over from \$5.25 to \$5.50 as to quality. Western hogs are quoted 10c. to 15c. lower than Northern, at \$5.15 to \$5.25 for selected

to 15c, lower than Northern, at \$6.15 to \$2.25 for subset of weights. Hides.—No. 1 green hides are quoted at 8½c, per lb.; green steers at 9c, per lb ; calfskins, 10c, per lb.; pelts, 80c, each; lamb-skins at 75c.; wool fleece at 15c, per lb. Grain Market.—Deliveries of farm produce were fair. Wheat steady : 400 bus, sold at 47c, per bus. Oats.—Easier ; 900 bus, sold at 47c, per bus. Harley.—Easier ; 400 bus, sold at 48c, per bus Harley.—Easier ; 400 bus ; 400

suitable for export. Timothy Seed wanted ; quoted at \$1.25 to \$1.35 per bus.

New Pork-Packing Enterprise at Toronto.

A new packing-house company has been organized, under the title of the Toronto Packing Company (Limited), share cap-ital \$40,000. Thos. Crawford and Frank Humnsett, cattle dealers; John Dunn and Wm. Levack, cattle exporters; Mrs. Steinle, of Toronto, are the charter members.

November December	5 90 6 25	4 25	3 65	
December		 to plant the balance		1

Live Stock Association Meetings.

The annual meeting of the Dominion Cattle Breeders' Association, Toronto, on Feb. 7th.

Annual meeting of the Shorthorn Association, Toronto, Feb. 8th.

Annual meeting of the Clydesdale Association, Shire Horse Association, and Canadian Horse Breeders' Association, Feb. 9th.

The adjourned meeting of the Dominion Swine Breeders' Association, Feb. 10th.

The Directors of the Provincial Winter Show on the evening of the 7th.

Annual meeting Ayrshire Breeders' Association at Montreal on Feb. 15th.

Breeding Sows for Manitoba.

Mr. I. Young, Hartney, Man., was in the Toronto, Ont., market purchasing breeding sows recently, and was recom-mended to take 200 from the northern districts of the Province-He conracted for that number, to be delivered at Barrie Sta-tion on Saturday morning, Jan. 8th. He speaks of a great future for the hog business.



AN AMERICAN GIRL IN LONDON.

BY SARA JEANNETTE DUNCAN.

(Continued from page 18.)

"Too ridiculous, I call it. Her proper name is Catherine Clarissa, but she hates her proper name (sensible girl as she is in every other way)—prefers Peter! And if she happens to take a fancy to you she will tell you all manner of interesting things. For old holes and corners, I always say, go to Peter Corke." "I'm glad," I said, "that she likes us individually fairly well—it's the only way in which I would have any chance. But she won't like my accent."

"If she doesn't," Lady Torquilin said, "I promise you she'll tell you. And you won't mind a bit."

tell you. And you won't mind a bit." If the balls of the like of t

greater misfortune to her large circle of friends in London. "Two lumps, please," begged Miss Corke of me in the midst of a succession of enquiries about Lady Torquilin's cough - whether it could possibly be gout, or if she had been indulging in salmon and cucumber lately, in which case it served her perfectly right. "What a disappointment you are: Why don't you ask me if I like it with all the trimmings?" "The 'trimmings'?" I repeated. "Certainly—the sugar and milk! Fancy being obliged to explain Americanisms to an American!" said Miss Corke to Lady Torquilin. "Is 'trimmings' an Americanism?" I asked. "I never heard it before. But I've no doubt it is an expression peculiar to Boston, perhaps"

"You had better not have any doubt," said Miss Corke, "You had better not have any doubt," said Miss Corke, with mock ferocity, "of anything you hear in England." "I've heard 'fixings' often at home," I declared, "but

"Tve heard fixings often at nome," I declared, but never 'trimmings." "Oh!" remarked Miss Corke, genially, "then 'fixings' is

"Oh!" remarked Miss Corke, genially, "then 'fixings' is the correct expression." "I don't know," I said, "about its being the correct ex-pression. Our washerwoman, I know, uses it a good deal" "Oh!" said Miss Corke, with an indescribable inflection of amusement, and then she looked at me over the top of her tea-cup, as much as to say, "you had better not go too far." "Sq. you've been in England a whole month?" said she. "And what do you think you have observed about us? Basing your opinion," said Miss Corke, with serio-comicality, "upon the fact that we are for your admiration and not for your criticism, how do you like us?" I couldn't help it. "Individually," I said, "I like you fairly well-as a nation I can't-"

"Individually," I said, "I like you *fairiy* well-as a nation I can't-" "Oh!" cried Miss Corke, in a little funny squeal, rushing at Lady Torquilin, "you've gone and told her-you wicked woman!" And she shook Lady Torquilin, a thing I didn't see how she dared to do. "I can't bear it, and I won't! Private correspondence-I wonder you're not ashamed!" and Miss Corke sunk into a chair and covered her face with her hands and her handker-chief, and squealed again, more comically than before.

chier, and squealed again, more comically than before. In the course of further conversation, Miss Corke said that she saw my mind must be improved immediately, if she had to do it herself, and where would I like to begin? I said almost anywhere, I didn't think it much mattered; and Miss Corke said, well, that was candid on my part and Augured favorably, and was I architecturally inclined? I said I thought I was, some; and out came Miss Peter Corke's little shriek again. "Trall her" she said wordforg I adv. Torgouin: "that was

"Tell her," she said, prodding Lady Torquilin, "that we over ere iı

glance had not had the very jolliest smile of good-fellowship inside it I don't know what I should have done, but as it was I

giance had not had the very joinest simile of good-tenswamp inside it I don't know what I should have done, but as it was I didn't wither. We walked up past the little green square that you see in wide spaces through the side pillars, where the very oldest old monks lie, nameless and forgotten, whose lives gathered about the foundations of the Abbey-the gray foundations in the gray past — and sunk silently into its history, just as their bodily selves have disappeared long ago in the mosses and grasses that cover them. "No, Miss Mamie Wick, of Chicago, I will not hurry!" said Miss Corke, "and neither shall you! It is a sacrilege that I will allow no young person in my company to commit—to go through these precincts as if there were anything in the world as well worth looking at outside of them!" I said I didn't want to hurry in the very least. "Are you sure you don't—inside of you?" she demanded. "Certain you have no lurking private ambition to do the Abbey in two hours and get it over? Oh, I know you! I've brough tots of you here before." "I know," I said, "as a nation we do like to get a good deal for our time." And we contemplated the studious efflgy of Dr. Busby until I told Miss Corke that I wanted to be taken to the Poets

And we contemplated the studious effigy of Dr. Busby until I told Miss Corke that I wanted to be taken to the Poets

Corner "Of course you do," said she. "There are rows of Ameri-cans there now sitting, looking mournful and thinking up quotations. If I wanted to find an American in London I should take up my position in the Poets' Corner until he arrived. You needn't apologize; it's nothing to your discred-"t"

"Where is Chaucer?" I asked, wishing to begin at the

"Where is Chaucer: I could, "Manual beginning. "Just like every one of you that I've ever brought here!" Miss Corke exclaimed, leading the way to the curious old rectangular gray tomb in the wall. "The very best—the very oldest—immediately. Such impatience I never saw! There, now, make out that early English lettering if you can, and be properly sorry that you've renounced your claim to be proud of it!"

be properly sorry that you've renounced your claim to be proud of it!"
 "I can't make it out, so I'll think about being sorry later," I said. "It is certainly very remarkable—he might almost have written it himself. Now where is Shakespeare?" "Oh, certainly!" exclaimed Miss Corke. "This way. And after that you'll declare you've seen them all. But you might just take time to understand that you're walking over 'O rare Ben Jonson!' who is standing up in his old bones down there as straight as you or I. Insisted — as you probably are not aware — on being buried that way, so as to be ready when Gabriel blows his trumpet in the morning. I won't say that he hasn't got his coat and hat on. Yes, that's Samuel—I'm glad you didn't say Ben was the lexicographer. Milton, certainly ; it's kind of you to notice him. Blind, you remember. The author of several works of some reputation—in England." "I knew he was blind," I said, "and his daughters used to dictate to him. We have a picture of it at home." I made this remark very innocently, and Miss Corke looked at me with a comical smile. "Bless it and save it!" she said ; and then, with an attempt at a reproach, "What a humbug it is!" We looked at Shakespeare, supreme among them, predict-ing solemn dissolution out of "The Tempest;" and turned from him to Gay, whose final reckless words I read with as much astonishment as if I had never heard of it before: "Life is a jest, and all things show it.

" Life is a jest, and all things show it. I thought so once, and now I know it "--

has no significance at all read in an American school-book, two thousand miles and a hundred and fifty years from the writer of it, compared with the grim shock it gives you when you see it actually, cut deep in the stone, to be a memorial always of a dead man somewhere not far away. "There's a lovely epitaph for you, of Edmund Spenser's, 'whose divine spirrit needs noe othir witnesse than the workes which he left behind him.' You will kindly make no ribald remarks about the spelling, as I perceive you are thinking of doing. Try and remember that we taught you to spell over there. And when Edmund Spenser was buried, dcar damsel, there came a company of poets to the funeral—Shakespeare, doubtless, among them—and cast into his grave all manner of elegies."

elegies." "Of their own composition?" I inquired.

"Of their own composition is "I inquired. "Stupid! certainly. And the pens that wrote them." I said I thought it a most beautiful and poetic thing to have done, if they kept no copies of the poems, and asked Miss Corke if she believed anything of the kind would be possible

now. "Bless you!" she replied. "In the first place, there aren't the poets; in the second place, there isn't the hero worship; in the third place, the conditions of the poetry market are differ-ent nowadays. It's more expensive than it used to be. The poets would prefer to send wreaths from the florist's-you can get quite a nice one for twelve and six;" and Peter Corke made a little grimace expressive of disgust with the times. "We used to have all poets and no public; now we have all public and no poets," she declared, "now that he is gone-and Tennyson can't live forever." Miss Corke pointed with her parasol to a name in the stope

Tennyson can't live forever." Miss Corke pointed with her parasol to a name in the stone close to fny right foot. I had been looking about me and above me, and everywhere but there. As I read it I took my foot away quickly and went two or three paces off. It was so unlooked for, that name, so new to its association with death, that I stood aside, held by a sudden sense of intrusion. He had always been so high and so far off in the privacy of his genius, so revered in his solitudes, so unapproachable, that it took one's breath away for the moment to have walked unthink-ingly over the grave of Robert Browning. It seemed like taking an advantage one would rather not have taken, even to stand aside and read the plain, strong name in the floor, and know that he, having done with life, had been brought there and left where there could be no longer about him any wonder-ings or any surmises. ings or any surmises.

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eared again, flushed with exertion, and sank panting into a

peared again, flushed with Gaterian, "Get ready, child," said she. "I'd wear your tailor-made-those stairs will kill me, but there was-no time-to waste on the lift! I can get you in-hurry up your cakes!" "But am I invited?" I asked. "Certainly you are, by a Royal Acamedician in person-so dar,"

the lift! I can get you in—hurry up your cakes!" "Cartainly you are, by a Royal Acamedician in person—ao "Or "" "I flew, and in twenty minutes Lady Torquilin and I were on the way to Burlington House. "You see, "she said, "the way Sir Bellamy Bollamy. You remember Sir Bellamy Bellamy at the Mintherringtons? I tell you trankly that I wouldn't have mentioned it, my dear, unless he had first, though I knew perfectly well that what Sir Bellamy Bellamy en't do in the Academy simply can't be done, for you know and do in the Academy simply can't be done, for you know friend i' said he. Then I took my chance and told him how If asked that old screw of a Monkhouse Diddlington for two and only got one, and how I couldn't possibly give if to you because it was printed 'not transferable,' and how disappointed you were ; and he was nice about it. 'My dear Lady Torquilin,' he should have been delighted." " "Well,'I said, Sir Bellamy, can't we do anything about it now 'I' I's rather late in the day,' said he.' It is late in the day,' said I. 'Oh, I say!' said he, 'she must come if about was a sprinted 'not yours, Lady Torquilin—such a hum-bug as the man is! It's a bit irregular,' he went on, 'and we won't say anything about it, but if you like to go and get her, and see that she carries this in with her (here Lady Torquilin produced a fat pale-blue catalogue book, there won't be any diffculty, I fancy.' So there you are, Miss Wick, provided with Sir Bellamy Bellamy's own catalogue to admit you. If the ady orguilin as out hand been properly inited.'I said. "The area id oughtn't to go, Lady Torquilin such a far 'sate day Torquilin sout hand been properly indifferent, 'ad advert wague apprehensions, a bad conscience, and aver immedi factaly Torquilin as our hanson deposited us in the cour-ity of a banner! Carry it carelessly. Now follow me. An 'sate day Torquilin as our hanson deposited us in the cour-ty with vague apprehensions, a bad conscience, and avere immedi adady torquilin so our hanson deposited with the shifting '

plexion and hair badly done up, and invariably it dragged a little on one side. Lady Torquilin did not know many of the literary people who were present, but she indicated Mr. Anstey and Mr. Wil-liam Black, both of whose works are extremely popular with us, and it was a particular pleasure to be able to describe them when I wrote home next day. Before we went she showed me two or three lady journalists busy taking notes. "There's that nice Miss Jay Penne," said Lady Torquilin. "I know all the Jay Pennes – such a literary family! And Miss Jay Penne always wants to know what I've got on. I think I must just speak to her, dear, if you don't mind waiting one moment, and then we'll go." I should perhaps have stated before that there were a num-ber of artists walking around trying to keep away from their own pictures, but this I gathered of myself, for with the excep-tion of Sir Bellamy Bellamy, who had gone away, Lady Tor-quilin did not know any of them. I noticed, too, that the walls of the rooms we were in were covered with pictures, but they did not seem to have anything to do with the "private view."

XV.

Lady Powderby's ball was the first I attended in London, and therefore, I suppose, made the strongest impression upon

me. We went in a four-wheeler at about eleven o'clock, and as the driver drew up before the strip of carpet that led to the door the first thing that struck me was the little crowd of people standing waiting on either side to watch the guests go

well enough.

well enough." And it was the interconnection. I don't know her And I was obliged to beg Lady Torquilin to tell her that we said "some" over there in that connection, though not in books or university lectures or serious-minded magazines. "I suppose we'd better begin with the churches, don't you think i "said Miss Corke to Lady Torquilin. "Poor dear, I dare say she's never seen a proper church !" "Oh, yes!" I said. "You have never been in Chicago. Miss Corke, or you wouldn't talk like that. We have several of the finest in America in our city, and we ourselves attend a very large one erected last year—the Congregational, though momma has taken up theosophy some lately. It's built in ampitheatre style, with all the latest improvements, electric light, and heated with hot water all through. It will seat five thousand people on spring-edged cushions, and has a lovely kitchen attached for socials."

thousand people on spring-edged cushions, and has a lovely kitchen attached for socials." "Built in the ampitheatre style!" repeated Miss Corke. "To seat five thousand people on spring-edged cushions with a kitchen attached! And now will you tell me immediately what a 'social' is !" "There are different kinds, you know," I replied. "Ice cream socials and oyster socials and ordinary tea meetings; but they nearly always have something to eat in them. A dry social, with only a collection, never amounts to much. And they're generally held in the basement of the church, and the young ladies of the congregation wait." Miss Corke looked at me, amused and aghast. "You see, I was quite right,' she said to Lady Torquilin. "She never has! But I think this really ought to be reported to the Foreign Missions Society. I'll take you to the Abbey to-morrow," she went on. "You like 'deaders,' don't you? The time between might be profitably spent in fasting and medita-tion. Good-bye, dear love!" to Lady Torquilin. "No, you will aot come down, either of you. Remember, young lady, three-thirty sharp, at the entrance everybody uses, opposite Dizzy's statue—the same which you are never on any account to call Dizzy, but always Lord Disraeli, with the respect that becomes a foreigner! KIH.

XIII.

XIII. "What do you mean!" asked Miss Corke, indicating the Parliament House clock with a reproachful parasol as I joined her next afternoon outside the south cloister of the Abbey. Her tone was portentous, and I looked at the clock, which said ten minutes to four. I didn't quite understand, for I thought I was in pretty good time. "Didn't you say I was to come about now?" I inquired. Miss Corke made an inarticulate exclamation of wrath. "Half-past three may be 'about now' in America," she said, "but it isn't here, as you may see by the clock. Fancy my having made an appointment with a young person who had an idea of keeping it 'about' the time I had condescended to fix!" and Miss Corke put down her parasol as we entered the cloister, and attempted to wither me with a glance. If the

XIV.

XIV. I know it was the "private" part of the "private view" that made me so anxious to go to the Academy on the first day of May this year. The pictures would be there the second day and the day following, and days indefinitely after that; and for a quarter of a dollar I could choose my own time and cir-cumstances of going to see them. I might, weather permitting, have taken my "view" of the Academy in the publicity of five or six other people, who, like me, would have paid a shilling apiece to get in; but I found myself preferring the privacy of the five or six hundred who did not pay – preferring it im-mensely. Besides, I had heard all my life of the "private view." Every year there are special cablegrams about it in our newspapers—who were there and what they wore; generally to the extent of at least a column and a half. Our special correspondents in London glory in it and rival each other adjectively in describing it. Lady. Torquilin had been talking about it a good deal, too. She said it was "a thing to see," and she meant to try to get me an invitation. Lady Torquilin went every year.

she meant to try to get me an invitation. Lady Torquilin went every year. But when the thirtieth day of April came, Lady Torquilin told me in the evening, after dinner, that she hadn't been able to manage it, and showed me the card upon which the "Presi-dent and Members of the Royal Academy of Arts 'requested' the pleasure of the company of Lady Torquilin," only. "Not transferable."

transferable." "Not "It's very tiresome of them," said Lady Torquilin, "Not that on. It means that you positively must not give it to any-body. Otherwise, I would have handed it over to you, child, with the greatest pleasure (I don't care a pin's point about going), and you could have gone with the Pastelle Browns. But there it is !"

But there it is !" Of course, nothing would have induced me to take Lady Torquilin's invitation and deprive her of the pleasure of going, but I pinned her veil at the back and saw her off down the elevator next day at two with an intensity of regret which can not come often in the course of an ordinary lifetime. I was describing my feelings in a letter addressed, I think, to Mr. Winterhazel, when, about an hour later, Lady Torquilin ap-

Inside I expected to find a crowd (I think balls are get Inside I expected to find a crowd (I think balls are gener-ally crowded wherever they are given), but I also expected to be able to get through it; in which, for quite twenty minutes, I, was disappointed. Both Lady Torquilin and I made up our minds at one time to spend the rest of the evening in our wrans, but just as we abandoned ourselves to this there came a breaking and a parting among the people and a surge in one direction, which Lady Torquilin explained, as we took advan-tage of it, by the statement that the supper room had been opened.

In the cloak room several ladies were already preparing for

departure. "Do you suppose they are ill?" I asked Lady Torquilin, as we stood together while two of the maids repaired our dam-ages as far as they were able. "Why do they go home so could ?"

early?" "Home, child!" said Lady Torquilin, with a withering mphasis. "They're going on. I dare say they've got a couple more dances apiece to put in an appearance at to-night." Lady Torquilin did not approve of what she called "excess-sive riot," and never accepted more than one invitation an evening; so I was unfamiliar with London ways in this re-spect. Presently I had another object lesson in the person of a lady who came in and gave her cloak to the attendant, say-ing:

any who canne in any gave her transity, please. I'll want it ing : "Put it where you can get it easily, please. I'll want it again in a quarter of an hour." I thought as I looked at her that social pleasures must be to such a one simply a series of topographical experiments. I also thought I should have something to say when next I heard of the hurry and high pressure in which Americans lived

"It's of no use," said Lady Torquilin, looking at the stairs. "We can never get up. We might as well go with the rest,

"We can never get up. We might as well go with the rest, and _____" "Have some supper," added somebody close behind us, and Lady Torquilin said, "Oh, Charlie Mafferton!" though why she should have been surprised was more than I could imagine, for Charlie Mafferton was nearly always there. Wherever we went-to at-homes, or concerts, or the theatre, or sight-seeing in any direction-Mr. Mafferton turned up, either expectedly or unexpectedly, with great precision, and his man-ner toward Lady Torquilin was always as devoted as it could be. I have not mentioned him often before in describing my experiences, and shall probably not mention him again, be-cause after a time I began to take him for granted as a detail of atmost everything we did. Lady Torquilin seemed to like it, so I, of course, had no right to object; and, indeed, I did not particularly mind, because Mr. Mafferton was always nice in his manner to me, and often very interesting in his remarks; but if Lady Torquilin had not told me that she had known him in short clothes, and if I had not been perfectly certain she was far too sensible to give her affections to a person so much younger than herself. I don't know what I would have thought. [TO BE CONTINUED.]

[TO BE CONTINUED.]

n, and sank panting into a l'd wear your tailor-made— was—no time—to waste on your cakes ! "

Acamedician in person-so

ady Torquilin and I were "You see," she said, "the ck to meet when I went in remember Sir Bellamy I tell you frankly that I dear, unless he had first, what Sir Bellamy Bellamy n't be done, for you know d. "Where is your young ance and told him how I'd se Diddlington for two and sibly give it to you because and how disappointed you y dear Lady Torquilin, he I you never came to the second

n't we do anything about y, said he. 'It is late in e, 'she must come if she ly Torquilin-such a hum-lar, he went on, 'and we you like to go and get her, her (here Lady Torquilin pook), there won't be any yre, Miss Wick, provided talogue to admit you. If what is." properly invited," I said. orquilin." by you want them to send at what could I say ? perfectly indifferent," ad-deposited us in the court-grasp that catalogue as if y. Now follow me." And a sense of rectitude, and a entitled, followed by me onscience, and a catalogue

entitled, followed by me onscience, and a catalogue the "private view." hrong, and were immedi-e spirit that seemed to be cism and speculation and earest neighbors, went on son in perspective, focused bent itself in the shifting nsider whether in all my arkable gowns, and I was ome of them were beauti-what you so very properly what you so very properly what you so very properly what you so very properly ere artistic. All of them, ountered at home. But ich no American, I think, a protest against convena protest against conven-usually represented itself on fog. It almost always g lady having a bad com-d invariably it dragged a

any of the literary people Mr. Anstey and Mr. Wil-xtremely popular with us, be able to describe them we went she showed me

ing notes. ne," said Lady Torquilin. terary family! And Miss at I've got on. I think I don't mind waiting one

said my friend when she ratulation. That there were a num-to keep away from their yself, for with the excep-d gone away, Lady Tor-oticed, too, that the walls ered with pictures, but to do with the "private

st I attended in London, rongest impression upon

ut eleven o'clock, and as of carpet that led to the was the little crowd of e to watch the guests go

JANUARY 16, 1899



"A Family Row."

A family row is generally rather an unpleasant affair, but in this case the family seems to be enjoying the strife. However, as the poet says, "Let dogs delight to bark and bite," but *children* ought certainly to know better and try to be eacemakers, instead of ruffling the tempers of their brothers and sisters, as they do sometimes,

on *purpose*, I am afraid. It is much easier to start a quarrel than to end it, and a few angry words often part friends for years. Remember this, children, and learn to control your tongues before they do any very serious mischief. St. James says that the tongue is a "fire" — and you know what a lot of damage even one match can do — so be very, very careful not to start any fierce fires of anger, which may easily get beyond control and do terrible harm. C. D.

A Revolt in the Kitchen.

(A FABLE.)

Once upon a time there was a revolt in the kitchen. Everything was tired of doing its own

work day after day, year after year. "What is life without a change," cried the poker loudly. "Am I never to do anything but stir the fire? I am certain I must possess other talents; I want to exercise them !"

'Just my opinion!" chimed in the tongs, with a

clang. "And I want a change too," growled the bucket; "let somebody else go the well; I have a crank in my neck."

Then the chairs began : "Why should we be always sat upon?

While a stool demanded plaintively, " Is it right that people should put their heavy feet on poor little me?"

Well, if anyone deserves a rest it is surely I," grumbled the clock that stood in the corner. "Someone else may tell folks the time; I mean to run down and

go to sleep." "Yes, yes, we all want a change," was the general chorus; and it was decided that in future everyone was to do the work he fancied himself most fitted for. They had been the slaves of custom long enough.

The next day the clock began the new order of things by running down with a loud whirr. Nobody else could tell the time, which was rather upsetting, and the shovel overslept himself two hours in con-

sequence. Well, the poker volunteered to sweep the room — he couldn't manage it at all — and the broom tried to lay the breakfast table, and knocked two cups and a plate off and smashed them. The chairs trotted about the house and got in everybody's way. The coal box said he would be a bread pan for once, and you should have seen what the loaves looked like! Then the tongs and the milk jug went off to the well together, and on the way the tongs, quite by accident, fell over his companion, and the unfortunate milk jug got her neck broken.

THE FARMER'S ADVOCATE.

Agriculture in the Bible and Bible Times.

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

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Continued from page 21.

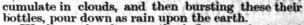
Of all the vast operations of nature required to prepare the earth for the coming of the plants, the Bible says but little. In Genesis I. it is dealt with very briefly; where it is elsewhere mentioned it is only by a very slight allusion. In Genesis I. we learn "In the beginning the earth was without form and void." A huge, shapeless mass of darkness, the world hung in the universe, a world of chaos.

The first act of God was to chase away the darkness—ever the emblem of *death*—, and to give that blessed light without which *life* cannot be.

blessed light without which *life* cannot be. "God said, Let there be light, and there was light."—Gen. I.: 3. The reign of perpetual dark-ness was gone, yet like the blessed light it had, it still has, its uses. "God divided between the light and the darkness." "The light He called Day," that is "the shining," and "The darkness He called Night," that is "the veiled and dark." So ended the first day not as with us with darkness but with the first day, not as with us, with darkness, but with the miracle of a new-born light shining over the waste.

We do not enter here upon a discussion of what God means, of how long He means, by that ex-pression "the first day," etc. We need only say that there is no reason at all for limiting it to twenty-four hours, our own measure of a day. It simply means a measure of time, known to Him with whom "a thousand years are but as one day."

with whom "a thousand years are but as one day." In the making of the fields both portions of the day, light and darkness, had a blessed part to play. They are not less necessary now; for without the light plants cannot live; without darkness many of them at least would sicken and die for want of sleep and rest (which in common with area bling thing). and rest, which, in common with every living thing, they seem to need.



45

AN CHAPTER CONTRA

bottles, pour down as rain upon the earth. We have already seen the influence of air and water in the formation of the soil. We can only now remind the reader of the vast importance of the air and water in the shape of rain, mist, dew and snow, to the life of the vegetable kingdom. That rain fell during the formation of the sedi-mentary rocks is proven by the marks of rain-drops found upon them. found upon them.

One would fain linger upon this intensely in-eresting theme, but we must hasten on to consider he next stage—the work of the third day.

The work of this period was two-fold, yet closely connected, and at its close the fields of earth were made, clothed in their garments of green and gold, decked with a glory beyond all the art of man to imitate. First came the separation of earth and water or wither such alterations in the surface of water, or ratner such alterations in the surface of the earth as left it in hills and valleys. Into the latter the waters flowed, forming seas and lakes and rivers, while the hills became the "dry land." "God called the dry land 'Earth'; and the gathering of the waters called he 'Seas' (Gen. I.: 10).

Recipes.

NUT CAKE.

NUT CAKE. One cupful of sugar, half a cupful of butter, half a cupful of milk, two cupfuls of pastry flour, two eggs, one coffee-cupful of chopped raisins, one of chopped English walnuts, one teaspoonful of cream of tartar, half a teaspoonful of soda. Beat the but-ter to a cream. Add the sugar gradually, and when light, the eggs well beaten, then the milk and the flour, in which the soda and cream of tartar have been thoroughly mixed. Mix quickly, and add the raisins and nuts. Bake in rather deep sheets, in a moderate oven, for thirty-five minutes. Frost, if you please. The quantities given are for one large or two small sheets. If you use baking powder instead of cream of tartar and soda, take a tea-spoonful and a half. CRULLERS.

CRULLERS.

One cup sour cream, one cup sugar, one egg, small teaspoon soda, spice to taste, flour enough to mix soft. Fry in boiling lard.

CHARLOTTE RUSSE.

CHARLOTTE RUSSE. Two tablespoons gelatine soaked in a little cold water for one hour, two cups rich cream, one cup milk ; whip the cream stiff in a large bowl or dish ; set on ice. Boil the milk and pour gradually over the gelatine until dissolved, then strain ; when nearly cold add the whipped cream, a spoonful at a time. Sweeten with sugar and flavor with vanilla. Line a dish with lady fingers or sponge cake ; pour in the lady fingers or sponge cake; pour in the cream and set in a cool place to harden. This makes a delicious dish for an evening party. .

SPONGE CAKE.

One and a half cups sugar, one cup flour, two teaspoons cream tartar, pinch of salt. Sift all through a sieve ; add whites of ten eggs, well beaten. Bake in a shallow tin.

BAKED HAM. Most persons boil ham. It is much better baked, if baked right. Soak it for an hour in clean water and wipe it dry. Next spread it all over with thin batter, and then put it in a deep dish with sticks under it to keep it out of the gravy. When it is under 16 to keep it out of the gravy. When it is fully done, take off the skin and batter crusted upon the flesh side, and set away to cool. It should bake from six to eight hours. After removing the skin, sprinkle over with a tablespoonful of sugar, a little pepper, and bread crumbs or rolled crackars. But pepper, and bread crumbs or rolled crackers. Put in a pan and return to the oven to brown.



"A FAMILY ROW."

(I think balls are gener-n), but I also expected to r quite tass expected to r quite twenty minutes, I tillin and I made up our st of the evening in our elves to this there came a ecople and a surge in one ained, as we took advansupper room had been

ere already preparing for

sked Lady Torquilin, as haids repaired our dam-by do they go home so

uilin, with a withering say they've got a couple ance at to-night." what she called "exces-than one invitation an

London ways in this re-lesson in the person of a k to the attendant, say-

sily, please. I'll want it

cial pleasures must be to raphical experiments. I ng to say when next I re in which Americans

lin, looking at the stairs. as well go with the rest,

ebody close behind us, clie Mafferton!" though was more than I could s nearly always there. mcerts, or the theatre, or fferton turned up, either t precision, and his man-ys as devoted as it could before in describing my mention him again, bebefore in describing my mention him again, be-m for granted as a detail orquilin seemed to like it, t; and, indeed, I did not tcon was always nice in eresting in his remarks; that she had known him perfectly certain she was ns to a person so much at I would have thought. ED.]

"This would not have occurred had I been the

bucket," gurgled the poor thing. "You are so very delicate," said the tongs, but he was grieved, nevertheless, at the accident.

In the meantime the kettle declared that he was weary of sitting on the hob and singing. Down the old gentleman got and stumped into the garden to water the flowers. He did it most carefully; but, alas, as he gave the flowers boiling water, the poor things curled up and died.

"Very odd, very odd indeed!" muttered the kettle, but he looked rather put out of countenance. So it went on throughout the day, until the kitchen was in a perfect muddle It was such a tidy, well-regulated kitchen as a rule.

Cook comes back early to-morrow," remarked

the poker with some hesitation; "shall we perse-vere with our plan or" (he paused suggestively). "Oh, for goodness sake let us go back to our old ways!" cried the outspoken tongs; and the kettle, thinking of the flowers he had killed, gave a melancholy assent. So did the broom, whose melancholy assent. So did the broom, whose activity had led it into all sorts of mischief. They were, in fact, heartily tired of their experiment— all, that is, except the clock, who still slept peace-

fully. "After all," observed the pepper caster, who was fond of a moral, "there is nothing like doing your own work and leaving other people to do SHEILA.

O'Brien: "Oh, murther aloive! Barney, come and help me! Pat has fallen into the mortar, and he's up to his ankles!" McGeorge: "Och, if he's only up to his ankles, he can walk out." O'Brien: "Oh, but bedad he's in head first!"

Next: "God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament . and God called the firmament Heaven" (Gen. I.: 7, This is stated the work of the second day: the 8). This is stated the work of the second day: the creation of the atmosphere and clouds—spread out like an "expanse" or "firmament" above the earth. "God," says Isaiah, "stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in" (Chap. XL. : 22). It is likened to "paved work of a sapphire stone" (Exod. XXIV : 10), and "A molten looking-glass" (Job XXXVII. : 18). For its magnificence, as well as its interest. 8). 18). For its magnificence, as well as its interest, I here quote the following eloquent passage from the writings of John Ruskin, the great artist, philoso-pher and poet: "I understand the making of the firmament to signify that (so far as man is concerned) most magnificent ordinance of the clouds; the ordinance that as the great plain of waters was formed in the face of the earth, so also a plain of waters should be stretched along the height of air, and the face of the cloud answer the face of the ocean; and that this upper and heavenly should be of waters, as it were, glorified in their nature, no longer quenching the fire but now bearing fire in their own bosoms; no longer murmuring only when winds raise them, or rocks divide, but answering each other with their own voices from pole to pole; no longer restrained by established shores, and guided through unchanging channels, but going forth at His pleasure like the armies of the angels, and choosing their encampments on the heights of the hills; no longer hurried downwards forever, moving but to fall, nor lost in the lightless accumu-lation of the abyss, but covering the East and the West with the waving of their wings, and robing the gloom of the farther infinite with a vesture of divers colors, of which the threads are purple and scarlet, and the embroideries flame."

The waters under the firmament are the waters upon the earth itself; those above are the waters which float in the atmosphere and are separated by it from those upon the earth, in waters which ac-

Golden-hair.

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REAL

Golden-hair climbed upon grandpapa's knee ; Dear little Golden-hair, tired was she, All the day busy as busy could be.

Up in the morning as soon as 'twas light, Out with the birds and butterflies bright, Skipping about till the coming of night.

Grandpapa toyed with the curls on her head---"What has my darling been doing i" he said, "Since she rose up with the sun from her bed."

" Pitty much," answered the little one. " I cannot tell so much things I have done, Played with my dolly and feeded my bun.

" And then I played with my little jump-rope, And I made out of some water and soap, Bootiful worlds, mamma's castles of hope.

"Then I have readed my picture book, And Bella and I we went to look For the smooth little stones by the side of the brook.

"And then I comed home and eated my tea, And I climbed up on grandpapa's knee, And I'm jes' as tired as tired can be."

Lower and lower the little head pressed, Until it dropped on grandpapa's breast; Dear little Golden-hair, sweet be thy rest!

We are but children ; things that we do Are as sports of a babe to the infinite view That marks all our weakness and pities it too.

God grant that when night overshadows our way, And we shall be called to account for our day, He shall find us as guileless as Golden-hair's lay !

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,-

MY DEAR NIECES,— This is the season "when the stormy winds do blow," and during the past few weeks they have blown very vigorously at times. The barometer has been standing at "Stormy" and "Very stormy," and we have heard of many disasters on sea and land. But let us shut out the howling of the wind and its eerie sighing and sobbing among the trees, and rather than sit and listen, let us have a talk

about storms. Well, there are many kinds of storms. There are wind storms, and rain storms, and snow storms, and thunder storms, and storms in teacups, and storms at sea, and so on. But there is still another kind, and that is when the Home-Barometer stands at "Storm"—when there is unpleasantness in the home. How much brighter our homes would be if gentle manners were more prevalent there! There are people whose manners are considered charming when they are among strangers, but who never dream of carrying these pleasant manners into their own homes. They even think that in the family circle they are at liberty to be as rude and uncourteous as they please. How often at breakfast do we see one or two of the family buried in the newspaper instead of taking part in the general conversation, and so helping to make it a cheery meal! They say, "It is only at home I do that, of course. I should not dream of doing it elsewhere." A poor reason, and a mean one too. Are one's own gentle manners were more prevalent there ! There A poor reason, and a mean one too. Are one's own relations to

receive less courtesy than strangers? Surely that is a poor compliment to pay eneself.

We must try to avoid hurting the feelings of others by personal remarks. Living with people allows us to find out their little failings, and as Tennyson says, we should "take no mean advantage" of our knowledge; and yet some-times the most sensitive spot is made the subject of some bitter and cruel speech by those who should be the very ones to shield from

hurt When we go outside the home to our daily duties we find hundreds of trifles to annov us and

but the fact remains that we are not so courteous to our own as to those outside the home. We should try to remedy this; and what better time could we find than now when the New Year is young? These vulgar retorts never do any good, but usually degenerate into a quarrel—a deplorable scene any-where, but especially in the home.

Careless and thoughtless habits too may bring the barometer around to "Storm." A door left open or shut with a bang; a paper thrown on the floor; books tossed about; humming, to the annoy-ance of others; hats and coats left anywhere; grumbling at everything; - these small things are large enough to cause a domestic storm. We cannot call them trifles, for they proceed from selfish-ness and disregard for the comfort of others. Sometimes one hears such a remark as "She is so pat-ronizing !" Now, nobody can bear to be patronized; it seems to rouse antagonistic feelings at once. Besides, it implies a consciousness of one's superiority. Some people think that a patronizing style is the correct thing to use towards those who may be of a lower social standing than themselves. This is a great mistake. Everybody is human, and a kindly and sympathetic manner will do far more good than and sympathetic manner with do far more good than anything else, whatever one's station may be. Try to keep the domestic barometer always standing at "Fine Weather," so that whatever kind of storm may rage outside, it may be continual peace and happiness in the home.

"Let gentle thoughts abide, within, And gentle deeds will follow them."

Your loving old Auntie, MINNIE MAY. FOUNDED 1868

JANUA

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Thomas.

Christmas with My Old Mother.

Oh! I never felt so happy as upon last Christmas night, Coming near the little home where mother lives, The familiar scenes of boyhood, and the window with the

The familiar scene light, light, And the joy anticipation ever gives. Eager fingers tingled gladly as I opened the old gate, Eager fingers timpatient hurried to the door; And my feet impatient hurried to the door; But her ear had caught my footsteps, and her love remembered

On the threshold mother met me as of yore.

Oh! I clasped her to my bosom, as she used to clasp her boy, While tears and loving kisses answered mine; Then she led me to the table, where the good things kept for

me Were all waiting, with the chair of auld lang syne. She remembered evrything I liked, and how to make it best, Serving me as though my place were still a child's : Cakes and jellies, homemade candy, and ev'ry choicest thing, Heaped before me, with caresses and her smiles.

Oh! I seemed a very boy again as we sat talking there, And she told me how she had thought of, prayed for me; How I'd been a joy and comfort to her all her widowed life; And her spirit, like an angel's, I could see. How in evry whistling boy that passed she heard me coming

home, So she had love-waited for me all the years: 'hen, arising from the table, she would stand caressing me, As she breathed on me a blessing through her tears.

When I went to bed she came to me and tucked the covers

When I went to bed she take to be round round In that dear old way that only mothers know. Oh ! I felt so blissful, peaceful, and so full of tender love That all silent came my glad heart's overflow. Happy, grateful, joyful tears I shed : ay, cried myself to sleep, Dreaming in a heavenly dream-land free from cares ; In my boyhood home and bed again, the covers tucked around, Safely guarded by my dear old mother's pray'rs. Lu B. Cake, in Harper's Bazar.

Our Own. If I had known in the morning... How wearily all the day The words,un-kind 3... Would,trouble my mind I said when you I thad been more careful, darling, Nor given you needless pain; But we yey But we ver our own With look and tone Wemaynevertake back again.

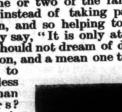
quiet evening You may give me the kiss of peace For though in the of peace, Yet it might be That never for me; The pain of the heart should

cease. How many go forth in the morning That never come h o m e a t

night! And hearts have broken For harsh wordsspoken

We have careful thoughts for the stranger, And smiles for

That sorrow can ne'er set right.



ruffle our tempers. Do not let us carry this ruffled feeling home with us, and so make others uncomfortable; but leave

it outside the door-forget it if possible-and try to be as bright as we can, remembering that those whose daily work lies *in* the home have their troubles just as well as the others whose duties take them out of the home. A pleasant greeting on both sides when one gets home again after the day's labors are over will do a great deal towards soothing some worry and maintaining peace in the family. We should refrain from disputing, and should hold back our opinions if we find that others do not like them. There is no need for too much self-assertion. Familiarity breeds contempt, they say, and we know our own family so well that this familiarity may lead to argument, and that to high words, and so the mischief is made. Now, our duty—which we should always do, but don't — is clear : we should treat our own family as we would strangers in this respect. Listen to the story of the grievance patiently and sympathetically, and try to smooth it But beware of the conciliatory manner, away. which irritates instead of soothes, and with the Scotchman "aye remember that a soft answer turneth away wrath—forbye it maketh them all the madder.

Frequently, nay, very often, in a family where courtesy is unknown, does one hear such ugly remarks as "Shut up!" or "What a fool you are!" Strange that those contemptible phrases should be addressed to loved ones, when they are carefully avoided towards acquaintances! But so it is—we are far less polite (as a rule) to our own flesh and blood than we are to strangers. I do not mean that use, my nieces and I, go to such a length as to use the above objectionable expressions—ladies do not—

"THE DOCTOR."

"The Doctor."

This beautiful and touching picture by the celebrated artist, Luke Fildes, is well known and has been widely copied - and no wonder, for it tells a story which goes straight to the heart. There can be but few who do not feel a thrill of deepest symagony of suspense, await the verdict, "To live" or "to die"? The unconscious child lies hovering on the brink and seems as though already gone over to that great and mysterious beyond — so inert is the attitude born of utter weakness. But this is not death, for there sits one who, with rare skill, helped by God's mercy, is straining every nerve to bring back to strength this frail flower. The whole figure and expression of "The Doctor" is forceful to a degree, as he watches that young face, the light thrown upon it from the raised lamp-shade. The poor mother, with head bowed on her arms, is un-able to longer look upon her darling. The father seems as though *compelled* to look, and that quiet watcher with the kind and noble face, so full of strength and self-control, will stay at his post unflinchingly, and will make no sign until he is sure, and we think that fair child will be saved for those who love her!

There is so much artistic merit in this picture, that one might linger long over its discussion. The wonderfully natural position of the child's hands is a study in itself, but somehow it seems almost sacrilege to analyze thus. The picture is simply a grand study in human nature, and its masterly drawing stands second to its exquisite conception.

guest: But oft for "our own" The bitter tone, Though we love "our own" the best. Ah, lips with the curve impa-tient! Ah, brow with that look of scorn; Twere a cruel fate Were the night too late -Selected. To undo the work of morn.

The Old Year and the New.

BY LOA B. ROMAIN. Toll, toll, ye bells ! The Old Year calmly dies; E'en now he shrouded lies; So 'neath the Past's still wave He'll seek his lowly grave. Farewell ! Old Year, farewell ! Kinds deeds still live to tell Thy life was not in vain; Fond memories still remain A monument to thee. Within thy bosom we Would bury all regret, Mistakes and wrongs forget, Our sins bid turn to dust; In God we'll hope and trust. Alas ! those precious hours, Like golden-hearted flowers That bloom, but fade and fold Ere we have caught their gold, Have vanished ; they have flown; They are no more our own. BY LOA B. ROMAIN. They are no more our own. True gems those bygone days. Those priceless, countless ways For good we might have done, All, all are dead — are gone. Toll, toll, ye bells !

Ring, ring, ye bell,s ! Send tidings far and near Proclaim the glad New Year, Upon his infant brow Peace, love and pureness glow. O God forbid that we Should may thet purity Should mar that purity. Thrice welcome, b Thrice welcome, bright New Year. We hail thee without fear.

d Mother. ristmas night, ther lives, he window with the

he old gate, oor ; her love remembered

ore. ed to clasp her boy, 1 mine; good things kept for

d lang syne. how to make it best, ill a child's : ev'ry choicest thing, er smiles.

talking there, of, prayed for me; l her widowed life;

she heard me coming

ears ; stand caressing me, igh her tears. and tucked the covers

s know. ll of tender love , cried myself to sleep, ee from cares; covers tucked around, 's pray'rs. , in Harper's Bazar.

> · Our Own. If I had known in f I had known in the morning How wearily all the day The words un-kind Would trouble Would, trouble my mind I said when you went away, I Thad been more careful, darling, Nor given you needless pain; But we vex "our own" our own With look and tone Wemaynevertake back again.

For though in the quiet evening You may give me the kiss of peace, Yet it might be That never for met mej The pain of the heart should heart should cease. How many go forth in the morning That never come home at night! And hearts have broken For harsh wordsspoken That sorrow can That sorrow can ne'er set right.

We have careful thoughts for the stranger, And smiles for

JANUARY 16, 1899

We know not but thy life May bring us many a strife; Many a falling tear Above a loved one's bier; But what God deemeth best, We'll bear, and trust and rest. Thou sayst we may share Another's load of care; O'er lives by sin bent low, Love, as a mantle throw; Thou bringest time to cheer Another sorrowing here; More gentle words to speak, Lest aching hearts may break; Yea, more, a time to be Nearer, O God, to thee. Ring, ring, ye bells!

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—Ist, \$1.00: 2nd, 75c.; Srd, 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 an-swers—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-A FISH POND.

Which fish do we call the fish of fish ? Which fish in a bird cage oft may be seen ? Which fish is seen in the fakir's dish ? Which fish do old talkers like, I ween ?

Which fish in a garden grows? Which fish in a forest doth abound ? Which fish in battle ends men's woes? Which fish in a mechanic's chest may be found ?

Which fish is used to raise a barn? Which is nursed by the cow? Which fish tries to do us great harm? Which fish goes in the air? Tell me how.

Which fish on an omnibus do we often meet? Which fish in the house doth abound? Which fish is seen in a field of wheat? Which fish in our shoe is found?

Which fish is used for cleaning plate? Which fish is seen in the heavens above ? Which fish is seen in a lady's neck? (Not of late.) Which fish most of all does a lady love ? "DICKENS"

2-BIRDS TRANSPOSED.

5. Braolwn. 6. Zraacn. "ESTHER." 3. Revlutu. 4. Hrthsu. 1. Eealg. 2. Jbyleau.

3-A CURIOUS LETTER. Sir friends friends stand your bearing disposition ; a man the world

is contempt, ridicule whilst the ambitious.

A. F. F. 4-QUEER ADDITION.

Take à of Hubert, à of George, à of Bennie, à of Robert, à of Thomas, à of Arthur, and make another boy's name. "ESTHER."

5-CHARADE. From the old Kent road FIRST old London town, From among the costermongers, I SECOND, to do my very best, Among those who for puzzles hunger.

I know I've entered a very smart set, To be noticed a hustle I'll have to get, For among them is Una so clever, With "rivers" I've heard of, no, never.

THE FARMER'S ADVOCATE.

11-THE HOUSE THAT JACK BUILT. A. B

C. D.

.M. . .N Q. . .R. I. . .J. . .

F. .K. . L.G. . . н

12-CROSS WORDS.

1. A forest. 2. To landlock. 3. To diminish. 4. Subsequent, UNA SHEPHERD. 5. Those who color cloth.

13-NUMERICAL

10, 3, 7, 11 is the French turnip.
1, 9, 4, 8 is reason.
2, 9, 10, 7 is a musical instrument.
6, 5, 3 is a large body of water.
WHOLE is an English poet. UNA SHEPHERD.

14-TRANSLOCATIONS.

14—TRANSLOCATIONS. 1. As I stand I am the abbreviated name of a great prophet; change the vowels consecutively and I become the place where he was preserved from danger, a tap-room wrangle, a Spanish title, and a clamorous creditor. 2. As I stand I indicate a body; change the vowels and I am reminded of Joseph and his brother Benjamin, an unmarried lady, rural verdure, and an obsolete term for a scramble. 3. As I stand I am either a male or female companion; change the vowels I reduce to measure, I am proverbially little, and I never join in a chorus. A. F. F.





H. C. G. 16-TRIPLE ENIGMA. a a c c c d d d e e e e e f h i i i k l l m m m n n r r r s s s t t d d d e e e e e e f h i i i k I I m m m m n n t t t t t t This lot of jumbled letters see, Now affirm them as they should be. And if you do it As would the extremely witty, You'll have the name Of an European city. Yet two others are suggested, But I'll leave them with you ugmolested "DICKENS."

SOLVERS TO DECEMBER 1ST PUZZLES, "'Arry 'Awkins," "Dennis," "Toledo," "M. R. G.," Lizzy aner, "H. C. G.," Ernie McIntyre. Conner,

THE QUIET HOUR.

Harmony.

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47

Harmony does not mean that everybody should think and act in precisely the same manner. Destroy individuality and although you may have unison, there is certainly no harmony. But we all know what a miserable thing discord is; constant jangling and quarrelling are unpleasant to every-one. It may not be possible for one person to sweeten all the discordant notes in a family, but it is possibe to do a great deal in that way. In the first place it is folly to attempt such a task without the help of God, which is surely given in answer to simple, earnest, definite prayer. If you have failed in your efforts hitherto, is in not, partly at least, because you have neglected prayer? Now let us see what is the first thing to be sweetened? Emer-son says that "when a man lives with God his voice shall be as sweet as the murmur of the brook and Harmony does not mean that everybody should son says that "when a man new with God his voice shall be as sweet as the murmur of the brook and the rustle of the corn." Is your voice sweet or does it sound harsh and impatient? Listen to it oc-casionally, as you would listen to another's. If it is not sweet, ask God to make it so, and help Him to remedy the matter.

Then, not only the tones of the voice but the words also should be sweet. It is "an English-man's privilege to grumble?" Well, it is a privi-lege he would be much happier without,

"Grumble ! No ; what's the good ! If it availed I would ; But it doesn't a bit – Not it.

Laugh ? Yes ; why not ? Tis better than crying a lo We were made to be glad, Not sad.

Sing ? Why, yes, to be sure ; We shall better endure If the heart's full of song, All day long.

Love ! Yes; unceasingly, Ever increasingly, Friends' burdens bearing, Their sorrows sharing, Their happiness making; For pattern taking The One above Who is love."

Always be ready to find fault and you will find

Always be ready to find fault and you will find plenty of opportunity. What a satisfaction to be able to find fault with the dinner which has been so carefully and labori-ously prepared for you. How would you like it if you guessed that it was a great relief to the family in general when you were away for a day or two-just because you always came down in the morning looking as though you had got out of the wrong side of the bed, and never seemed pleased with any-thing all through the day ? Try the other plan and look out for something to precise-you will be sur-prised to find that the rest of the family try much harder to please you than they did before. Mad don't hug your troubles and be always hunt-ing for fresh ones to worry about. What is the use of "watering your miseries and hoeing up your comforts?" You might just as well plant weeds in your fields and hoe up all the grain. You can look at things through yellow spectacles or through rose-colored ones, and both your own happiness and other people's depends largely on which you choose. Happiness depends largely on which sou choose. Happiness depends largely on which sour choose. Happiness depends largely on which sources and will-power. Walk on the sunny side of the street : it is wiser far than preferring to look on the dark side of far than preferring to look on the dark s everything.

guest: But oft for "our own" The bitter tone, Though we love "our own" the best. Ah, lips with the curve impa-tient! f scorn : -Selected.

0

the New. IN.

wave

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rget,

urs vers ve flown ; vn. . ys e done,

s glow.

one.

New Year.

C. B. M. would "the FARMER'S ADVOCATE" miss, Sure, without it, my TOTAL would dwindle; A. F. F. would "chocolate" give us to drink, Mabel, "milk weed" with it would mingle.

Now, if Ogma would Dick's "Goatmit" borrow, He never would need to "seethe" in sorrow; With his small pipe up and his big pipe down, His "seamanship" would not let him drown.

For Dickens let Eureka a "beatification" issue, Though he never "stole" "Miss Ada Armand's" gown, Nor a "petal," a "game," nor a "bevey" of birds, He'd only let one lady reach Pakenham town.

"'ARRY 'AWKINS." 6-REBUS.

SL B LS

Observe, alas, how quick an error slight May put the dearest friendship quite to flight ! 'OGMA.'

7-SQUARE DIAMOND.

Down and across the same.

1. Indicating something near. x x x x 2. Fame. XXXXX 3. Inserted. xxxxxx 4. The fruit of the soapberry tree. * * * * * * * x x x x x 5. To wash lightly. 6. Owed. x x x 7. A letter. " Одма." x

8-SQUARE.

A law giver. 2. A pirate. 3. To affirm. 4. Racer (trans-b). 5. A vowel and not a sham. "DICKENS."

9-Two ANAGRAMS.

The Red SEA PARTED; Moses' band Passed through and reached the other strand. SEE! PARTED waves roll back once more, And Pharaoh's hosts were covered o'er. "OGMA."

10-ENIGMA.

In the garden's rich loam I am often at home. In the college I am found, Where wisdom should abound. "OGMA." MY DEAR NEPHEWS AND NIECES,

MY DEAR NEPHEWS AND NIECES,— Of course you are all eager to know who are the prizewin-ners for the last quarter of 1896. Waiting for full returns has left us somewhat late in announcing them, but at length we are able to do so. The prizes for original puzzles are awarded as follows: 1st, \$1.00, to F. L. Sawyer ("Ogma"), Mitchell, Ont.; 2nd, 75c., to Richard H. Stinson ("Dick"), Harriston, Ont.; 3rd, 50c., to A. F. Force, Oriel, Ont. The prizes for answers go to: 1st, \$1.50, Henry Reeve ("'Arry 'Awkins"), Toronto, Ont.; 2nd, \$1.00, Thos. McKim ("Toledo"), Oxmead, Ont.; 3rd, 75c., D. W. Monkman ("Dennis"), Bolton, Ont. In very, very close pur-suit (for solutions) are: "H. C. G.," Lizzie Conner, and M. R. G., while Mary Nagle and "Dick" were not far behind. Trust-ing that all the old puzzlers will continue to contribute during this year, Your loving, UNCLE TOM.

COUSINLY CHAT.

I sent Cousinly Chat for December 15th issue, but all our rk was late, so this will account for the tardiness of some of

I sent Cousinly Chat for December 15th issue, out all our work was late, so this will account for the tardiness of some of the following replies: C. B. M.—By all means try solving. Why should you not? "He only has no failures who makes no efforts," and you will succeed if you try hard. Esther B.—Too bad your postmaster is so cranky. Now that the regular postage is only 2 cents, it nlight be better when sending a letter along with your puzzles to fully prepay it. Una.—I hope you won one of the cash prizes, or at least got subscribers enough to earn a fair share of pocket money. I am glad you mean to come often to visit the Corner. Howard.—You are very welcome. Squares, half-squares, etc., should spell the same down and across, as you will see by looking over the answers in some of the ADVOCATES. "H. C. G." and Lizzie Conner.—You have both come very close to winning this time, and are almost a tie. Better luck next time. It's time some of the girls should win now. Thank you both for kind wishes. M. R. G.—Although you did not win this time, I hope you will continue to contribute.

The Retort.—"Nellie, you're as full of airs as a barrel organ."—"Well, if I am, I don't go with a crank. Good-bye."

Governess: "Now, Linsley, you mustn't have any more plum-pudding. It'll make you ill!" Linsley: "Never mind, it's worf it!"

Cab Tout: "I say, Bill, lend me sixpence."— Cabby: "I can't; but I can lend you fourpence." —Cab Tout: "All right. Then you'll owe me twopence.'

everything. If thoughts and words should be sweet and bright, so also should *look**. Should you not like it to be said of you, "They took knowledge of them that they had been with Jesus?" Will you not make it your daily prayer that all may see reflected in your face the joy of His coun-

tenance?

"I would my friends could see In my glad eyes the beauty of His face ; Should learn that in His presence there is peace, Strength and contentment that can never cease, And that His guiding grace Can lead to patience and humility. As some rare perfume in a vase of clay Pervades it with a fragrance not its own, So when Christ dwelleth in a mortal soul, All heaven's own sweetness seems around it thrown." This is the true secret of harmony, to have Christ dwelling in you, for—

This is the trace of the second secon

Never be discouraged, even though you may fall and fall again. "Character can never be built in a day, a week or a year. Even in this rushing age, when nearly everything is done like magic, with the lightning swiftness of electricity, the building up of character is and must be *slow*." Every thought, word and action is built up into your character. Be careful then *to-day*, don't dream of what you might do under other circumstances. Remember, the fact of God having placed you where you are proves that He wants some *special* work done *right* there by you.

"How wrought I yesterday " Small moment now To question with vain tears or bitter moan, Since every word you wrote upon the sands Of yesterday, has hardened into stone.

"'How shall I work to day ' O soul of mine, *To-day* stands on her threshold, girt to lead Thy feet to life immortal; strive with fear; Deep pitfalls strew the way; take heed—take heed!"





HORNS

to dispose of a dozen fine, , growthy fellows, reds and thing I have on hand I will by imported Kinellar Sort ondence Invited and some.

BRODIE, R. BETHESDA, ONT.

MILLER, LLE, ONT., d Breeder of d Shropshires

ifers, rams and ewes of the and finest quality, at mod-

'elephone, Post Office, ates' walk.

Stock Farm

orted Knuckle Duster, w bull, Abbottsford, in eifers for sale, and a grand hness, from good milking cester ewes and rams for SMITH,

E LODGE P. O., ONT.

RN CATTLE SHEEP.

at head of herd. Seven ones. Also a few females. om H. Dudding, Esq.; the nea ram.

IBSON, DENFIELD, ONT.

SHORTHORNS.

bulls, four of which are by Valentine, champion for the United States. The dam. Also a few cows and an.

E, HIGHFIELD, ONT. . R. and C. P. R.



"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.

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SOLE AGENTS FOR CANADA.

MONTREAL.



50

and see them. J. H. SMITH & SON,

HIGHFIELD, ONT. St. Lambert of Arcfost 36943

whose sire was 100 Per Cent.; dam, St. Lambert's Diana 69451. Official test, 18 lbs. 6 ozs. in seven days. A few choice young bulls and heifers rich in his blood, from deep and rich milking dams, for sale at moderate prices. Tuberculin tested.

H. E. WILLIAMS, SUNNYLEA FARM, ··· KNOWLT KNOWLTON, P. Q.

THE FARMER'S ADVOCATE.

GOSSIP.

Wm. Miller. Markham, Ont., offers a few choice young Shorthorn bulls of suitable age fo. immediate service, and of the most approved breeding.

proved breeding. H. C. Graham, Ailsa Craig, Ont., writes: "Enclosed please find remittance for a small ad. We find your paper an excellent adver-tiser, as nearly all our turkeys have gone, but as there are still a few left have decided that one insertion will clear them out. Have some beautiful birds left, with one shipment yet to make to Shoffield Mills, N. S. We sold a Shorthorn bull and a pair of turkeys to Mr. F. Baker, of Dashwood, who was so well pleased that he immediately ordered another pair. Most of the orders have come from the far eastern counties of Ontario. We thank you for your very kind treatment, and for your superior journal during the past year." DEPOSIT FOR PALACE HORSE CARS.

DEPOSIT FOR PALACE HORSE CARS.

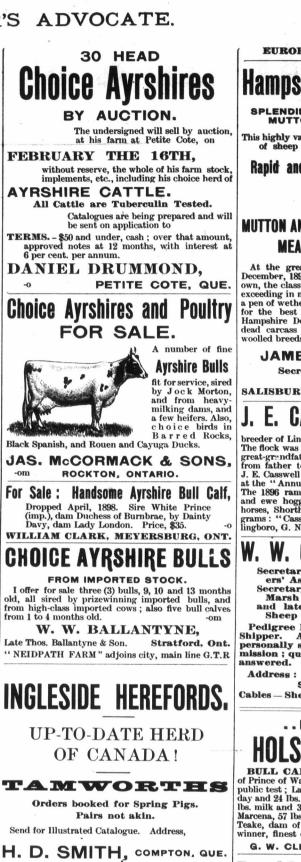
DEPOSIT FOR PALACE HORSE CARS. The Grand Trunk Railway has decided that in future anyone ordering a palace horse car must deposit \$10 before the car will be sup-plied. The reason for this new order is that parties would often order a palace horse car, and when it had been sent to the place ordered the parties would change their minds and not accept it. Under the new rule, when the car is accepted the deposit will be included in the freight charges; when the car is refused the deposit will become forfeited. The Canadian Pacific Railway Co, does not demand this de-posit when palace horse cars of its own line are ordered, but when cars of other railroads are ordered from the \$10 deposit is demanded. DATEX SHORTHORNS.

DAIRY SHORTHORNS.

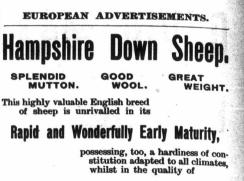
DAIRY SHORTHORNS. The general purpose, or dual purpose, cow, as some call her, is occupying the attention of many farmers and agricultural writers at the present time. That she really exists in the flesh we have good evidence in the fact that the Shorthorn cow Jubilee Julian won for her owner, H. K. Fairbairn, Thedford, Ont., a place ahead of the best representatives of the Jerseys, Guernseys, and Ayrshires in the public dairy test conducted in connection with the Provin-cial Fat Stock and Dairy Show at Brantford, in December, 1898. In that trial, on Nov. 30th she gave 41.75 lbs. milk, testing 3.8% fat, and on Dec. 1st 42.75 lbs. milk, testing 3.8% fat, and on Dec. 1st 42.75 lbs. milk, testing 3.4% fat, securing a total of 101.784 points. Jubilee Julian = 23523 is by Royal Albert = 13020=, by Arthur Victor, imported by Arthur Johnston, and lately was used in H. Cargill's noted herd. Jubilee Julian's dam was Jubilee = 15172=, by imported Warrior =4133=. Royal Albert's dam was Mary Ann of Lancaster XIII., and belonged to one of the best milking families of Scotland. Jubilee Julian is a typical dairy Shorthorn, whose dam milked from 21 to 23 lbs, at a milking, her gran-dam 204 to 21 lbs, and her two-year-old heifer, just gone in calf, presents very encouraging in-dications. Mr. Fairbairn's herd was descended from the cows Maid of Sylvan, Maid of Sylvan 3rd, and Maid of Sylvan 5th, all bred by Thos. Nicholson & Sons, now R. & S. Nicholson, Sylvan, Ont.

OUR SPECIAL LIVE STOCK ILLUSTRATIONS.

The Poland-China sow, owned by W. & H. Jones, Mt. Elgin, Ont., and whose portrait is given in another column of this issue, furnishes undeniable evidence that by skilful breeding and treatment hogs of that breed may readily be produced which will fill the bill for a "bacon hog." This sow was considered by good judges, at the Toronto and Brantford Exhibitions, a typical bacon hog, having great length, deep sides, smooth shoulders, well-sprung ribs, good bone, and in addition to these qualities, full, broad, and deep hams, a feature in which too many of the so-called baconers are very deficient. Mr. J. M. Gardhouse's Leicester shearling ewe is a model of the breed, straight and true in all her lines, with a handsome head well set on; long, level back, and strong, straight legs; a fine, even fleece, and firm in her flesh. It is little wonder that, in addition to winning 1st prize in her class at the Provincial Winter Show, she was understood to be the reserve number for the sweepstakes, all breeds com-peting. The Poland-China sow, owned by W. & H.



HAVEN'T YOU SEEN Our Advertisement?



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MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UNSURPASSED.

At the great Smithfield Club Show in London, December, 1897, Hampshire Downs again held their own, the class for wether lambs with twenty entries exceeding in numbers that of any other breed, whilst a pen of wethers stood reserve for the champion plate for the best short-woolled sheep in the show. A Hampshire Down also again took first prize in the dead carcas competition against all other short-woolled breeds. Full information of

JAMES E. RAWLENCE,

Secretary, Hampshire Down Sheep Breeders' Association, SALISBURY, ENGLAND.



breeder of Lincoln Long-woolled Sheep, Flock No. 46. breeder of Lincoln Long-woolled'Sheep, Flock No. 46. The flock was in the possession of the present owner's great-gr:ndfather in 1785, and has descended direct from father to son without a single dispersion sale J. E. Casswell made the highest average for 20 ram at the "Annual Lincoln Ram Sale," 1885 and 1897 The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearlings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Tele-grams: "Casswell, Folkingham, Eng." Station : Bil-lingboro, G. N. R.

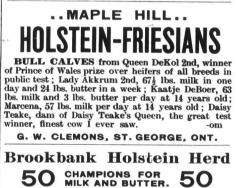
W. W. Chapman,

Secretary of the National Sheep Breed-ers' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association,

and late Secretary of the Southdown Sheep Society.

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

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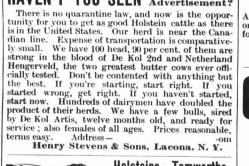


NOTICES.

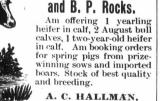
Raising Poultry.—Whether for pleasure or profit, this industry requires knowledge based on practical experience. In this connection we direct the attention of our readers to the ad-vertisement elsewhere in this issue of C. C. Shoemaker, of Freeport, III., who has issued at a low rate an interesting volume on fowls, in-cubators, brooders, and poultry houses. It is a "Book on Poultry" and an 1899 almanae com-bined. Note his offer

bined. Note his offer "Scottish Farmer" Album.— The portrait album of the Scottish Farmer for 1899 will be treasured especially by all Scottish lovers of live stock for the excellence of the stock cuts gracing its pages, as well as the superiority of the animals portrayed, being the leading prize-winners of 1898. It also contains portraits of live stock salesmen and auctioneers, a 4 well as a number of Scottish pastoral homesteads. It is sold for 8d., post-paid, by its publishers, Scottish Agricultural Pub. Co., Glasgow.

A Combined Poultry and Animal Show.-The exhibit of the Ontario Poultry Association, held at the Pavilion in the Horticultural Gar-dens, Toronto, this month, has attracted wide-spread interest and attention. Both the Ameri-can Poultry Association and the Toronto Poul-try, Pigeon and Pet Stock Association met at the same time, making the most complete poultry and pet animal show ever held in Canada. The management took unusual care in their arrangements for the live stock, and officially appointed the well-known firm, Messrs. Pickhardt-Renfrew Co., Limited, of Stouffville, Ont., to disinfect the huge building with their Persiatic Henhouse Spray and Poultry Powder. It acts both as a disinfectant and insecticide, destroying verifin and purify-ing the atmosphere of disease gerns and gases consequent upon the close confinement of fowls or animals. This official recognition of the high qualities of this sterling preparation is an endorsement not to be lightly overlooked by farmers and fanciers. It can be purchased at all dealers. A Combined Poultry and Animal Show .-



Holsteins, Tamworths,



- 0-New Dundee, Ont.

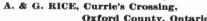
"GEM HOLSTEIN HERD." STOCK 🔤 SALE

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. 7-y-om

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 H. BOLLERT,

for just what you want. Females of all ages. -o





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JANUARY 16, 1899

lown Sheep,

ERTISEMENTS.

OD GREAT WEIGHT. OOL. h breed in its

illy Early Maturity,

g, too, a hardiness of con-on adapted to all climates, in the quality of

ROPORTION OF LEAN NSURPASSED.

Club Show in London, e Downs again held their mbs with twenty entries of any other breed, whilst ve for the champion plate l sheep in the show. A in took first prize in the against all other short-mation of

AWLENCE, npshire Down Sheep s' Association,

ND. Laughton, Folkingham, Lincolnshire, **.L**,

tional Sheep Breed-

Kent or Romney eders' Association, of the Southdown

Agent, Exporter and of registered stock d exported on comven, and all enquiries

HOUSE, ARUNDEL ndon.



. GEORGE, ONT.

olstein Herd S FOR 50 our great milkers. Write nales of all ages. -o ie's Crossing, rd County, Ontario.



"I that 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 differ-ent 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, there-fore, to be careful to stipulate for **THOMAS PHOSPHATE**, and to have a guarantee of phosphoric acid contained, and of finensss of division."

THE FARMER'S ADVOCATE.

GOSSIP. MESSRS. A. & D. BROWN'S SHORTHORNS. The extensive farming and stock operations: conducted by Messrs. A. & D. Brown, near lona Station, in Elgin Co., Ont., are in no way behind the demands of the times, and when we state that the proprietors are extensive ex-porters of finished cattle, and that many of their best steers are fed on their own farm, it will be well understood that the farm is in splendidshape. The loose box method of feeding, fully described in former issues of the FAMER'S ADVOCATE, is the system that Messrs. Brown adopted several years ago, and proved conclu-sively to them to be the proper course with such stock. At the time of our visit we saw a splendid, well selected bunch under prepara-tion for the English block, which were about ready as soon as the market would warrant their exportation. Since 1872, a herd of Short-horns has been kept on the farm. Their first selections were made at Messrs. John Miller & Sons', Brougham; Robt. Miller, Markham, and John Laidlaw, Gait, and it is safe to say that from Messrs. Brown's practical experience the foundation stock were the proper type – as least, we do know their pedigrees were; and from this start, with Sotch-bred bulls, also at wisely selected, the herd to-day of some 40 or more animals are a good, uniform bunch, not in show shape, but kept in their most useful form. Among the sires employed we might mention Lavender Victor 1225, by imported Vetor came imported Warfare 6432, by the great sire Gravesend 46461, and out of Rod Rosebud, doing four years of valuable service; then the two following seasons the herd was headed and strengthened by the services of Royal George, another royally-bred animal, whose progeny's strength lay in their uniform-ity and early-maturing qualities. Royal George was sired by Royal James (64972, and out of the noted Maid of Promise, the captor of the great sweepstakes cup in Sociland for two successive years over all animals, male and female. Some splendid young Royal George helfers are now being bred to Socoland fet, has been in the herd raw. The inpar Annual Meeting of the Canadian Poultry Association.

A large number of members, including some ladies, attended the annual meeting of this Association, held in Toronto, Jan. 12th. 1899. Dr. Bell, the president, occupied the chair, and in his address showed the need of a revision of the prize list to meet such a state of affairs as the extraordinary number of entries in the Barred Rock class, where the prizes given were the same as in a class with only three or four or less. Barred Rock class, where the prizes given were the same as in a class with only three or four or less.
The Treasurer's report showed a balance of \$99.97. Sec. Thos. A. Browne, read an application from Owen Sound for next year's show, and a verbal invitation was given by a delegate from Peterboro. The President then made a strong plea to have the papers, which had been prepared for the meeting and printed, discussed at once before it got too late, but the meeting was too keen for the election of officers and the selection of the next meeting place to consider it. Peterboro was selected as the place for the show of 1900, getting 64 votes as against 55 for Owen Sound.
J. R. Stratton, M. P. P., was elected president, and Allan Bogue and M. T. Burns first and second vice-presidents. Then ensued a long and unprofitable wrangling as to the mode of electing directors. At last a selecting committee drew up a list, which was accepted with one change. The following will represent the different districts: No. 5, D. C. Trew, Lindsay; No. 6, Dr. Bell, Toronto; No. 7, T. J. Senior, Hamilton; No. 8, T. Hutton, Welland; No. 12, J. W. Kedwell, Petrolia; No. 13, W. J. Bell, Angus. Brown, Durham: No. 11, W. McNeil, London: No. 12, J. W. Kedwell, Petrolia; No. 13, W. J. Bell, Angus. Delegates: To Toronto Show, Barber and Durston: to Western, J. H. Sanders and J. McCormick; to Hamilton, Cole and Dickenson; to Brantford, T. A. Cox and W. Colwell. The question of score cards for judging was brought up, but the feeling of the meeting was overwhelmingly against them. Dr. Bell again brought up the revision of the prize list, which was referred to the directors to settle. The papers were taken as read. Thus ended a singularly unprofitable meet-ing. Had half the time been devoted to dis-cussion on the many excellent papers prepared, some good points would, no doubt. have been able to learn something instead of getting the bare husks as they did. R. & S. Nicholson, Sylvan, Ont., write us: Bare husses as they un. R. & S. Nicholson, Sylvan, Ont., write us: "Our cattle are coming through the winter nicely. We intend holding a sale on or about the 8th of March, at which we will offer about 30 head of choice Shorthorns. For further par-ticulars see February issue of the FARMER'S ADVOCATE. -0



51



or ordinary farmer , giving plenty of rich bulls for sale at very heifers can be spared

FISHER, NOWLTON, P. Q.



hand now, and two-lozen Ram Y.

rth, Ont.

f SHROPSHIRES f the best rams and at money can buy.

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Over twenty years established, and in dealing with us you have all the benefita derived from experience. No other firm's goods find so many imitators as ours. Take for ex-ample our Blower Pro-peller Elevator Feed Cutter. Every effort has been put forth to down this machine. but this machine, but

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Send for circulars and testimonials.

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Write for prices.



R. G. MARTIN, Marysville, Ont. -0

PINE GROVE FARM HERD OF LARGE YORKSHIRES.

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

JOSEPH FEATHERSTON, Streetsville, Ont.

DUROC - JERSEY SWINE

succession at Toronto.

DUROC - JERSEY SWINE The earliest established, and most reliable herd in Canada." If you want i length, try them. If you want depth of side, the Duroc-Jersey will give it. If you want quiet, easy feeders and good weighers, they have no equal. If you want pigs, get the Duroc-Jerseys, they are the most prolific. If you want Duroc-Jerseys, we have them pure. We keep no others. They are quiet, non-squealers, prolific, long, deep and heavy. Just the pig for profit. Write us. -om TAPE BROS., Ridgetown, Ont. TAPE BROS., Ridgetown, Ont. -om

Berkshires, Berkshires, Berkshires.

My herd contains such blood as Baron Lee, Varna Duke, and other imported strains, with the cele-brated sire, First Prize, at the head.

WM. MCALLISTER, VARNA, ONT

English Berkshires.

52

Herd headed by three first-prize boars; large size, strong bone, fine quality; and a choice lot of breeding sows. ed for spring pigs GEORGE GREEN, Fairview P. O., Ont.

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HALDIMAND BERKSHIRES HERD OF . Boars and Sows, two to four months old, by Royal King, the choice of the winning pen in 1897, in the hands of Geo. Green, his breeder.

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A few choice sows three months and under. Black Wilkes (imp.) and Jack Sanders head of herd. A few choice Black Minorca cockerels cheap.

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THE FARMER'S ADVOCATE.

How to Succeed on the Farm!

MONEY IN POCKET.

THE WILLIAM WELD CO. (LIMITED), LONDON:

DEAR SIRS,-I believe the FARMER'S ADVOCATE contains more reliable information pertaining to all the branches of agriculture than any other journal published in Canada, and no one can thoughtfully read it for one ROBT. MCEWEN. year without being money in pocket by doing so. Middlesex Co., Ont., Dec. 26th, 1898.

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 is not a matter of luck hor waiting for dead men's shoes. During 35 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 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 1899 at the ordinary subscription rate of \$1.00. Extra copies required by subscribers we will supply at 25c. each; to nonsubscribers, 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 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 sub-scribers; "Pigs, Breeds and Management" (\$1.25), 3 new subscribers; "Sheep, 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; "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.

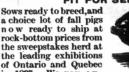
HOW TO GET THE PAPER FREE.-Any present subscriber sending in two new subscribers and \$2.00 will have his or her subscription extended for one year.

OUR NEW SELF BINDER.—Each copy of the FARMER'S ADVO-CATE, 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.



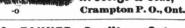


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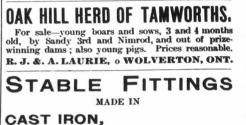
I have now to hand a choice lot of **Tamworth** sows, 8 months old, and have a few **Berkshire** boars left, at 8 months old ; also, a few **Victoria** sows with pig at one year old. They were bred from imp. stock. Don't forget to write at once to secure the best. Also write for my new Catalogue.

TAMWORTHS UP-TO-DATE.

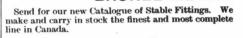


five boars six months ows three months old. Also thirty head six weeks

for sale, cheap, J. H. SIMONTON, Box 304, Chatham.



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UP-TO-DATE.

One boar one year old; five boars one year old, five boars six months old; ten sows six months old; one boar five months old; fourteen boars three months old; thirteen so thirty head six weeks

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and sows, 3 and 4 months Nimrod, and out of prizeg pigs. Prices reasona WOLVERTON, ONT.

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JANUARY 16, 1899



Dr. Ward's Blood and Nerve Pills are sold at 50c. per box. 5 boxes for \$2.00 at druggists, or mailed on receipt of price by The Dr. Ward Co., Lim ted, 71 Victoria St., Toronto. Book of Information free. Dept. F.

Mr. Isaac Holden, Omemee, Ont., a well known Cattle Buyer, says:—They cured me of consti-pation, and the rheumatism pains have entirely disappeared from my loins and stomach. They are a marvel in the medicine line. It is the only medicine of the many I have taken that gave me immediate and permanent relief. I am satisfied that if I had not taken them I would to-day be helpless in bed, suffering from torture such as only those who have acute muscular and ner-vous rheumatism can imagine. Yours truly, ISAAC HOLDEN, Omemee, Ont.

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Cure Stomach Trouble, Nervous

Diseases and all Blood disorders.

They restore health and strength

THE BEST SELLER ON THE MARKET.

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WITH PATENT LOCK SCRAPER.



BINDER TWINE PURE MANILA, 650 FT. TO LB.

> SPECIAL MANILA, TIGER, STANDARD.

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

THE FARMER'S ADVOCATE.

GOSSIP.

The annual meeting of the Dominion Short-horn Breeders' Association will take place in Toronto on Wednesday, Feb. 8th, and the Ayr-shire Breeders' Association on Wed., Feb, 15th. Mr. D. McCrae, Gueiph, has recently bought for the Newfoundland Government a selection of Cotswold shearling ewes from the following preeders: John Myers, Kossuth (8); H. Mc-Nalley, Arkell (4); James Hume (2).

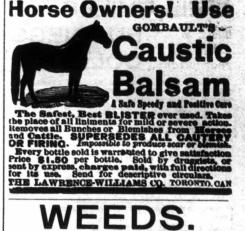
Nailey, Arkell (4); James Hume (2). The annual meetings of the Manitoba and Northwest Live Stock, Dairy, and Horticul-tural Associations will be held in Winnipeg on February 7, 8, 9 and 10. Good programmes are being arranged, several outside speakers being expected, among them Supt. Gregg, of the Minnesota Farmers' Institutes, and Prof. J. A. Craig, of Iowa.

A. Craig, of Iowa. On Feb. 21st next the dairy school will be opened in the fine new building at Sussex, New Brunswick, erected by the Provincial Government. It is open to students from all three Maritime Provinces. The staff consists of H. Mitchell, Supt.; J. E. Hopkins, J. F. Tilley, L. C. Daigle, and W. W. Hubbard. In the new quarters, and with improved appli-ances, etc., we look for an increasing attend-ance and a general advance on the part of this institution. Mr. W. D. Flatt. of Hamilton. Ont., has re-

institution. Mr. W. D. Flatt, of Hamilton, Ont., has re-cently issued a new catalogue of his "Trout Creek" herd of Shorthorn cattle, which has within the last few years risen to deserved prominence. It contains extended pedigrees and footnotes of 39 females and 16 males com-prising the herd, which contains representa-tives of many well-known and popular fami-lies of Shorthorns of standard sorts with high-class top crosses of bulls of approved modern type and breeding.

Cows and Heifers.

** \$10,550



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A few years ago Plantain and Wild Flax were comparatively unknown in Ontario; now it is be-coming more difficult every year to obtain samples absolutely free from these pests. Every farmer knows how unsightly a foul field appears, and how imperative it is to procure the cleanest clovers and grass seeds as well as seed grains; for it is a waste of energy to sow something which it takes time and money to destroy. We make a specialty of securing the best qualities obtainable, and find an increasing annual demand for our....





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JANUARY 16, 1899

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Seeing is be-

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Believing, you

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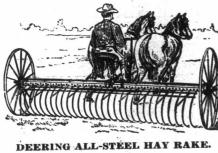
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Over 40,000 Drills and Seeders of our manufacture in use in Canada. The only Drill made with lever for instant and perfect regulation of depth of hoe in all kinds of soil while team is in motion. Sows absolutely correct to scale; saves seed, as every kernel is deposited at a proper depth to grow. Purchase only the best and you will be satisfied. We also manufacture Binders, Reapers,

GOSSIP.

THE FARMER'S ADVOCATE.

Mr. Duthie, of Collynie, and Mr. Marr, of Upper Mill, Aberdeenshire, recently visited Mr. Deane Willis, of Bapton Manor, Wiltshire, and each purchased a young Shorthorn bull, both roan, tracing to Sittyton cows: This looks like reciprocity and may be good policy on the part of breeders,

A. W. Smith, Maple Lodge; Ont., writes: "We have recently sold a very good, large, 18-months-old Shorthorn bull, got by Caithness, to Mr. John F. Edmunds, Stratford, and a handsome red 13-months-old bull calf to Mr. Wm. Cullen, Owen Sound, Ont. Orders for Leicesters are coming yet. The new year started in with orders for 16 in one day, reach-ing from New Brunswick to British Columbia."

JAMES DORRANCE'S BERKSHIRES.

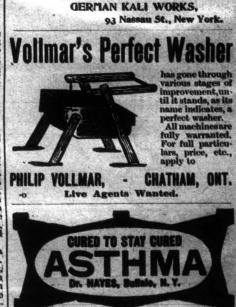
ing from New Brunswick to British Columbia.', JAMES DORRANCE'S BERKSHIRES. Mr. James Dorrance's (Seaforth, Ont.) Berk-shire herd were in no way behind former years when we called a few days ago. Mr. Dorrance is one of those men who considers the demands of the times, breeds to a specific type, and sells upon exceedingly liberal conditions, giving a as reasonable a price as possible. Much trouble as reasonable a price as possible. Much trouble and expense has been gone into in providing a suitable pen, which fills the bill very satisfac-litter in thrift and comfort. Among the 25 head now on hand are three very choice brood although Mr. Dorrance frequently fits and exhibits a few, he never allows his broot sows their littering season. Baron Lee blood pre-dominates in the herd. The length, depth, in this geason. Baron Lee blood pre-dominates in the herd. The length, depth, in the intering season. Baron Lee blood pre-dominates in the herd. The length, depth, in the intering season. Baron Lee blood pre-dominates in the herd. The length, depth, is your to a standard. Among the matrons wer might mention the two-year-old Queen of Scott 4600, by Baron Lee 4th and out of Gipsy. Her half-sister, Victoria 3th 5344, out of Victoria 551, the latter also 2 years old, was imp, from her breeder, Jas, Riley, Thornton, Ind. Rosey half sister, Victoria 3th 544, out of Victoria is and out of Cherry Blosson, a boar far-rowed at Mr. Geo. Green's (Fairview), in whose hards was placed among the winners in his class at Toronto last fall. He is also assisted by a litter brother, of good type and excellent markings. From what we observed we con-clude that Mr. Dorrance intends making a speciality of young in-pig sows, for he is in a speciality of young in-pig sows, for he is in a speciality of young in-pig sows, for he is in a speciality of young in-pig sows, for he is in a speciality of young in-pig sows, for he is in a speciality of a cow imported by Mr. D. D. Wilson, also abull purchased from Jas. Crearery shakespeare, and as Mr

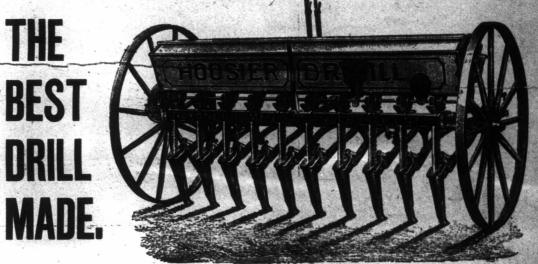
VOLOR and flavor of fruits, size, quality and appearance of vegetables, weight and plumpness of grain, are all produced by Potash.

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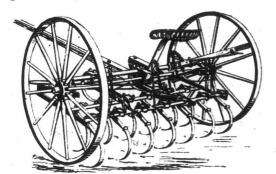
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mond steel points for the teeth; also extra wide thistle - cutting points can be furnished. Examine it and you will buy no other.

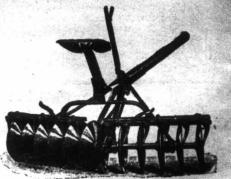
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The Buffalo All-Steel Disc Harrow.

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 this means a perfectly flex-

compare with others.



ible action is secured, and the ground can be worked at a uniform depth. Examine this machine carefully and

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