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AND HOME MAGAZINE

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

Special
Exp. Farm
June 15, 1901

PUBLISHED AT REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1876. PUBLISHED AT

VOL. XXXVI. LONDON, ONTARIO. MAY 1, 1901. WINNIPEG, MANITOBA. No. 525

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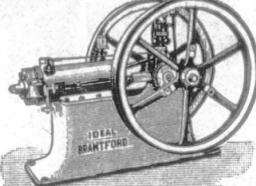
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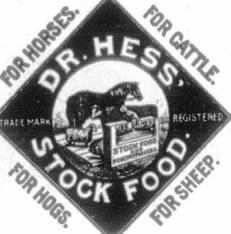
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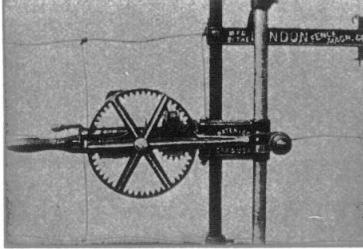
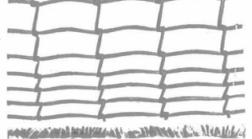
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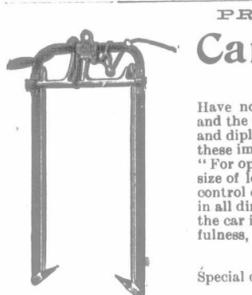
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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., MAY 1, 1901.

No. 525

EDITORIAL.

The Ninety-day Cattle Quarantine.

The maintenance of the present ninety-day quarantine against pure-bred cattle imported into Canada is a question that just now deserves consideration on the part of our breeders and federal authorities. It was instituted many years ago as a safeguard against the introduction of pleuro-pneumonia from Great Britain, where at that time it was prevalent, though long since stamped out. It has been publicly charged repeatedly that the gross laxity of the officers of the Canadian Government in administering the quarantine regulations against American cattle, chiefly going into Manitoba and the Northwest, furnished the excuse to the British authorities for the embargo which shuts out our stockers and compels the slaughter of our fat heaves within ten days of landing. For that serious blow, Canadian breeders and farmers have to thank bungling officialdom. As a matter of fact, at nearly every point during the past twenty-five years, where the live-stock industry has been touched by officialism, the results have been damaging, as witness the Haras National, Maritime Government stock importations, the quarantine fiasco, and the tuberculin test, not to mention minor matters. The tuberculin test, which exists mainly on the strength of an exploded bogey that human beings get consumption from tuberculized cattle, was lately so thoroughly threshed out in these columns that the process need not be repeated. For a time after the test system was fastened upon the breeders, local veterinaries were authorized to do the testing for export under an international agreement, through which the American authorities broke last year, and for a time we witnessed the unheard-of spectacle of American vets. going up and down Canada doing the squirt-gun act. As though they were any more honest or competent than Canadians! Now that is stopped, and we have a few salaried departmental officers, the bulk of them hailing from about Montreal, doing the testing, but the delays are vexatious and interminable.

Hon. Thos. Greenway, of Manitoba, informed a member of the FARMER'S ADVOCATE staff, in Toronto, a few days ago, that the policy of the Dominion Veterinary Department regarding this test had simply been ruinous to the trade in that Province. A while ago cattle were tested in Britain, but were still liable to another dose at the Canadian quarantine, and if they reacted they were condemned. This is stopped now by sending a salaried Department officer (Dr. J. G. Rutherford, V. S.) to the Old Country, representing the Canadian Government, to inspect and test all cattle intended for export to Canada. Selected in the first place at heavy expense by enterprising breeders who want the best and healthiest thing they can find, next running the rigid gauntlet of inspection, and then taking an ocean voyage of some ten days, in the name of common sense why should our breeders be put to the further cost and delay of three months detention of the cattle in quarantine? Tuberculosis they cannot have. Dr. Rutherford's inspection and test will surely settle that. "Pleuro" does not appear to be there to catch, and at the very outside, the period of incubation for foot-and-mouth disease does not run over twenty days, and Prof. Law states that only in exceptional cases does it reach six. What else is there that will not show itself in less than half the ninety days, presuming that any germ could elude Dr. Rutherford's vigilance. Has not the Department faith in its official representative?

In the next place, the U. S. breeders importing cattle from Britain are subjected to a similar re-

striction, and the U. S. Government have a salaried officer there to inspect, test and certify to the soundness of every pure-bred bovine animal leaving the Old Country for America. And the certificates of the two officers are mutually recognized on this side the water. Unless for the purpose of providing a few officers with jobs, there seems, therefore, no good reason for keeping up this lengthy quarantine either in Canada or the U. S.

But one might go further than this. Does anybody suppose that detention in the Canadian quarantine is beneficial to the health of imported cattle? If he does, we submit for his consideration the following observations from a breeder who has brought many excellent cattle through the ordeal, and who speaks of what he knows:

"The quarantine regulations are all wrong. In the first place, there is no contagious disease that they have or have had in Great Britain but what will break out in less than thirty days, and why keep a lot of cattle shut in a small yard for ninety days, to be worried in summer with flies, and no green feed for them. Secondly, they have a great deal of red tape down there. They put one lot of my cattle into a yard and stable where imported sheep had been kept up to two days before my cattle went in; these are only kept a few days. Now, in Scotland they claim sheep are worse than cattle for spreading foot-and-mouth disease. There is no drainage. Two of the yards where my cattle were got in a frightful state with mud; the cattle had to go through filth up to their knees to get out, and in the stables several of them contracted foul in the foot from it. Another trouble is the stables have got full of lice, ringworm, and other skin diseases. One kind of skin disease two or three of mine got seemed to be ten times worse than ringworm to cure. My cattle had none of it until just before they came out of quarantine, so I have every reason to believe they got it there. I understand a great many of the imported cattle get it in quarantine. Now, I am not in favor of doing away with the quarantine, but I do think that forty-five days would answer every purpose that the ninety days does, and that the yards and stables should be further apart than they are now. There is a narrow lane, two or three rods wide, between the yards, and the fences are not very good. Sometimes the cattle break the fences down and get together. The fences are rotten, the stables are rotten, and the whole quarantine is rotten. I am astonished that the importers have stood it so long. I am not blaming the present Government, the same regulations were in force when the late Conservative Government was in power, and, as I understand, the same officials made the regulations and enforced them."

It is high time to call a halt if this be the sort of institution conducted at public expense by the Dominion Live Stock Inspection Department for the benefit (?) of imported cattle. Dr. D. McEachran, M. R. C. V. S., head of that Department, and veterinary adviser to the Minister of Agriculture, is doubtless a gentleman of attainments, for he has been receiving the generous stipend of \$2,400 a year for his inestimable public services, being also Dean of the Faculty of Comparative Medicine and Veterinary Science, McGill University, Montreal, and still further employing his energies as manager of the great Waldron Rancho Company in the Northwest. In the light of the foregoing, it seems incredible to suppose that breeders and taxpayers can very much longer tolerate this state of affairs. The trade is so hampered by vexatious restrictions, involving delay and inconvenience at every step, that it is becoming almost useless to try to do much business. It is the old story of the tail wagging the dog—a great industry existing for the benefit

of a set of officials, instead of officials serving the needs of a great industry.

The Eve of the Trolley Age.

In the last issue of the FARMER'S ADVOCATE reference was made to the inception of great changes in the transportation of the people, through the inauguration of rural electric railways connecting various cities, towns and villages, and running over leading highways at present existing in the country. That some of these lines would ere long do a very large and lucrative business was foreshadowed, and in order that the rights of the people shall be safeguarded, a word of caution to municipalities was given in dealing with the corporations who are already seeking the gift of valuable franchises from the councils.

In the matter of transportation, both of people and freight, it is high time for a change. Owing to over-capitalization, excessive fixed charges and heavy operating expenses, the ingenuity of railway managers, even at present rates, is taxed to satisfy at once the officials, the dividend-hungry stockholders, and the long-patient public. In a very large degree the electric trolley would seem to solve the problem. The system is only in its infancy. That our forecast was not overdrawn in regard to thickly-populated areas can readily be seen from an article in the *New York Independent*, by Mr. Albert L. Johnson, who is just now constructing an electric road from New York to Philadelphia—about 100 miles—on which he will put first-class, comfortable cars, equipped with motors capable of running 50 miles per hour. At the very outside he will charge 50 cents—about one fifth of the present railway tariff—a reduction that the traveling public will certainly welcome. The rate he proposes to charge, it will be noticed, is only a trifle over half a cent per mile. A very great deal of the steam-railway business will still be retained, but the electric system will create new traffic, carrying immense numbers of people who hitherto could not afford to travel either for business or recreation. Through this system the congestion of great cities will be relieved, and hosts of people who work in offices and shops will be able to live in the country, enjoying its pure air, sunlight and wholesome surroundings, and, at the same time, reach the scene of their daily toil economically. Steam cars run through smoky back streets, uninviting country and the back end of farms; the trolley passes over the best of country roads, in front of beautiful farm homes and along village streets. It will be the picnickers' delight. Moreover, the extension of these roads will improve the relations between city and country folks, vastly bettering the condition of the former and enhancing the local market for the products of the latter. Will such lines pay? Will this traffic grow? Mr. Johnson has now in operation 225 miles of track connecting 66 towns on what he calls his Allantown lines. When started, the road carried in its first year 20,000 people; in 1900 it carried over 20,000,000 passengers! A large proportion of these used the cars going to and from their work; others were simply on pleasure bent; while many went to do business that they might otherwise have transacted through the mails. American electric lines are now carrying milk, butter, fruit, garden truck and other farm produce, handled more expeditiously than under previous arrangements, and for which the legitimate charges, Mr. Johnson himself admits, should only be about one-third of those exacted by the steam railroads. With an efficient service and popular fares, the lines now under way or projected in Canada will in a short time revolutionize traveling, and, no doubt, prove very advantageous to the promoters.

THE FARMER'S ADVOCATE
AND HOME MAGAZINE.
THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

TWO DISTINCT PUBLICATIONS—EASTERN AND WESTERN.

PUBLISHED SEMI-MONTHLY BY
THE WILLIAM WELD COMPANY (LIMITED).

EASTERN OFFICE:
CARLING STREET, LONDON, ONT.

WESTERN OFFICE:
MCINTYRE BLOCK, MAIN STREET, WINNIPEG, MAN.

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

JOHN WELD, MANAGER.

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2. 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. Contract rates furnished on application.
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As Others See the Ontario Live Stock Sales.

"For some reason, live-stock sales in Ontario are not really successful. The reference here is to combination sales of a public character. They never have succeeded there, though they have been tried on several occasions. At the recent sale held at Guelph, more than 125 Shorthorns were sold. The average price was \$80.00. This contrasts rather strangely with sales on this side, where averages run all the way from \$200.00 to \$800.00, as at the Flatt sale in Chicago last autumn. Some of the Canadian papers have been referring to the sale as a great success. If an average of \$80.00 is a great success for pedigreed Shorthorns, our neighbors over there have set pretty low the mark which indicates a great success. It seems strange indeed that such sales are invariably a failure in that country. In Great Britain they are a success. On our side of the line they are a success. Why should they be a failure in Ontario? It cannot be that good stock is scarce there, for our neighbors over there have good animals, especially in the line of Shorthorns. Can our Canadian friends explain why they fail to make a success of a combination sale, even when patronized by a minister of agriculture?"—*The Farmer, St. Paul, Minn.*

Our contemporary evidently confuses auction sales held by individual breeders with those conducted by an association, or, as in the case of the Ontario sales referred to, under the supervision and direction of a Government official. In the one case, the breeder is responsible for the character of the stock offered and for the honorable conduct of the sale; in the other, nobody is really held accountable for either, and hence it is not surprising that there is a lack of confidence, an element which handicaps a sale from the start, and a feeling that grows with the age of institution. This, at least, has been the experience in Ontario each time the system has been tried. There is a deal of British spirit in Canadians, and our Minnesota contemporary should understand that the costly paternalism connected with governments undertaking to run the business and work of the breeders does not commend itself. It has been

found in the past that such efforts not only "come high," but the results were lamentable. As far as the recent Government sales were concerned, no press authority competent to judge has ventured to designate them a success.

Auction sales by individual Canadian breeders have been quite as successful as those of the same class made by United States breeders. It is only four months since Mr. John Isaac's sale of Shorthorns at Markham made an average of \$422 per head. Mr. Flatt's sale at Hamilton, in December, 1899, figured an average of \$409, and his sale at Chicago in August last, referred to in the above quotation, and which was not a combination but an individual one, scored an average of over \$900, the record sale of cattle of any breed on this continent in the last decade. The secret of success in these instances lay in the fact that the stock was good and the public had confidence in the men at the back of them, and when these elements are in evidence the combination is pretty sure to bring success. Auction sales throughout Ontario in the last few years, where the stock has been fairly good and in fair condition, have been almost invariably successful, the animals, on the whole, selling for about all they were worth; and a lot of stock was not left unsold, either. There is no reason why two or more responsible breeders may not combine to hold a joint sale at the same time and place successfully. The degree of success will depend largely upon the character of the stock and the men, and the manner of conducting the disposal. Such sales have been and will be successful when the conditions above indicated are satisfactory, but when either are lacking, success is, to say the least, doubtful.

In this connection we desire to say that we resent the subsidized insinuation by an anonymous writer that the FARMER'S ADVOCATE, in declining to follow the hounds in this hunt, has shown a lack of public spirit and willingness to work for the extension of the pure-bred stock trade. The record of this paper, in its continuous history of nearly forty years without change of name or ownership, as an advocate of advancement in the improvement and distribution of superior stock, as the public well know, gives the lie to any such aspersion, and the attempt in certain quarters to hold us responsible for introducing politics into the business is equally unfair. Those who have read and followed our course in this connection know right well that the FARMER'S ADVOCATE was the first to sound a note of warning against the mixing of stock sales with politics, and if an unsavory scandal has already gained credence as to disreputable tactics alleged to have been resorted to at the second Ontario sale to raise the reported average above the low level of the first, the FARMER'S ADVOCATE is not responsible for it, whoever is; but we are not surprised to hear of such abuses growing out of this system of sales, as it was ever thus in this country, though we confess we were hardly prepared for its clumsily cropping up at so early a stage in the game. About a year ago, if we remember aright, a correspondent wrote the FARMER'S ADVOCATE, facetiously suggesting that in the opening of new fields for the employment of officials the Dominion Minister of Agriculture was being led into a mess. The warning was not heeded. He ought to have put it more seriously—if the rumors now in circulation be true—unless perchance he happened to be a believer in the old Irish adage that "a wink is as good as a nod to a blind horse." It is safe to say, however, that this sort of juggling quickly and effectively seals the fate of such sales, no matter what the rank of their patrons or of those participating, either actively or passively, in such misleading, unbusinesslike and discreditable proceedings, which in the end must prove detrimental both to the interests of breeders and farmers.

The Grain Values of the Past Century:
Especially Since 1845.

It was in 1845 that the great disaster of the Irish famine passed over the land. There are many who have ever considered and kept the year as the beginning of a new era of prosperity, not alone in agriculture, but in everything which goes to make up the world's progress and the advancement of mankind. Like many other events in the history of the beautiful Isle of the Sea, it came as a blessing in disguise, and who can now estimate the enormous advantages to the world at large from that great "trek," if I may so speak, which resulted in the English language and the Irish race overrunning the world. This is, however, by the way, and we shall now glance at the effect produced on agriculture by the crisis in Ireland. It is generally conceded that the repeal of the corn laws was the direct result of the conditions brought about by the famine. No doubt the country had been for some years passing through great changes of opinion concerning the tariff regulations, but it required a national calamity to bring the people face to face with the

stern necessity for opening their ports once and for all to the foodstuffs of the world. To Sir Robert Peel and Lord John Russell belong the honor of getting this great measure passed by Parliament.

It was introduced in January, 1846, and passed on June 25th of the same year, and, contrary to the general expectation, the price of grain did not for some time recede very seriously. The owners of land had grants given them by the Government for improvements on their estates, such as draining, etc., and the rentals were well maintained. The discovery of gold in Australia, and the great expansion in the foreign trade of the country, along with the extension of the railway and telegraph lines at home, continued to produce a period of great prosperity. Under the above conditions the price of grain continued steady for some years, as is seen from the fact that some nine years after the repeal, or in 1855, the price of wheat reached the high-water mark of 74s. per qr. of 8 bushels—about \$2.25 per bushel.

Since then, however, the price of wheat has been steadily declining, until in the last week of September, 1894, the weekly average for the above grain was returned at 19s. 6d. per qr.—a memorable incident in the history of grain values.

It may be of some interest to your numerous readers to give a glance at the grain values during the first half of the century now closed; to compare or contrast them with present rates on cereals. In the opening years we find extremely high prices prevalent for the three staple grains, in 1800 wheat being quoted at 113s. 10d., barley at 59s. 10d., and oats at 39s. 4d. per qr. of 8 bushels. These extraordinary prices were, however, exceeded in the dark year of 1812, when wheat rose to the record price of 126s. 6d.; barley, 60s. 9d., and oats, 44s. 6d. per qr. To compare these figures with the present price of those grains, we may take the Imperial average price returned for the week ending Feb. 28th of the present year: Wheat, 26s. 1d.; barley, 25s., and oats, 17s. 7d. It will be observed by the above that there is a fall in the price of wheat of \$25 a qr. since 1812, and it is interesting to note that the two grains, wheat and barley, in tumbling together have entirely lost their relative values. It was generally considered that the price of barley kept close to half the price of wheat, and oats one-third of the average quotations for the latter grain. This was their old-time proportion to each other, but we now find that they have settled into a groove, out of which it is very doubtful they will ever move—at least in an upward direction. The wheat-grower (outside of the Argentine or the virgin prairies of the Northwest) has certainly a poor lookout as things stand at the present. The writer has a distinct recollection of the effect produced on intelligent Old Country farmers when wheat from abroad was delivered in London at \$1.25 per bushel. This price left them without any profit in growing, and the fall since that time only indicates their loss in the production. In our own beautiful Ontario, where so much can be made of our natural fertility, it is surprising (at least, to an Old Country man) that there should be so much wheat grown in the Province. This grain, for one reason or another, gets spirited out of the country, carrying with it the fertility of our land, besides a great part of our live-stock products, which might easily be produced at home if the great export of wheat was sent over *only as flour* and the by-product fed to our stock. As things are, a poor man can't afford to buy either bran or shorts. Even with the splendid prices paid for hogs, I do not believe one could profitably buy either of those products, which are yearly sent out of the country in enormous quantities by the exportation of our wheat. In conclusion, I may say that our best efforts must be directed to the *building up of our live stock*, for which our fair Dominion is so well adapted, and which will be found, after all, to be our mainstay and sheet-anchor in the years to come. Simcoe Co., Ont. J. G. DAVIDSON.

The Pan-American Exposition.

The opening, at Buffalo, N. Y., to-day, of the Pan-American Exposition will mark the inauguration of an event of no small interest and importance in the history of public exhibitions of the products of American agriculture, and of the arts and sciences which have made such marvellous advancement on this continent in the course of the last century.

Of live stock, only the cows entering for the six-months dairy test will be required to put in an appearance before September. The dairy test commences with the opening of the Show, and continues till the close, on November 1st. Five Canadian cows of each of the following breeds have been selected to take part in the test, viz., Shorthorn, Jersey, Ayrshire, Holstein-Friesian, and French-Canadian. The decision of our authorities, that only Canadian-bred cows should be accepted, has somewhat narrowed the field for selection. The fact that most of our best cows are bred to come fresh in August, in order that they may be in best form for the fall shows, has still further restricted our field for the selection of fresh cows to enter the test at this time, so that the consignment can by no means be regarded as a fair representation of the best cows that our country can produce. However, it is perhaps the best that could be done under the circumstances, and we can only trust that they will be so handled in the feeding and care they may receive during the time of the test that they may make a record that will be fairly creditable to our dairy cattle.

STOCK.

"Quality" as Applied to Live Stock.

There has been an increasing tendency during late years to coin words expressive of the various attributes of live stock. So much is now written by those who report at agricultural and other shows, and in describing the animals which appear in competition, and at sales, that it is only natural that writers are sometimes hard pressed to find words which will adequately convey to their readers their points of excellence or the opposite, so that a correct idea may be formed by those who have not had the opportunity of seeing the animals themselves. One of the most difficult expressions, or, rather, one of the most difficult characteristics to describe on paper is "quality." All good judges and breeders know what that is, and can apply it



HON. WILLIAM I. BUCHANAN.
Director-General, Pan-American Exposition.

equally to whatever class of animal may be under review. It is, however, a perfectly distinct feature in different breeds, and here comes in the difficulty of using the word in the description of all breeds alike. At the same time, we do not think it is possible to substitute any other word which would convey to our minds the same meaning and all the vast importance to the live-stock interest which it contains. First let us consider the word as applied to light horses, inclusive of ponies. It may be taken for granted that "quality" in its first meaning is understood to mean high birth and good breeding. Not only is this so with reference to animals, but it is also applied to men and women. "The Quality," or "Quality folks," is a frequent expression in country districts when speaking of the "Upper Ten," and it is from this idea that Whyte-Melville, no doubt, gets his beautiful simile when he describes the Thoroughbred hunter:

"A head like a snake, and a skin like a mouse;
An eye like a woman's: bright, gentle, and brown;
With loins and a back that would carry a house,
And quarters to lift him smack over a town."

No words could possibly draw a more eloquent picture, one that seems to speak to you, as it were, with such reality that it is easy to see in your mind's eye the lovely creature he so vividly portrays. With this idea to work upon, it is not difficult to carry the thought through the other breeds, and judge individual representatives on the same principle. It was mentioned in these columns recently by an able contributor that "quality" carried with it the impression of light bone and want of substance. There is no doubt a great deal of truth in this; but it is altogether a wrong notion. The general belief, more or less founded on fact, that Thoroughbred horses are deficient in bone is the origin of this supposition; and that when a horse is spoken of as being full of quality, or showing considerable quality, it is intended to imply that it is of such conformation. When speaking of other light horses, such as Hackneys, hunters, or ponies, by describing them by the same term "quality," people have been educated to think of the flesh or "touch." It is by handling a beast that you can at once discern its quality, the aptitude to feed and to assimilate most economically the food it is supplied with—whether for the production of beef or dairy purposes. That well-known authority on Shorthorn matters, the late Rev. W. Holt-Beever ("Pimpernel"), used to describe the "touch" of the Shorthorn as that of the sea otter. Good touch need not necessarily be a thin skin—you want something more than this, or it would only be a sign of delicacy. The skin should be covered with soft hair with just the sort of tender touch which fills the hand like the skin of a sea otter. Nobody can really put the feeling on paper, but whatever it is when you feel it, it means "quality."

Sheep, and pigs too, may be judged by their well-

bred appearance: it is the absence of all coarseness and under-bred character which marks their quality, and without this no feeder or breeder is judicious if he attempts to keep them in his possession longer than can be possibly avoided. "Quality" means money, and without it no sort of live stock is worth encouraging, as it will leave no profit to the breeder. —*Live Stock Journal.*

Some Facts About Pig Feeding.

Where feeding tests have been conducted, it has been shown that under good conditions from 4 to 5 pounds of suitable grain has produced 1 pound of live pig. But the question has frequently arisen whether by any combination of foods, or by the adoption of some materials with foods which have not been commonly employed, the quantity of food consumed by a pig to make a pound of live weight might not be diminished. Prof. Henry has ascertained a fact which is apparently of the prime importance to the pig-feeder, and if it is confirmed in everyday practice, it will prove enormously advantageous to the producer of pork. It is well known that the pig has a taste for ashes, and it was noticed that where corn was largely used the animals consumed a quantity of the ashes produced by burning hard wood. Evidently there was some cause for this, and that some material was required which was not provided in the corn in sufficient abundance. Some three different lots of pigs were fed in consequence, in the hope of ascertaining what result would follow by the supply of ashes and of bone meal, which contains mineral matter in part found in ashes. Some of the animals received corn without either ashes or bone meal. The last-named failed to develop so well as the others; they neither possessed bone nor size, consequently growth was slow, although fat was laid on plentifully. For every pound of gain in weight, only 4.87 pounds of corn meal were required, when used in conjunction with bone meal; when used in conjunction with ashes, 4.9 pounds of corn meal were required; but when neither wood ashes nor bone meal were employed, 6.29 pounds of corn meal were consumed. Here, then, we get at the secret of the difference in the cost. There is method even in the preference shown by the pig for a material so apparently useless as ashes. Practically speaking, 25 per cent. more food was required to make the same quantity of pork, or, to put it more correctly, live pig, where no ashes were employed.

In Wiltshire experiments, the ration in which albuminous matter was added to meal produced the best results. It appears that twenty-four diets were employed, and the highest points—1,000—were assigned to a mixture of barley meal, potatoes (3 pounds), and separated milk (1 gallon), the meal employed in the mixture being as much as the pigs chose to consume. Both the second and third rations in order of points, barley meal and corn meal, contained separated milk, and these were proved to be of the highest value, as compared with the remaining rations, all of which, so far as they are quoted, were prepared without the milk; barley meal and corn meal being used alone and in conjunction with pea meal or bran. There is, therefore, something which is outside of the albuminoid matter to account for the success of the milk as compared with the pea meal, both being rich in this material, for barley meal and milk proved almost twice as valuable, on the basis of points, as corn meal and pea meal. Where barley meal and corn meal were compared with each other, corn meal proved the cheapest, in the production of 20 pounds of dressed weight, when its price was \$2.50 below barley meal, but on the basis of points assigned for the highest value, barley meal did better than corn. When, however, the rations were placed in order of merit for cheapness in conjunction with efficiency, barley meal, milk and potatoes, and corn meal and milk, stood upon the same level, both at the top, the barley meal and milk coming next in order with four points less, all the other mixtures being well beaten; barley meal and corn meal, when fed alone, containing precisely the same points. These points may be illustrated in this way: Barley meal, separated milk and potatoes, or corn meal and milk, produced as much profit to the farmer, upon an expenditure of \$75, as \$155 spent upon barley meal or upon corn meal. Whether the mineral matter in the skim milk influenced the results in a similar way as the bone meal increased the feeding power of corn, is a matter which we can only conjecture, but there can be little doubt that the casein of milk is of the highest value as a pig food when employed in conjunction with corn or barley meal, and that the mineral matter of milk, so essential in the growth of young cattle, is of quite as high a value in the feeding of young pigs.

Pedigree is the foundation and performance is the superstructure of the good cow. As the best of foundations is useless without a superstructure, so the best of superstructures is of only temporary value without a lasting foundation. When the two are rightly combined the edifice is complete. So it is with a combination of pedigree and performance: The best of pedigrees without performance is of no practical value, and the best of performance with no pedigree is of only temporary value. It gives no assurance of continuation of inheritance. —*Jersey Bulletin.*

Weaning Pigs.

The common method is to let the sows go out in the pasture and shut up the pigs. Then the music begins. This is the way I used to do. The sows hang around there the whole day, and then the udder would get caked, and we would have trouble with them, and sometimes an excellent brood sow ruined. I don't do that now. I have a feeding floor adjoining my hog-house. The feeding is all done on this floor, the sows are shut in on this floor, and the pigs allowed every access to them. I feed the sows all the oats they will eat; give them all the water they can drink. The pigs are fed all the shelled corn they will take. They go up there, eat, and get to the sows. By the end of the week these sows are dry, and the pigs get so disgusted going up there and finding nothing, that they just quit. Absolutely, at the end of one week not a pig will go near its mother. You can turn the sows right out in the pasture with the pigs, and there is no more trouble. Now, this is not a theory. I have done that way for years, and I never had pigs suck the sows again. It is a very easy thing to dry a sow that way. Feed them nothing but oats, and let them drink water, on a dry floor. It is not always convenient to have so many different pastures, sows in one and pigs in another. In this way you can utilize one for both. —*Swine Breeders' Journal.*

Scour in Calves.

Scour is prevalent in calves at certain seasons of the year. It is interesting to observe how breeders treat it. The volume published under the auspices of the English Jersey Cattle Society gives particulars of several methods, a few of which we reproduce. Mr. Ernest Mathews uses two tablespoonfuls of flour, one tablespoonful powdered ginger, mixed to a paste with whiskey, and made into small balls, and given every two or three hours. This is particularly useful in the earlier stages of the complaint. Mr. W. Milward-Jones recommends a dose of castor oil and ginger, given at once as soon as scouring is observed, followed by pills of butter and bicarbonate of soda (½ lb. butter, with teaspoonful of soda, well mixed). In Earl Cadogan's herd, a small dose of linseed oil is given, followed by two tablespoonfuls of a powder, consisting of prepared chalk, 2 ozs.; powdered catechu, 1 oz.; ginger, ½ oz.; opium, 1 dr.; peppermint and water, 1 pint. Fresh eggs (shell included) are also given. Lime water, and old beans, are recommended. A piece of chalk put where the calves can lick it is also recommended.

Tubercular Infection.

A correspondent recently called attention to the fact that the dangers of contagion from tuberculous



FRANK A. CONVERSE.
Live Stock Superintendent, Pan-American Exposition.

patients through breathing was being greatly exaggerated. In this connection we notice, by the report of the Pennsylvania Agricultural Department, experiments were conducted with guinea pigs, which were kept in a compartment in the lower end of nosebags attached to tuberculous cows. The guinea pigs were thus forced to breathe the air expired by the tuberculous animals. Twelve guinea pigs were used in these experiments, and were exposed for periods varying from 2½ to 26 hours. *None of them became infected.* Two lots of guinea pigs inoculated with tuberculosis were kept in light and dark boxes, respectively. One lot was placed in a box with a glass front and the top and back made of wire netting, covered with white cloth. The other lot was placed in a box of equal size, made of wood, painted black inside, and a wire-netting back, covered with black cloth. The guinea pigs in the light box lived from 5½ to 6 days longer than those in the black box. This experiment indicates the effect of light in checking the development of tuberculosis.

Points for Judging Beef and Dairy Types of Cattle.

[A correspondent and subscriber asks for the publication, in the *ADVOCATE*, of the points for judging cattle of both beef and dairy types.]

To describe at length the various points by which the two types are judged would require considerable space, and even then the lesson would be incomplete, as it is impossible in words to give a description that will convey to the mind of another the ideal type in either class. It is a study that is best prosecuted by means of object lessons and the comparison of animals in real life. The next best means is perhaps by comparison and study of pictures, taken from life, of first-class animals. In this regard the pages of the *FARMER'S ADVOCATE*

long, wide and level. The hook points should not be broad or prominent, especially in the bull; they may be broader in the cow, but extreme width at that point is objectionable; a smoothly-turned form, without patchiness or prominences, being the ideal. The tail-head should be broad, level and neat-fitting; the thighs broad, full and long, tapering gradually toward the hock; the buttocks and twist full and far down, especially in the bull. Good handling qualities of hair, hide and flesh are very important, as they are indicative of that indescribable property known as *quality*, which is a clear index of thrift, of a good feeder, and of first-class beef-making propensities. Good handling means a soft, mellow hide; not thin and papery, but rather thick and pliant, filling the hand well when grasped, and there is felt underneath it a peculiar softness even in lean animals, which is pleasant to the mind, and which, like charity, covers many faults. In this virtue the hair is abundant, soft and of fine texture, and there is sometimes found an under or second coat, of velvet-like feel, which it is pleasant to touch and not easy to forget. Other important points are the head and legs. The head should be of medium size, inclining to short rather than long, clean cut, broad between the eyes, and slightly dished; the horns moderately short, flat and slightly incurving and drooping; the neck short, thick and strong in the bull, with a strongly-muscled crest; a large, full and clear eye, indicating masculinity, courage, spirit and vigor, without any tendency to viciousness. In the female: the neck longer and finer, the eye placid and gentle, and the expression of countenance full of feminine character. The legs should be medium to short, straight, standing firmly under the body, a fair distance apart, and the bone below the knee fine, flat and of good texture.

The carriage and general appearance should be easy, active, sprightly, and a nicely-balanced development of all parts, perhaps best described by the word symmetry, should characterize the animal as a whole. Other things being equal, a shapely and well-developed udder on a cow of the beef breeds adds much to her appearance and usefulness, and should receive no small degree of credit.

THE DAIRY TYPE.

All the dairy breeds have certain features in common, though differing in breed character and peculiarities, and the ideal formation is becoming more generally accepted, approved and uniform, as it is becoming more generally acknowledged that utility and beauty are not incompatible in the dairy cow. The more important features of dairy form and function are much length and depth of barrel or coupling, indicating a capacity for large consumption and utilization of food; fineness of withers, thighs and limbs; width and openness of ribs, which should be long, with a deep downward

head is worthy of study in a dairy beast too, as it is to a considerable extent indicative of the general character. The head should be fine, clean-cut and relatively longer, and more dished than in the beef breeds; but a pronounced long face is not desirable; the muzzle should be wide, the nostrils large and open, the lips thick and muscular, and the jaws strong for gathering and grinding food; the forehead broad and dishing; the horns flat, waxy and incurving; eyes clear, full and prominent; neck long and light. The bull should be relatively heavier in the front quarters and lighter in the hind quarters than the cow, narrower at the hooks and stronger in neck, having a full, bright eye, a muscular crest, and a bold, vigorous and masculine appearance and active carriage, indicative of energy and not necessarily bad temper; not necessarily as fine in withers as the cow; he should have deep foreribs and good width of chest. Good handling qualities are important in the dairy breeds as well as in the beef breeds, as the soft, pliant skin, not too thin, and the soft, furry-feeling hair are indicative of kindly feeding propensities and economical production of milk. Medium size in either beef or dairy breeds is preferable to abnormal size, as the latter are liable to be deficient in energy and endurance, and, as a rule, it is better to use a medium-sized, compact sire to mate with larger and looser-made females. The accompanying cuts showing the position of the various points, while not prepared as ideals of the two types, give a fair idea of each.

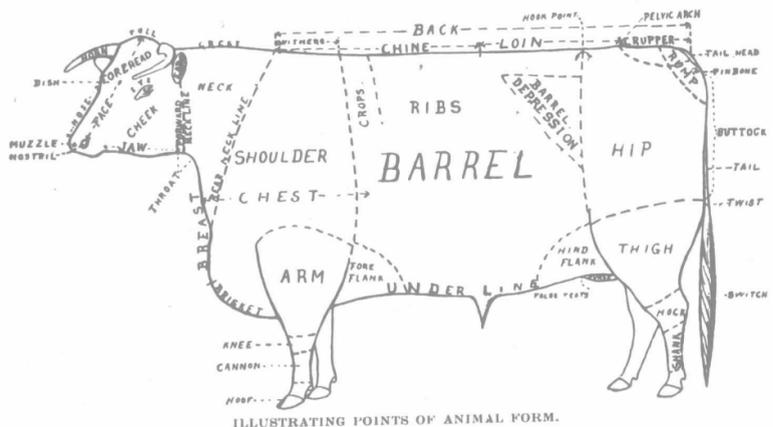
Berkshire-Tamworth Cross for First-rate Bacon Hogs Cheaply Produced.

In the Ingersoll, Ont., district, the merits of the Tamworth are pretty well understood, as they have been bred there for the Ingersoll Packing Company for a number of years; in fact, ever since the Company introduced a shipment of boars of that breed from England several years ago. Crosses, rather than pure-breds, are favored, because they are believed to be more economical feeders, and to produce these the

TAMWORTH DAM IS PREFERRED.

This is the conclusion arrived at by Mr. David Lawrence, whose farm we visited just at the commencement of seeding. Mr. Lawrence usually keeps from four to five brood sows busy producing material for bacon that is readily purchased by the Ingersoll Company when they are ready, usually at about eight months old. He also keeps a pure-bred Berkshire boar (Fig. II.) to sire his own pigs, as well as many of his neighbors'. The Tamworth sows (represented in Fig. I.) are invariably good mothers, producing strong, even litters, large enough to raise well. The sows are, as a rule, tractable, and careful with their young, seldom injuring a piglet, even though it be weak and helpless. Of course, the sows are intelligently fed and cared for previous to and at farrowing, so as to have them active and kind at the critical time. Mr. Lawrence has a model hogpen, but that is used chiefly for growing and fattening pigs, the sows being allowed to farrow in quiet box stalls in the basement of the main barn.

Mr. Lawrence has tried Berkshire dams and Tamworth sires, but the sows usually had small or uneven litters, and were often cross and bad to manage at farrowing time. The Tamworth dams give the offspring long, deep sides, almost solid



ILLUSTRATING POINTS OF ANIMAL FORM.

from time to time afford helpful material by the reproduction of photographs of representative animals of the different breeds and types. The April 1st issue, without any premeditated provision for the purpose, contains good representations of the beef and dairy types in the photo-engravings of a Shorthorn and an Ayrshire cow. Of books treating upon the subject, "The Study of Breeds," by Prof. Shaw, included in our "Farmer's Library," is the most up-to-date, and is a valuable contribution to the available literature on the subject. Each of these classes is mainly designed in breeding and trained in practice and treatment for a special purpose: the one for the production principally of the largest quantity of high-class meat in moderate superficies; the other for the largest quantity of milk of high-class quality. In the former the object is to convert the food consumed mainly into meat; in the latter, mainly into milk. In both types an essential qualification is a strong and vigorous constitution, which calls for a broad chest and sufficient depth and spring of ribs to afford ample room for the play of the vital organs—the heart and lungs—which play so important a part in the maintenance of health in making plenty of pure blood, sending it in sufficient supply and vigor throughout the whole system, and in appropriating and assimilating food to the best advantage, giving a profitable return for what is consumed.

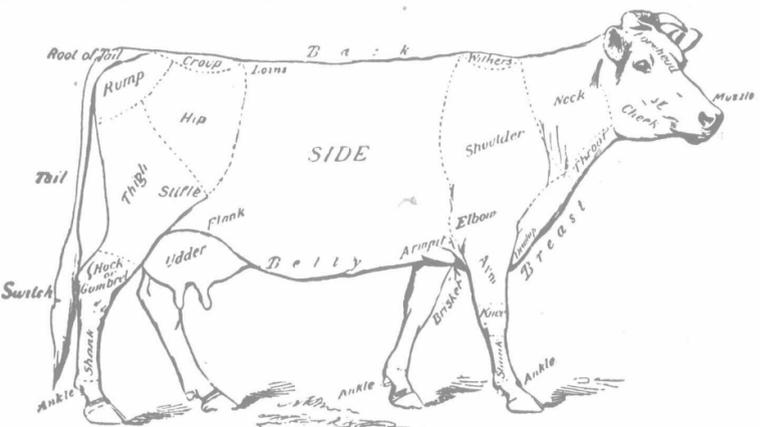
It may seem at first sight somewhat difficult to reconcile the indications of constitution in the two types, beef and dairy, from the fact that in the former we demand a broad breast, withers and chine, and full crops and foreflank, as among the principal requirements for robustness and vigor; while, on the other hand, the theory of a wedge shaped, and even "a triple wedge shape," form for a dairy cow has been in some quarters preached with such extreme persistency that to combat or deny *in toto* the soundness of that doctrine of certain schools, and of a section of the dairy press, would doubtless be regarded as unpardonable heresy. An extreme view of that form would possibly lead one to fear a lack of constitutional vigor, as it seems to call for narrowness in the front quarters where the vital organs are situated, but if it is understood to mean not narrow before, but broader behind, it becomes acceptable and even defensible. Thinness or sharpness of withers in a dairy animal may be and is desirable when accompanied by good width through the heart, and good length or depth of ribs, affording ample room for the free working of the internal organs.

In judging beef breeds the following general rules are important and tolerably safe: Look for a compact form, wide and deep, but moderately long in coupling; a good back, wide all the way from neck to tail and thickly fleshed, especially on the loin and upper ribs where the most valuable cuts of meat are found; wide and deep front quarters; smooth shoulder points; the neck vein and shoulder blade well covered with flesh; the shoulders, especially in the female, sloping back gradually, and thinner where they join the crops. Mr. Carr described a heifer at Warlaby as having "shoulders like a salmon," which well indicates the ideal formation. The chine and top of shoulders should be broad, especially in the bull, and the crops, the part just behind the shoulders, should be full and as nearly level with the shoulders and ribs as possible; the ribs should be well sprung, rounding out well from the spine—long, deep, close spaced, and coming well forward and backward; the foreflank full and deep; the hindflank deep, full and thick, making a straight underline, or nearly so, and the girth around the heart and hindflank nearly equal. The hind quarters should be

grasped, and there is felt underneath it a peculiar softness even in lean animals, which is pleasant to the mind, and which, like charity, covers many faults. In this virtue the hair is abundant, soft and of fine texture, and there is sometimes found an under or second coat, of velvet-like feel, which it is pleasant to touch and not easy to forget. Other important points are the head and legs. The head should be of medium size, inclining to short rather than long, clean cut, broad between the eyes, and slightly dished; the horns moderately short, flat and slightly incurving and drooping; the neck short, thick and strong in the bull, with a strongly-muscled crest; a large, full and clear eye, indicating masculinity, courage, spirit and vigor, without any tendency to viciousness. In the female: the neck longer and finer, the eye placid and gentle, and the expression of countenance full of feminine character. The legs should be medium to short, straight, standing firmly under the body, a fair distance apart, and the bone below the knee fine, flat and of good texture.

The carriage and general appearance should be easy, active, sprightly, and a nicely-balanced development of all parts, perhaps best described by the word symmetry, should characterize the animal as a whole. Other things being equal, a shapely and well-developed udder on a cow of the beef breeds adds much to her appearance and usefulness, and should receive no small degree of credit.

All the dairy breeds have certain features in common, though differing in breed character and peculiarities, and the ideal formation is becoming more generally accepted, approved and uniform, as it is becoming more generally acknowledged that utility and beauty are not incompatible in the dairy cow. The more important features of dairy form and function are much length and depth of barrel or coupling, indicating a capacity for large consumption and utilization of food; fineness of withers, thighs and limbs; width and openness of ribs, which should be long, with a deep downward



ILLUSTRATING POINTS OF ANIMAL FORM.

Tamworth color, while the Berkshire sire gives thickness, thrift and early maturity, which is facilitated by their being contented, but good feeders. Economy in feeding is studied, but grain is not withheld from sows suckling big, hungry litters, from young weaned pigs not thriving well, or pigs at the finishing period. Sows in pig usually get their living on grass in summer and roots (sugar beets) in winter, with one feed each day of slops, with a little chop added. They are housed two weeks before farrowing, where they are to have their litters, and are fed better, so as to strengthen them to raise their offspring well. They are petted and scratched occasionally to accustom them to being handled afterwards if necessary. The pen is cleaned out every day and bedded with dry cut straw, which is given in limited quantity, especially

The about young the d week.



Fig. I.

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Fig. II.

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WHEN THE PIGS ARE FARROWED.

The pen is provided with a railing on the wall, about ten inches up from the floor, under which the young pigs can escape to avoid being crushed by the dam. The sows are sparingly fed for the first week, and get little more than a warm drink of thin

till the fourth or fifth day after the pigs are weaned. She is then allowed to rustle on cheap feed until time to put her in for farrowing again. She is always in good vigor, but never fat nor approaching it, so that she is always in first-rate form for her maternal duties.

THE GROWING PIGS.

At all stages of the proceedings, the chief aim is to keep the pigs contented and happy. A discontented pig is not being properly treated in some

A LITTLE DUROC BLOOD.

Mr. Lawrence's neighbor, J. E. Bartlett, raises bacon pigs from Mr Lawrence's boar and a very good type of Tamworth sow. She is not pure-bred, however, for her pedigree contains a cross of Duroc-



FIG. I.—Tamworth sow in working form, the dam of David Lawrence's ideal bacon pigs.

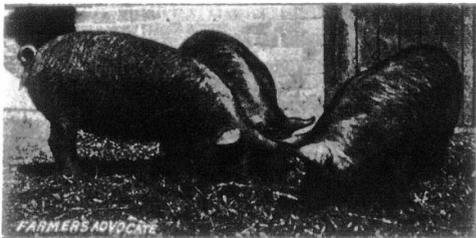


FIG. III.—David Lawrence's Berkshire-Tamworth cross-bred bacon hogs, almost ready for the packers.



FIG. IV.—Berkshire-Tamworth bacon hogs of good form, but a trifle too fat.

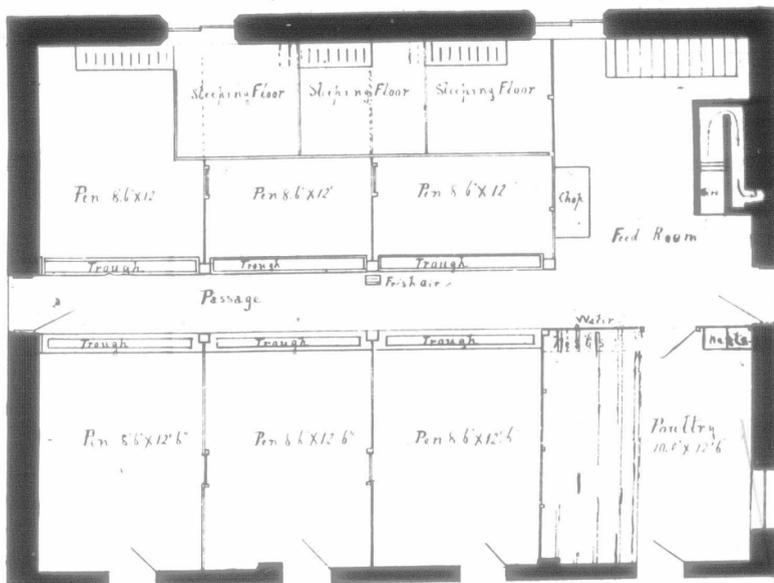
slop for the first three days. When the pigs are ten days old the sow's ration is improved and increased, but she is not heavily fed until the litter is approaching three weeks, when they need a deal of milk, and the sow must be well nourished or she will fail rapidly in condition. Sugar beets or other roots form the basis of her ration, to which chop is added in increasing quantities as the pigs increase in age. She is allowed an hour's run each fine day in the barnyard, and when the pigs can eat they are entertained with some milk, chop, boiled small potatoes or the like. When they have learned to eat well they are given separate apartments, which they can enter away from the dam, and given such foods as milk and slops. The males are castrated at about four weeks old, when they seldom notice the operation. At six weeks they are usually ready to wean, and are, as a rule, eating so well that they go right on thriving the same as before. The sow is turned in with them twice after weaning commences, to draw off her milk and to give them a much-appreciated meal.

FEEDING WEANED LITTERS.

As a rule, it seldom pays to do much boiling of feed for pigs, but Mr. Lawrence finds boiled potatoes, milk, whey, shorts and mixed chops a good diet for newly-weaned litters. It is given them warm until they are about two to three months old, according to the season of the year. When only a small quantity of feed is required, it is cooked on the house stove, but Mr. Lawrence's hogpen, a plan of which is herewith given, contains a boiling vat that cooks feed with economy of fuel. It consists of a plank box with sheet-iron bottom, set on a brick fireplace. The vat is six feet long, about three feet wide and two feet deep, and holding from eighteen to twenty bushels at a time. The fireplace, which is about fourteen inches wide along under half the width of vat, is so arranged that the smoke and fire have to pass back and return to the front of the vat by another flue before escaping into the chimney. Mr. Lawrence does not believe in boiling turnips, mangels or beets for pigs, but pumpkins and potatoes should always be cooked before feeding. When the feed

respects, and his condition should be looked into and improved if he is to thrive satisfactorily. They are therefore divided into small lots (seven or eight) of nearly one size. They have comfortable quarters, including elevated sleeping beds, and each pig has a stall at feeding time. This is contrived by planks fastened edgewise to the swinging front over the trough, about a foot apart. This prevents crowding and the pigs from standing in the trough.

Jersey. Figs. IV. and V. represent a litter of ten that Mr. Bartlett had sold to go to the Ingersoll Packing Company the day after they were photographed. They are about seven months old, and weigh about 220 pounds each. They have been very hearty feeders ever since being weaned, and have been fed well on oat and barley chops and corn. While the highest price for the day was paid for the lot, they were considerably fatter than packers have repeatedly pointed out to us as being ideal for bacon. Both lots are of nice smooth type, but Fig. IV. is a lot shorter than packers prefer.



PLAN of PIC PEN

OWNED BY DAVID LAWRENCE.

On the day of our visit we saw the pigs receive two meals, and this is how it was done: The swinging fronts of all the pens were swung in so as to keep the pigs back and to allow the feed to be put in from the passage. The troughs were first cleaned out of all straw or other material, and freshly-pulped sugar beets distributed along at the rate of about one bushel to fourteen half-grown pigs. On this was poured two pails of rather thin slop, consisting of mixed chop soaked in water. The pen has a tap in the passage supplied with well water by the windmill that pulps the roots and grinds the grain. Mr. Lawrence does not believe in keeping pigs fat while growing, as he finds for best satisfaction to the packer they should be allowed to grow as well as fatten. He therefore feeds little grain until they are about six months old, when they weigh probably 120 pounds each. At that age they are packer's models in form, but need more growth and finishing to reach the weights required. From this time forward the grain is gradually increased, but the hogs are not deprived of exercise, which is allowed almost every day throughout the growing and fattening periods. They are usually

READY TO SHIP

at about eight months old, when they weigh from 180 to 220 pounds, at which time they are ready for the packers, and the packers are ready for them. At no time are they fed pure grain, but roots in winter, and grass, green rye or clover in summer, form the filling portion of the ration, along with sweet whey, water and mixed chops. Pigs fed in this way seldom go wrong in their digestive organs, but in addition to this they occasionally get wood ashes and charcoal, which they seem to relish, and which no doubt goes far to prevent stomach worms or other internal parasites.

Potency of Pure Blood in Producing Ideal Bacon Hogs.

The article and illustrations, elsewhere in this issue, on the production of ideal specimens of bacon hogs, such as may be profitably raised by the average farmer, naturally raises the question of the sources from which the approved type springs, and incidentally emphasizes the potency and value of pure blood in producing the type that is demanded by the times or the market at any juncture in the commerce in live stock of any class. The average farmer has a very decided fancy for crossing in his operations in breeding stock of any class, and especially hogs. It is this fancy for crossing which so often evokes the question, Which is the best cross for a certain purpose? instead of which is the best breed for the same purpose? But if these men would but stop to ask themselves the question, How could we have the crosses without first having the pure breeds? they would probably have more respect for the latter, and accord to the breeders and the breeds a larger measure of credit than they are wont to do. The evolution of the breeds is the result of long years of patient plodding and applied skill; and but for the existence of pure breeds, the effort to produce the type wanted would end in chaos and confusion. Crossing, to average minds, probably means breeding from grades showing more or less of the distinctive characteristics of the breeds of whose blood they have partaken, and these grades bred together never can be depended upon to produce a uniform type. In this issue we reproduce illustrations of representative specimens of some of the breeds which have proved potential in producing the bacon type of hogs, and any one



FIG. II.—Berkshire boar, sire of David Lawrence's ideal bacon pigs.

is almost cooked, a bag or two of barley or other chop is mixed in with it, and constitutes a palatable ration.

BREEDING THE SOWS AGAIN.

Mr. Lawrence once tried breeding a sow four days after farrowing, but the results were unsatisfactory, and since then he does not have her bred



FIG. V.—Berkshire-Tamworth bacon hog, same as Fig. IV.

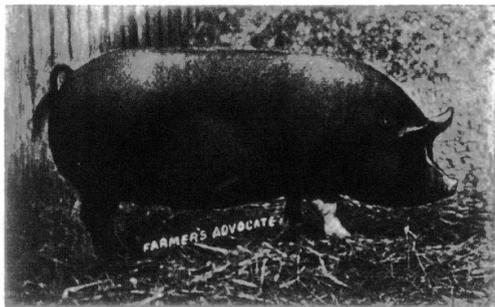
who has watched the history of the breeds will see that, even in the memory of comparatively young men, great changes and improvements have been wrought in the type of the most approved specimens of these breeds, and this fact only the more strongly emphasizes the importance of maintaining the purity of the breeds, and of continuing to improve them by judicious mating and selection.

FARM.

Experimental Sugar Beet Culture.

In the following, an experienced agriculturist and scientist has summarized the results obtained by the agricultural experiment stations of the United States, during the past twelve years, with sugar beets:

Varieties.—In comparisons of varieties, Kleinwanzlebener and Vilmorin Improved have oftenest given the best average results from the standpoint of yield, sugar content of the beets, and percentage



TYPICAL BERKSHIRE SOW.
First at Toronto Industrial Exhibition, 1900.

purity of the juice for the whole country. Other varieties of much merit are Short French, Zehringen, Schreiber, Desprez, Pitzschke Elite, Knauer Imperial, Lemaire, Lane Imperial, Zieman, and Dippe.

Soils.—Many experiments have shown that sugar beets of the best quality, as regards sugar content and percentage purity of the juice, are grown on rather heavy soils. Beets grown on light soils mature more rapidly, but do not yield so heavily, nor are they so uniformly rich in sugar. Muck soils generally give beets of low sugar content, though fairly good results were obtained at the Michigan Station with muck soils, especially when potash fertilizers were used. From results secured at the Wisconsin Station, it is believed that with good culture and proper fertilizers, beets with a sugar content of 4 per cent. above factory requirements can be grown on soil that contains almost 20 per cent. of organic matter. Sugar beets of excellent quality have been grown on many of the alkali lands of the Western United States. In California, sugar beets of high grade, both as to sugar and purity, grew on lands containing 12,000 pounds of alkali salts per acre to a depth of three feet, when the percentage of common salt did not exceed 0.04 per cent. on 1,500 pounds per acre. In Colorado, beets grew, without detriment to the sugar content, on soil showing a top incrustation of soluble salts one-half inch thick. Beet seed germinated freely in soil containing 0.01 per cent. of sodium carbonate, but the young plants were injured in the soil containing 0.05 per cent.

Plowing and Cultivation.—There is no decisive data on these subjects, but in plowing, depths of 8 to 10 inches have generally given the best results. Subsoiling is of doubtful benefit, though at a few stations it has resulted in slightly-increased yields. If practiced at all, it should be done early enough in the season to give ample time for the restoration of capillarity, before the dry weather of summer sets in. A medium amount of shallow cultivation, 2 to 3 inches deep, during the season, is advisable. Five to seven cultivations will generally be found sufficient. Cultivation is of most importance in dry seasons.

Planting.—All the experimental evidence goes to show that beets should be planted as early in the spring as the seed will germinate: usually in April or early May for the Northern States. Planting from 1 to 1½ inches deep, in rows 18 inches apart, is about right. In Colorado, where irrigation is practiced, rows 27 and 11 inches apart, with ditches down the 27-inch rows for irrigation water, is preferred. The beets will need to be thinned to 6 to 8 inches in the row. It has been found by the Colorado Station that the period of thinning beets can be extended over two weeks without harm to the quality of the crop.

Topping, Transplanting, and Rotation.—The vacancies in the sugar-beet row are sometimes filled by transplanted beets. The results are usually ill-shaped roots, though the yield and quality of the roots do not seem to be affected by the operation. The practice, however, is not generally financially profitable. Beets can be topped more quickly with a hoe before drawing than with a sharp knife after drawing. At the Nebraska Station, the time required for topping an acre of beets before drawing was 11 hours, while the time required for the same with the use of a sharp knife, after the beets were drawn and laid in rows, was 17 hours. The results of co-operative experiments in New York show that the more fertility and tillage a crop requires, the better it is suited to prepare the land for a crop of beets. In Nebraska, good beets have been grown after millet, and in Wisconsin, beets grown after cereals or summer-fallowing were of good quality.

Fertilizers. Not many experiments have been conducted along this line. In general, barnyard manure, applied the preceding year, is considered

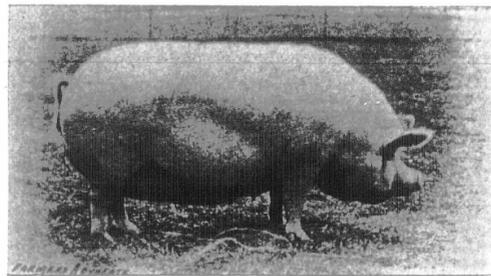
one of the most satisfactory fertilizers for this crop. Nitrate of soda used alone in large amounts has generally lowered the sugar content of the beets, but when combined with potash and phosphoric acid, good results have been obtained. Complete commercial fertilizers have been used with profit in New York, Pennsylvania, Michigan, and South Carolina. Liming soil has proved beneficial in Wisconsin and on upland soil in Michigan, but was harmful in West Virginia and also on Michigan muck lands.

Harvesting and Storing.—Results secured at a large number of Stations have shown conclusively that the more thoroughly mature the beets are before harvesting, the greater will be the percentage of sugar in the beets and the purity of the juice. Beets may remain in the soil after they have ripened for a considerable period, with but slight variation of sugar content occurring. Late fall rains frequently cause beets to start into a second growth, which tends to lower their sugar content. In order to prevent this second growth, the beets are sometimes loosened in the beds, sufficient to break the roots. This practice had a favorable effect upon the sugar content and purity of the beets at the Nebraska and Indiana Stations. Sugar beets lose considerable weight after pulling, by drying, and thus show a higher sugar content than normal. Beets stored in an ordinary room from six to twenty-eight days, at the New Mexico Station, varied in sugar content from 11.2 to 33.5 per cent. At the Nebraska Station, beets were stored, by different methods, from October 29 to the latter part of April. Upon examination it was found that those beets exposed to the greatest amount of ventilation suffered the greatest loss in sugar content, while those farthest from the source of ventilation suffered the least.

Yield and Cost Per Acre.—The yield from the more favorable sugar-beet districts varies from 9 to 30 tons per acre, and will average from 12 to 18 tons per acre. Cost of production varies from \$30 to \$40 per acre; it is seldom less than \$30, and sometimes exceeds \$50.

Clover Ensilage.

In August, 1900, a small stave silo, 9 feet in diameter and 22 feet high, was erected. The material used was 2-inch spruce. A roof was built over the silo, but no other protection was provided



ENGLISH YORKSHIRE SOW.
First at Royal Counties Show, 1900.

for the ensilage than that afforded by the 2-inch stuff of the staves.

During the first and second weeks in September this silo was filled with the aftermath from a clover meadow. This consisted, for the most part (about 75 per cent.), of clover, with a small admixture of timothy or herd grass. The clover was in full bloom, with here and there a head turning brown. The timothy was nearly ready to shoot the head.

The crop was cut early in the morning, the mower being at work at six o'clock. The wet material was gathered at once, loaded and hauled to the silo, in which it was thrown, and tramped as firmly as possible. The silo was filled to the top three times, but when opened in January, 1901, the contents had sunk 10 feet from the top. The surface was dry, and the material for a depth of from 12 to 15 inches was of very little value, save as manure. Below that depth, however, the contents were in a good state of preservation, the leaves semi-transparent, and the clover heads looking as though having been cut some two or three days only. The odor was very pleasant, the ensilage having retained the peculiarly sweet smell of new-cut clover, with a very slight apparent acidity. There was no apparent effect from frost, and the ensilage was frozen only slightly from the wall. The ensilage was eaten with avidity by cattle, sheep, and pigs.

After being exposed to the air for some time, however, a rather unpleasant odor developed. This objectionable feature would, I think, be obviated if the ensilage were fed regularly in sufficiently large quantities as to protect the surface from too long exposure to the air.

Were the surface weighted after the last filling, the loss at the top would, I think, be reduced to an inconsiderable amount.

The use of silos to conserve clover for summer feeding is, I think, rather strongly indicated by this work.

Clover cut in June when in full bloom could be fed in palatable form during July and August, and the silo be ready for corn and clover in September. It would, however, be unadvisable to try this work with a large silo unless a very large herd of cattle were being fed.

J. H. GRISDALE, Agriculturist.
Experimental Farm, Ottawa.

Successful Clover Catches.

To the Editor FARMER'S ADVOCATE:

SIR,—As a grower of clover for thirty years, and in that time having had to plow up only one field for lack of what is termed a catch, I will briefly give my views and procedure. I think clover is the one crop that the ordinary farmer cannot afford to dispense with in his rotation. Two of the elements lacking in the soil in old-settled districts of Ontario is humus and nitrogen. There is no crop that will supply humus and nitrogen so cheaply as clover. There is no crop that will leave the soil in better preparation for the succeeding crop, and there is nothing that so nearly approaches a whole feed for farm stock as well-cured clover hay. I seed about 40 acres to clover every spring, mostly with a spring crop, spring wheat preferred, but have had good results seeding with either barley or oats. I usually have 25 acres of hoed crop and rape, and manure all I can besides; then seed the root and rape land, also where I have put the manure. Don't plow manure 10 inches deep, but keep it near the top of the ground, so the young clover can at once take advantage of it; then in the spring work land thoroughly with cultivator and harrow. Endeavor to sow where you are seeding down as early as land will work well. If land is inclined to be heavy and is left go a few days too long before being worked or sown and gets very lumpy, you cannot expect clover seed to germinate and get a good strong root to resist summer drought. I sow about 7 lbs. clover, 3½ timothy and 1½ alsike. There will be spots in most fields where clover will fail, and some springs, when ground is bare and continually freezing and thawing for a month or more, it will ruin the clover; then the timothy and alsike will take the place of the clover, and we will have a crop of hay or pasture. A great many farmers apply manure heavily to their root land and manure what stubble land they can, and then think they cannot afford to seed down the land receiving the manure until they have taken off two or three crops of grain; then they seed down and invite failure almost every time. A weak, straggling crop will encourage weed-growth, and if the land is poor when seeded down, it will be poor for the succeeding crop. But if land is seeded down when in good condition, the manure helping to keep soil so rootlets of clover and grass seeds can more easily penetrate the soil and make a vigorous growth, and land is sown and worked at the right time, we can usually expect a strong, vigorous crop of hay or pasture that will leave the land richer in humus and nitrogen, and capable of producing a good crop when plowed up.

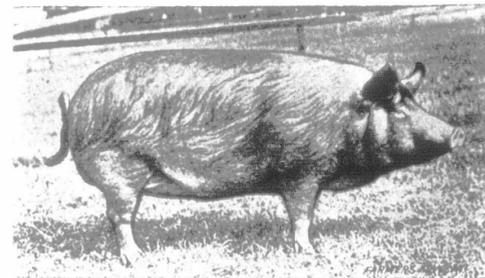
I take but one crop of hay or pasture, then plow up. I cut thirty acres for hay, pasture about ten, turn off 20th June, save the pastured field and one of the early-cut hay fields for seed, and the balance is pastured in the fall, and all is plowed once with single plow the last thing before freezing up. My humble advice is to sow lots of clover on the best land and put in the best shape. Grow more clover and less acres of grain and we will hear less about land being unproductive and getting poorer, and less about hard times. Don't fail to sow clover because it is high in price. It will pay if you have to borrow the money at 20 per cent. to pay for it.

Durham Co., Ont.

T. BAKER.

Silage, Sugar Beets and Mangels as Dairy Foods.

At the Pennsylvania Experiment Station a feeding trial with 3 lots of 3 cows each, and covering 3 thirty-day periods, is reported. During the entire test all the cows were fed daily 7 lbs. of mixed grain and 6 lbs. of field-cured corn stover. During periods 1 and 3 all the cows received in addition silage, sugar beets and mangels, each in quantities furnishing 2 lbs. of digestible dry matter. During period 2, in

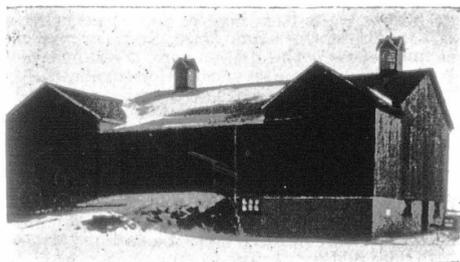


TYPICAL TAMWORTH SOW.
First at Royal Counties Show, 1900.

addition to the grain and stover, lot 1 received 6 lbs. of digestible dry matter in silage; lot 2, 6 lbs. in sugar beets; and lot 3, 6 lbs. in mangels. The results of the test showed a slight increase in the amount of butter, and percentages of fat and solids not fat in changing from the mixed ration of silage, sugar beets and mangels to silage alone, and a slight decrease in changing from the mixed ration to either sugar beets or mangels alone. They are considered, however, as showing no practical difference in the effect of silage and roots upon the yield and quality of milk, but the mixture of silage and roots is considered slightly better than the same quantity of either fed separately.

Old Barns Rearranged.

I send particulars, drawing and photo of my barn, 48x85 ft. Originally, the barn was composed of one structure, 35x55 ft., and an open shed, 30x48 ft., which we moved to the end of the barn, even on one side and extending out 13 ft. on the other. We then built a lean-to, to fill it out even, putting a gothic over the silo, which is 28 ft. high. This plan gave us more floor space than any other construction, and with less wall. The old lumber off the side of the shed and the end and side of the barn completely sided the barn in its new shape. The entrance to the barn from the house is to the south, the yard is on the east, and the driveway on the



EXTERIOR VIEW OF S. M. SANDERS' REMODELED BARN.

west. The advantage of this plan is to save steps, the root house, well tank, silo, and chop bin being as near together as they could possibly be and suit the up-stair arrangement. All the stock in the building can be fed in the quickest possible time, as it is only a few steps in either direction. The water is pumped by horse power or hand, the roots pulped in the same way, the pulper and pump both going at the same time. The water is piped from the tank to the water box for the loose cattle; it also goes to a barrel regulated by a float valve. From there it goes to all the stock in the building that are tied up. Two animals drink out of one iron box. The water also goes out to supply the engine, fed from a barrel set in the bank so that the hose of the engine can reach it. The tank in the barn is 4 x 4 x 12 ft. We use the engine for cutting straw, grinding grain, and filling silo. The barrel regulating the water system is in the corner of the root house, and a vat at the side of the tank for soaking feed for pigs. The manure from the loose-cattle pen is drawn direct to the field about once a month. We can drive in and turn around with the wagon or sleigh, going through a seven-foot doorway.

Huron Co., Ont. S. M. SANDERS.
[NOTE.—The housing of swine in same building with cattle, especially dairy cows, is not to be commended, unless separated by air-tight partitions.—ED.]

Joseph E. Gould's Dairy Barn.

To the Editor FARMER'S ADVOCATE:
Enclosed please find basement plan of my cow barn, erected in 1899, for 36 cows, and loose run for young stock. I think the plan will explain itself. It was originally made for a dairyman in Wisconsin, and has been sent to three others since, who have expressed themselves in the highest terms.

The root house, two silos and implement house are in a lean-to. The water troughs are of galvanized iron, running the whole length and supplied from overhead tank. The water is pumped into tank by gasoline engine in separator house. The walls are frame on stone foundation (6 inches above ground level), the frame 10 feet high (between floors); two thicknesses of boards inside, with paper in between, and the same outside; hollow space between 4 inches.

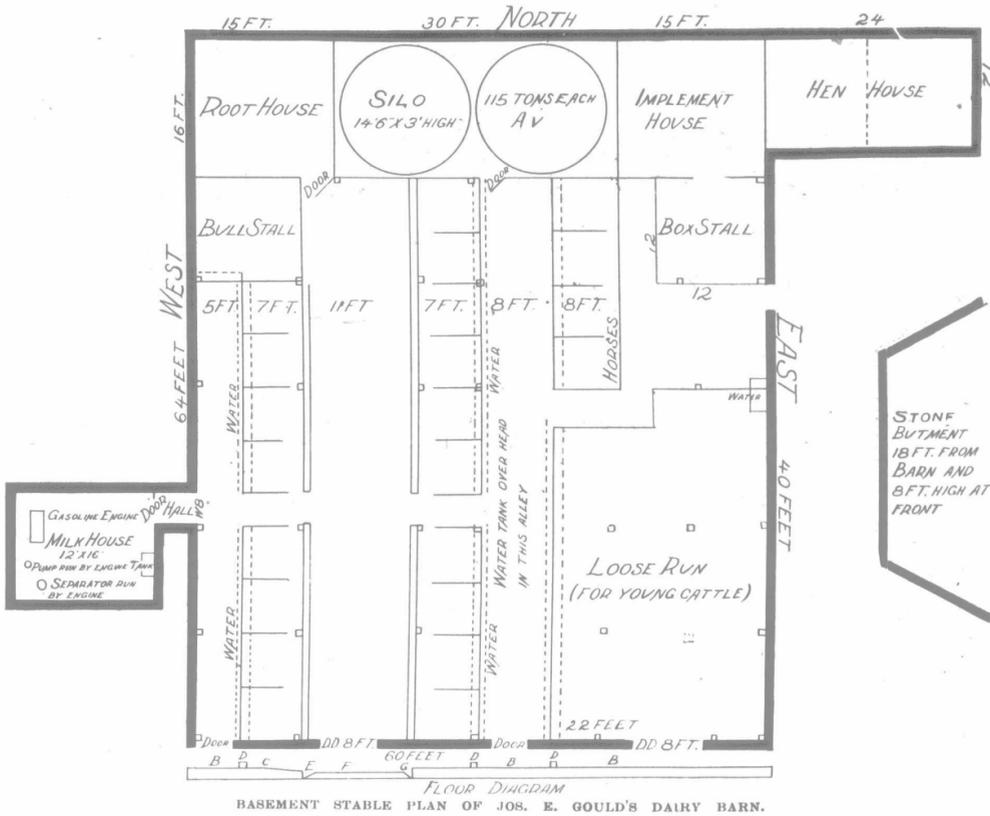
Ventilation.—Cold air enters near floor from the outside by four boxes, which are turned as soon as they get through the wall, and run up 8 feet from the floor, when the cold air discharges. Four ventilator tubes run up from within 18 inches of the floor to roof, and then along rafters to cupola on top of barn. (Height of peak of barn from floor of stable, 49 feet.)

The manure is drawn out every day by tram to the field, and spread out even. The wagon or sleigh is backed into the passage. The small tank in separator house is large enough to hold two

cream-shipping cans. (Cream is sent to the creamery four times a week by train.) The water is pumped into this tank from the well daily to keep it cool. The object of the tank over the main feeding alley is first to allow of the chill being taken off the water by the temperature of the stable (never lower than 59° and higher than 70°), and also to supply the water troughs. The trough between horse stable and open run is supplied this way. Water is pumped each time the separator is run, and before the pump is started all troughs are filled before the cold water is put in. The tank never leaks. The stalls are 6 feet for two cows, and are double stalls (Jersey cows). There are sheds outside for other implements and wagons. The carriage house is independent and away from barn. We have only one driveway (16 feet) above, and the wagons are backed out. We use blower cutter (15 tons per hour) to cut and fill our silos, and we set it on the barn floor behind the threshing machine, with an engine outside (west) of the barn, and all straw is cut at the time of threshing.

Ontario Co., Ont. Jos. E. GOULD.
[NOTE.—The inconvenient arrangement of having to back sleigh or wagon into stable to haul out manure might be obviated by shifting the position of silos in the lean-to, so as to leave space between one of them and the root cellar to drive through.—ED.]

The land intended for corn having been plowed in the fall, as it is in most cases (and for this purpose a clover sod is preferred), manure being applied during the fall and winter, spreading as drawn, if the field be tolerably clear of thistles and other weeds, it may not be necessary to plow in the spring, the only preparation required being frequent harrowing and cultivating to destroy weeds that may spring up and to conserve the moisture of the soil. Excellent crops have been grown by this process of preparation, but if for any reason spring plowing is found necessary, it should be rather shallow and followed immediately with the roller and harrow. If manuring has been delayed till spring, plowing will be almost a necessity, though not absolutely so if the manure is very short, as it can in that case be worked into the land by surface cultivation. A clover sod may be plowed in spring and a good seed-bed be prepared by cultivation, and a good crop grown. Sowing is usually done from the 15th to the last of May, and may be done either in hills three feet six inches to four feet apart, the land being marked off both ways and the seed deposited at the intersections with a hand planter, or by making a hole with a hoe and dropping the seed, or it may be sown with the grain drill, two or three tubes only being used, as they can be arranged to sow the desired distance apart, the other tubes being closed. The distance



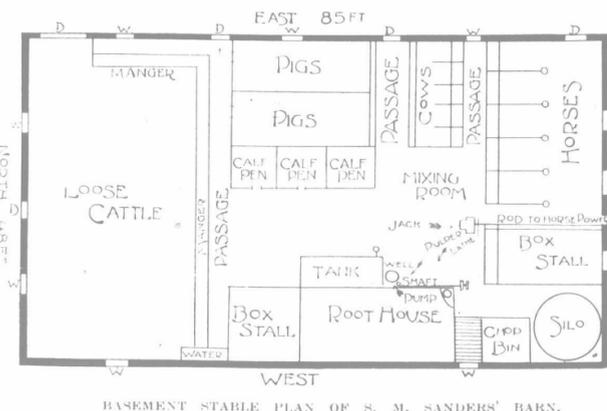
FLOOR DIAGRAM
BASEMENT STABLE PLAN OF JOS. E. GOULD'S DAIRY BARN.

Corn Planting and Cultivation.

Maize has become one of the most important farm crops, especially for ensilage purposes, in many sections of Canada supplying probably the cheapest and best fodder we have for cattle and other live stock. The certainty of the crop under average conditions, its ability to grow and thrive in dry and hot weather, and the great bulk of feed it produces from a given area of land, gives it great value for feeding purposes, providing an abundance of succulent food for winter use, together with a large amount of matured, or nearly matured, grain, if cut and stored at the proper period. With reasonable care in the selection of varieties suited to the locality, and such preparation and cultivation of the soil as any average farmer can readily bestow upon it, there need be no difficulty in securing anywhere from ten to twenty tons of this excellent fodder per acre, and a silo that will prove satisfactory may be built for a price which the ordinary farmer can well afford, while one who lacks faith in the silo, or the means wherewith to build, can, by good management, secure the dried and cured corn by stacking or storing in the barn in such condition that by cutting it and mixing with other foods he may have very satisfactory winter fodder stored in ample supply and at a minimum of cost.

Corn-growing has been successfully practiced by many farmers in different parts of the Dominion, for many years, and such have little need for information on the subject, as they have studied it in all its bearings, but to those who are new beginners or needing pointers, a few general observations may be helpful.

apart of the rows in this case should not be less than three feet, and three and a half is preferable. Many corn-growers claim that even for ensilage they can secure as much weight and a better quality of feed, especially in the amount of grain per acre, by the hill system than by drilling, and that by being able to cultivate both lengthwise and crosswise the cultivation is more complete and the yield correspondingly greater. With the hill system, from six to ten quarts of seed per acre is recommended by growers, and probably the mean between these amounts will be found satisfactory, leaving three or four plants to a hill. For drilling, some growers claim that a peck per acre is sufficient, while others prefer to sow at the rate of one-third to half a bushel, and if the plants are found to be too thick, to reduce the number by vigorous harrowing or with the hoe. The tendency is, however, to sow too thickly. As the best growth of stalks and the largest and earliest-maturing ears are secured where the plants are thinnest, they should not be nearer than one foot apart in the row, and doubtless fifteen or sixteen inches would be better. The land should be rolled immediately after sowing the seed, and in the course of a few days, before the corn is up, harrowed to kill any weeds that may have sprouted and to admit the air and retain moisture. Harrowing may be repeated before the blades appear above ground, and once or twice after. This treatment will effectually kill nearly all weeds except thistles, and will hasten the growth of the corn. The horse hoe should be used as often as needed, and it will pay to use it every week or ten days, and especially after each rain, as soon as the land is dry enough and before it gets too dry. The loosening of the surface soil has the effect of conserving the moisture in the land. Cultivation should be continued as long as a horse can readily pass between the rows. It should be fairly deep at first and shallower as the corn grows higher and spreads its roots further out between the rows, as deep cultivation at that stage may cut many of the roots and fibers which feed the crops. The corn crop responds generously to reasonably



BASEMENT STABLE PLAN OF S. M. SANDERS' BARN.

fair treatment, and gladdens the heart of the husbandman by towering heavenward and stretching out its arms in benediction.

Insectivorous Birds.

SIR.—The protection of the above-mentioned birds is very necessary, but before dealing with them in accordance with my suggestion, I know that the Provincial Government affords protection to these birds, in so far as their destruction by human beings is concerned only. But I think that the number of birds destroyed by human beings would not amount to more than 1-100 per cent. of the number that are destroyed annually. The remainder I will try and enumerate in a manner that I hope will prove a help to your readers. My contention is that the several carnivorous birds and animals destroy the rest, excepting the small proportion that are destroyed by the unavoidable use of the horse-rake, the mower and the binder.

By personal observation, I have noticed that the hawks, the owls and the crows destroy those birds in every conceivable manner, from the young until they are full-grown, and too often after that.

The fox, skunk and ground-hog destroy them in their nest by robbing the eggs and also the young birds.

Now, I think the Provincial Government should offer a bounty, as a means of protection, of, say, for each fox, 25c.; for each ground-hog, 10c.; for each skunk, 15c.; for each hawk, 25c.; for each owl, 25c.; for each crow, 10c.; and for a nest of the above-mentioned birds, 25c. also; the township treasurer in each municipality to pay the above schedule of bounties. After a few seasons we ought to have the number of insectivorous birds increased very much. We would then obtain better results from our wheat fields, root fields, vegetable gardens, and orchards; and, furthermore, the obnoxious Texas fly would disappear, thereby relieving the milk cows from a very troublesome pest. The robin and meadow lark would then become numerous and bring good cheer to every home in the Province.

T. J. GUNN.
Russell Co., Ont.

COMMENTS BY AN ORNITHOLOGIST.

Your correspondent, Mr. Gunn, has treated the matter of predaceous animals and birds from rather a one-sided view. He has charged up against these creatures all the harm that they do, and more; but has not credited them with any of their good deeds. As regards quadrupeds, I have little to say. The fox and skunk, at least, carry a bounty on their backs, in the shape of fur, which is greater than that proposed by your correspondent.

But birds are valueless when dead, and such an Act as he proposes might result in serious diminution of their numbers. The work entitled, "The Hawks and Owls of North America," published by the United States Government, contains the result of examinations of a great many stomachs of these birds sent in from all parts of the country and at all times of the year, and the results are therein tabulated. For our purpose, it is necessary to consider only the hawks and owls, which are fairly common in Ontario; these are the red-tailed hawk, the red-shouldered hawk and sparrow hawk, the screech owl and great horned owl. As the sparrow hawk feeds mainly upon grasshoppers, with a few mice, it is almost entirely beneficial and may be left out of the question. The two larger hawks, however, need to have their food examined in detail. We find that out of 782 stomachs, 49 contained poultry, 77 contained other birds, 615 contained mice; 108, other mammals, and 155, insects. It must be remembered that these statistics are gathered from the stomachs of birds taken at all periods of the year. In the summer time food is abundant, and I notice in glancing through the tables that the stomachs containing poultry were chiefly those of birds shot between September and May, and during most of this time these birds are absent from us. This really reduces the amount of poultry taken by these hawks to a very small item. Turning to the other birds which were contained in 77 stomachs, we have to put against these the mice and other mammals which were represented in about 700 stomachs, a great many of which contained more than one mouse, the sum total being in the neighborhood of 900 mice. We have, then, about 900 mice, over 100 other mammals, and 155 contents containing insects, to place against the 77 stomachs which contained birds. No farmer will argue that mice are a benefit, or even that they do no harm to his crop; but, on the contrary, all recognize them as being a source of expense every day in the year. If any ratio could be put upon the value of a destroyed mouse as against the loss caused by a destroyed bird, it would seem that 10 mice against one bird would be a fairly good proportion, one which should repay the farmer for any loss caused by the destruction of the birds.

Turning to the owls: out of 254 screech owls, 38 contained birds; 125, mice, and 100, insects. Here, again, the number of mice and insects is very much greater than that of birds, although not in such great contrast as in the case of the two large hawks.

In the case of the great horned owl, which is rather a rare bird in most parts of the country, there being perhaps a pair or two to the square mile: out of 120 stomachs, 15 contained birds, 89 contained mice and other mammals, and 10 contained insects. Here, again, the number of injurious four-footed creatures is very large when compared with the number of birds, some of which were game birds, which have no bearing upon the results of the farm.

All these species have been declared by ornithologists over and over again to be, on the whole, very beneficial, and I do not think that in the light of the above figures anyone will venture to dispute this claim. These birds of prey were placed on the earth by an all-wise Creator for a definite purpose, and when man undertakes to disturb the balance of nature he may have very serious consequences to answer for. These birds fail in many of their attempts to catch birds. I have seen them fail myself, and almost every other person who spends time in the woods observing them has noted the same thing. It will, therefore, be apparent that a large number of the birds that they catch must consist of weaklings or sick birds, or individuals whose senses are not developed to the same high pitch as those of the rest of their tribe; and this is one of the good purposes served by the carnivorous birds and animals, namely, that the inferior specimens lose their lives, and only the strongest and best are left to perpetuate the species.

This is further proved by consideration of the following fact: Any bird—the robin, for instance—may exist in the year 1901 in a given number, say 1,000 birds, in a given territory. These 500 pairs will raise probably 2,000 young, or possibly 3,000, during the summer. By the 1st of July the area which contained 1,000 birds will contain 3,000. In the fall these birds undertake their migration, and return in the spring. Are there 3,000 that come back? Does not everyone know that they are not increasing in numbers to any extent? And does it not then follow that two robins out of three lose their lives each year? This is the case with all small birds, and, consequently, only those with the best sight, the best hearing, and the greatest activity, are those which survive.

Considering further the hawks which your correspondent purposes to destroy spend less than half of the year in Ontario, and the remaining half elsewhere, it would seem that the destruction of the hawks in any territory, such as the Province of Ontario, would not exercise a very great effect after all, while it would remove the only real assistants that the farmer has in keeping down the number of mice. With these birds gone, mice would probably multiply to an enormous extent, so that in two or three years it might, in a great many places, be quite impossible to raise any sort of a crop that the mice fancied as a food.

But it is impossible to successfully speculate on all the results that might happen by such an interference with nature as the destruction of these birds would be. Bounties have been tried in other places, and the results have been very serious, and even disastrous, to the very people whom it was intended to help, and the bounty law has eventually been repealed after having been a useless expense. Man interfered with nature when he imported the house sparrow into America, and a million dollars a day would not cover the damage these birds have done. But if, on the other hand, your correspondent and others would leave shelter-spots on their farms, where the birds could hide and nest, and if they would provide food during inclement seasons, a larger number of birds might be induced to live in their neighborhood, and this would seem to be a far better plan than to attempt the destruction of so many creatures that have been placed on earth for a useful purpose.

W. E. SAUNDERS.

Growing Mangels.

There is reason to fear that since the culture of corn for ensilage is becoming so common the cultivation of roots as winter food for stock is being neglected by more farmers than was the case some years ago. This, we have no hesitation in stating, is a mistake, for however good and useful ensilage may be, and we regard it as an inestimable boon to the stock farmer, yet it will never take the place of roots in promoting the healthy development of young stock, whether cattle, sheep or pigs, in feeding beef cattle to best advantage or in producing the largest flow of milk in dairy cows. There is not a doubt in our mind that the pronounced superiority of British pure-bred stock is mainly due to the liberal production and feeding of turnips and mangels, and the high position taken by Canadian stock in International competitions on this continent has been largely due to the same cause. Ensilage is all right in its place, but to secure the best results in stock-raising we must have roots as well. It is true we shall not need so large a supply of roots where silage is used, but every farmer who has stock to feed should provide for a few acres of mangels or turnips, or both. As the time for sowing turnips is still a month or two in the future, we will confine our remarks in this article to the sowing and culture of mangels. It is not yet too late to prepare for sowing this crop, though as a rule the seeding should not be later than the first of May. The proper preparation is the plowing down of a clover sod in the previous autumn, with cultivation and manuring either in the fall or during the winter (the former preferred), and if the land were ridged up in the fall so much the better, as it would have dried early and would only need harrowing and cultivating to reduce to a fine tilth, when the land should be again ribbed or ridged up for sowing. When this preparation has not been made, any fairly rich land that was plowed in the fall may be manured with short barnyard manure as late as the 10th to 15th of May, plowed shallow and made fine by use of roller, disk or cultivator and harrow, and ridged up in drills twenty-four to twenty-six inches apart, the seed sown at the rate of four to six pounds per acre, or more, for

it is well to sow plenty of seed, and for this purpose it may be well to run the seed drill over the ground the second time, as there may be some misses the first time, and often a large percentage of seed fails to grow. Roll the drills lengthwise with a heavy roller, to pack the soil close to the seed, and if rains come and the surface gets crusted before plants are up, the weeder or a light harrow may be run over the surface to loosen it and let in the air. As soon as the plants show in the rows, great good can be done by running a hand wheel-hoe along each drill, loosening both sides at once, breaking the crust, letting in the air, and killing weeds while yet young, before they get strong and troublesome. Where such implement is not on hand or available, the best use of the horse hoe should be made. From this stage the cultivation consists in thinning to single plants eight to twelve inches apart, cutting out all weeds at the same time, and running the horse hoe between the drills every week or two to keep down weeds, conserve the moisture in the soil and promote the growth of the crop.

A Little Farm Well Tilled --- Clover Essential.

While a great many farmers in Norfolk County have failed to get a good catch of clover, I can say it is six years since I have missed a catch. My land is quite heavy clay. I always sow clover on all my fall wheat, sowing some time in the first two weeks in April, using good, thoroughly-cleaned seed of my own growing, fifteen pounds to the acre. It seems like a lot of seed, but it pays. I have experimented a good deal along this line and am fully convinced the more seed you sow up to fifteen pounds, the better the crop. I have also proved that it will not pay to sow over this amount. It is not only the amount of seed that is required to produce a good crop, but the land must be in good condition as well. My fall wheat is sown on land that oats and barley have been previously cut from, the stubble is heavily manured and plowed only four inches deep. I never pasture the young clover the first year, as it requires all the top it grows for a mulch to protect it the coming winter. I always cut for hay as soon as in full blossom, never sooner or later, as I have failed to get a good crop of seed by both mistakes. My clover hay averages me, one year with another, two and one-half tons per acre. After the hay is cut, I leave for seed. I get an average of three bushels per acre, and once grew fifty bushels on eight acres: not a bad crop, considering it sold for five dollars per bushel. I always count on my crop of clover seed as much as on my corn, and for the labor it requires it brings far better returns than any other crop I grow. I always plant my corn on a field of this clover sod, plowed in the fall. The corn is kept thoroughly cultivated as long as a weed appears. I cut my corn very close to the ground and never plow it. I once plowed half a field of corn stubble and left the other half, worked it all up at the same time and sowed to oats. The part that was not plowed grew from ten to fifteen bushels more per acre than the plowed. I sowed clover on it the same time I sowed the oats, and could see a marked difference in both the hay and clover crop the next year, both being the best on the land not plowed. I never fail to get a good catch of seed when sown on oats which were planted on land which had been in corn the previous year.

I only work a small farm of fifty acres, but my cows far exceed some of my neighbors who are working one hundred: One year I grew ten hundred and sixty-eight bushels of spring grain: Three hundred and twenty-five of wheat, seven hundred of corn, fifty-two bushels of clover seed, besides having four acres in orchard and garden. I kept that year seven head of cattle, five horses, a flock of fifty hens, and enough hogs to feed up all grain on the farm. I hired by the day in harvest, did all the other work alone. Who says farming does not pay? My experience is it pays, and pays well. There is no more independent man in the world than the one who owns a small farm and has the knowledge to manage it well. I have received much benefit from reading good farm papers, attending Institute meetings, and also by visiting the Model Farm at Guelph every summer, and I also make it a point to attend one of the largest fairs every fall. Don't cling to your father's and grandfather's ways, but keep up with the times. Buy one of the new-fangled weeders and use it on your spring grain, your corn, and also go over your wheat with it. Don't cobbler up the old rail fences any longer, but put up a good wire one that will last a lifetime. Put tile in your low ground, so you don't have to take two or three days after every crop is put in digging ditches. Methinks if anyone should always bear in mind the motto, "Whatever is worth doing is worth doing well," it is the farmer.

SILAS.

The Horse Hoe for Grain Crops.

English farmers horse-hoe their grain crops as well as their root crops. The implement used for the purpose takes the same number of rows as the seed drill, the blades of the hoes having a cutting width of about 5 inches for wheat, and when they get somewhat worn they answer well for barley. The two outside blades are narrower than the others, as the rows they work in are likely to be narrow in places if the drill has not been guided particularly well. If hoeing is good for roots and corn, why not for grain? We need not be surprised to find this principle extended in the culture of Canadian farm crops in the not distant future.

Fields Infested With Hessian Fly.

"Would you advise me to plow my wheat field under and sow something else?" is a common inquiry just now from the south-west counties of the Province. This question may be easily answered in the affirmative if many "flaxseeds" are to be found at the base of the wheat plants. There is no use in trying to bring through a wheat crop which looks yellow and winter-killed by the Hessian fly.

Even should the crop revive sufficiently to appear encouraging, it will in all likelihood succumb to the attack of the spring brood. In four or five weeks the flies escape from the "flaxseeds" and proceed to deposit eggs on the leaf-blades for another brood—for another batch of "flaxseeds"—which will ruin the crop near harvest time completely. Nothing will prevent these flies escaping if the plants are not plowed under. Simple harrowing or even disk-plowing the infested field is not sufficient, for the flies will emerge from the "flaxseeds" after such treatment.

Prof. Webster, of Ohio, says: "All wheat fields that do not give fairly good promise of a crop should be plowed under to a depth of from four to six inches as quickly as possible, and the ground harrowed and rolled in order to prevent the flies from reaching the surface. The land may then be devoted to oats, corn, or any other crop that may be practicable."

It is not advisable to sow barley after the wheat has been plowed under, for it is subject to attack by the Hessian fly just as rye and wheat are.

Some may ask: "Of what use is it to plow under the wheat crop? Would harrowing or disking not do as well?" So far as the present crops are concerned, harrowing in the oats would do just as well, but we have neighbors who have possibly good wheat or barley fields. If the flies are not killed, they will swarm over to our neighbors' fields, and destroy them before harvest. Moreover, simple harrowing will not keep the flies from the wheat fields in autumn if they are allowed to propagate unmolested during the spring and summer.

In August and September the parent flies are active, and eggs are laid on the young blades of wheat. From these the minute grubs hatch and make their way down the stem to base, where they embed themselves and feed upon the sap of the plant. These become "flaxseeds" by winter. In May and June, the flies will emerge from the "flaxseeds" and proceed to lay eggs on the wheat-blades for another brood. Again grubs hatch from the eggs, make their way down the stalks, and embed themselves at one of the lower joints. It is these maggots that do the harm at the time of the ripening of the crop. These pass the summer as "flaxseeds," in the stubble as a rule; and the flies appear in August and September, as already stated. The adult flies do no direct damage; they appear twice a year, in May and June, and again in August and September, when eggs are laid. The grubs do damage to the crop twice a year, in October and November, and June and July. W. LOCHHEAD, Ontario Agricultural College, April 24th, 1901.

An Unfavorable Opinion of Spelt.

The following is a letter from an Iowa correspondent of the *Wallace Farmer*, which will be read with interest by many of our readers:

If your correspondent from Marshall county, who desires to know the merits of spelt, will carefully look through the catalogues of several seedsmen, he will soon discover that the identical cuts used by some of them to show the wonderful stouling properties of spelt are used by others to represent certain kinds of oats, and by still others to represent certain grass. Quack grass could be much better represented by these cuts than spelt. Those cuts have induced many farmers to introduce this new kind of grain.

Being short on meadow, I sowed several acres of this grain last spring. It matured after the barley and before the oats. Each of the three grains I mowed and stacked the same as hay. In bulk the spelt exceeded the oats, but in weight it was much less at time of stacking.

During the winter the calves, pigs, and often the horses, had free access to the stack yard, which contained barley, oats, spelt, clover, prairie hay, stover, corn fodder, and millet. The unanimous preference which these animals exhibited for certain stacks, and their disinclination for others, proved a valuable object lesson.

It was clearly evident that the barley was the chief attraction. After that in order came oats, corn fodder, clover, millet, prairie hay, and spelt.

The corn stover which I hauled out into a dry feed lot was the only feed which my dairy cows had during the day, but at night I filled their mangers with oat hay, with an occasional dessert of clover, and a Sunday dinner of fodder corn.

As spring approached, the oat hay disappeared and I began substituting spelt. The cows refused to touch it—grew gaunt and decreased the supply of milk, and while the horses ate some of it, yet they seemed to take any other grain or hay better. It was stacked rainproof, and came out fresh and bright, but the fiber is too woody, in my opinion, to be of much value as hay. The grain is less in quality and quantity than oats. I will not sow any this year, because I see no advantage in doing so. Barley hay is fine, but the yield is too small to be of as much benefit as oats.

Good, bright corn stover, fed in connection with well-cured oat hay, cut just before it is fully ripe, produces most excellent results, and I shall continue to follow feeding my dairy herd on that line.

Rape.

BY J. H. GRISDALE, B. S. A., OTTAWA AGRICULTURAL EXPERIMENTAL FARM.

As the questions of cheap meat-production and profitable cattle-raising come more to the fore, forage plants peculiarly suited for young cattle and stockers, as well as pigs and sheep, must come more and more to the front.

It is well known that the pig thrives on grass or green food alone, but the importance and necessity of feeding him on such is very often overlooked. Another consideration frequently neglected is the comparative value of different forage plants for the end in view. The conditions governing the feeding operations, however, enter into this matter, and frequently such crops as can be most conveniently produced or utilized must take precedence over others better adapted to the end in view.

Of the various crops more or less extensively cultivated as forage crops at the Central Experimental Farm during the past few years, for cattle, sheep and swine feeding, none has given quite such satisfactory results as rape. The variety best suited for forage is Dwarf Essex. During the past year about 4½ acres have been under rape. The plots have been cultivated as follows:—

Plot 1.—This plot, 1½ acres in extent, was a slightly loamy sand. It was manured 15 tons to the acre, in May, and the rape sown in drills 30 inches apart, on May 19th. This crop grew very rapidly and yielded, in August, 28 tons green fodder to the acre. A second crop grew up and gave about 3 tons to the acre.

Plot 2.—This plot, 1½ acres in area, was a good loam. It was manured 12 tons to the acre, in June, and sown in drills 30 inches apart, June 16th. In August it cut 22 tons to the acre, and the land was then plowed.

Plot 3.—This plot, ¼ acre in area, was sown broadcast, on June 18th. This plot had been used as pig pasture the preceding summer, so no manure was necessary. This plot was used as a pasture for store pigs.

Plot 4.—This plot, three-sixteenths of an acre in area, was sown in drills 38 inches apart. It was used as pasture for pigs.

Plot 5.—This plot, 1½ acres in area, was sown on sod plowed July 16th. No manure was added, but the best seed-bed possible under the circumstances was prepared, and the plot sown July 23rd, partly in drills 18 inches apart, and partly broadcast. The land being rather dirty and in a poor state of tilth, this plot did not do very well. The part sown broadcast was a very light crop indeed. The part sown in drills did very much better, however, as it was possible to cultivate by means of the hand-wheel hoe.

Plots 1 and 2 were cut and used as soiling crops for steers, calves, pigs, and sheep. It was impossible to get any idea of the exact feeding value from the animals fed. The steers, 10 in number, averaged 1,000 pounds weight, and made gain at the rate of 2 pounds per diem each while on the rape, no grain being fed. The pigs to which it was thrown in small quantities ate it with avidity and were quite evidently benefited. A lot of ten steer calves were given a good feed daily, and appeared to enjoy the juicy leaves and stems very much, and to thrive thereon. Sheep were allowed to feed upon lot 5, and ate it down quite close. As soon as turned upon the rape they began to improve in flesh. The greatest value of the crop would appear to be a pasture for pigs.

Statement of costs of proceeds of an experiment with a lot of six pigs:—

To six pigs at \$3.00	\$18.00
3.16 acre at 90 cts. per cwt.	2.95
2,067 lbs. meal at 90 cts. per cwt.	18.60

Gross cost.....\$39.55

By 1,127 lbs. pork at \$6.00 per cwt.	\$67.62
Profit on lot.....	28.36
Profit per pig.....	4.73

From a study of the habits of pigs pasturing on plot 4, I should say that the best results would be secured by sowing the rape in rows 24 to 30 inches apart, at the rate of about three pounds of seed (Dwarf Essex) to the acre. When thus sown this can be cultivated by horse power when young, and has a tendency to branch out and develop a large leaf crop rather than go to stem. It is most interesting to watch the niceness of discrimination exercised by your practical rape-eating pig as he strolls leisurely down the row and selects the juicy leaves that best please his fancy. I have observed, too, that your trained pig is equal to the best of chemists in picking out those parts of the plant most valuable for food. He soon learns to shun the larger or old leaves, and feasts upon the young, the tender, the juicy. A study of the chemistry of the plant will be found in the report of Mr. F. T. Shutt, Chemist of the Experimental Farms.

Below is a statement of the cost of producing the forage:—

COST OF GROWING ONE ACRE OF RAPE.	
Rent of land	\$3.00
Cultivating in autumn	1.50
Plowing in spring	2.00
One-fifth manure applied at rate of 20 tons per acre, and valued at \$1 per ton	4.00
Harrowing twice	.50
Seeding, 1½ hours	.37
Seed, 3 lbs. at 10 cents	.30
Hoeing 3 times, 2 days, at \$1.25	2.50
	\$11.17

Yield 30 tons.	
Cost of producing 1 ton	\$0.47
Average dry matter per ton	290 lbs.
Cost of 100 lbs. dry matter	23½ cts.

DAIRY.

Butter for Private Customers.

I would like to advise the farmers' wives who are making butter the year 'round and selling it at the grocery store, to try a new plan: one they will find pays much better. First, of course, it is necessary to have a first-class article for sale. Now, when you take your next basket to town, don't take it to the grocery, but if you have acquaintances in town, call on them and leave a pound print with each family. If you have not enough friends, ask one of them to direct you to some family that would likely become a customer. It will be a much easier matter than you may at first anticipate. The townspeople will consider you have done them a great favor, as indeed you have, for is not good butter a great luxury? You will have no trouble in securing a high price if you furnish first-class butter. There is so much written on how to make good butter that any intelligent person with the ordinary utensils found in the home, with plenty of ice, has no excuse for turning out butter of poor quality. A good time to make the first call on your town friends would be on Saturday; then the middle of the next week make your second call, to see how many regular customers you have secured. Take a notebook and mark down the number of pounds the different families require. I find Saturday morning a good time for delivering. You should have no trouble in getting nearly or quite 25 cents per pound. Now, compare this with 12½ or 15 cents at a grocery, and trade at that. Will not the difference pay you for your extra trouble? If you sell in a city, you can get even more. Perhaps it would not be out of place to say the butter must be wrapped in parchment paper or nice clean butter cloths, delivered in clean baskets, and the deliverer herself be neatly dressed. The appearance of the person has often much to do with the selling of the butter; so I would say be clean and neat in your dress.

NINA.

Enriching Separated Milk for Calf Feeding.

There has been much controversy of late regarding the merits and demerits of separated milk as a food for calves. Our own views on the question are well known. With all experienced breeders, we are of opinion that as a food for young calves the natural milk of the cow is still without a successful rival; but, while freely conceding the superiority of fresh milk for calf-feeding purposes, we are of opinion that much economy might be effected and more remunerative returns obtained if properly-enriched separated milk were judiciously employed as a substitute for whole milk.

In order to render it suitable for calf-feeding, separated milk must be adequately enriched by the addition of certain substances calculated to replace the butter-fat abstracted in the process. Of such fat substitutes a number have been employed from time to time with more or less success. The best known, perhaps, of all these substitutes is ordinary flaxseed or linseed meal boiled into a jelly. We have seen separated milk enriched by this substance given to calves with most excellent results in many parts of the country, and have never known any losses worth mention among calves so fed.

In the use of separated milk enriched in this way, it is of prime importance that the milk employed should be in as fresh and sweet a condition as possible. Almost all the trouble resulting from the use of separated milk as a food for calves is due to the fact that the milk is not given until perhaps 24 or 30 hours after separation. If fed fresh from the machine and enriched with the linseed, as already described, our experience is that the calves fed upon it will give practically as good results as those to which fresh new milk is given.

Another butter-fat substitute which has been employed with much success in different parts of the kingdom during the past few years is cod-liver oil. Experiments carried out at several of our agricultural schools and colleges have gone to show that excellent results can be obtained with this substance as a substitute for butter-fat. In using cod-liver oil as a butter-fat substitute, care has to be exercised in commencing with a small quantity and gradually increasing the allowance as the systems of the animals become accustomed to its somewhat laxative effects. A teaspoonful to the meal is quite sufficient to begin with when the calves are from ten days to a fortnight old. The quantity may then be gradually increased until from 4 to 5 ozs. may be given when the animals are from 2½ to 3 or 4 months of age. A careful watch should be at all times kept upon the animals, and the quantity of cod-liver oil given so regulated that it is just sufficient to keep the bowels in free working order and not to scour or purge the animals.

Another point deserving of special attention is that only the best quality of oil should be employed. Cod-liver oil of poor quality and low price will be found very disappointing in comparison with the better article, even though the price of the last-named may seem very high when viewed in the light of the figure for which the poor qualities can be obtained. We have seen very unsatisfactory results from the use of cod-liver oils of cheap quality, and would warn our readers against the employment of such stuff when using the oil as a fat substitute in calf-feeding.—*Farmers' Gazette.*

Summer Feeding Trials.

One test was made at the Utah Experiment Station each year for four years, to compare soiling and pasturing. In all, nine cows were pastured for about 16 weeks, and nine were fed in the stable on soiling crops for the same time. The pasture-fed cows produced on the average more milk and fat and made a greater gain in live weight than the cows fed in the stable. The flow of milk, however,



KAPANGA.

First-prize mature Thoroughbred stallion at Canadian Horse Show, 1901.
OWNED BY DR. ANDREW SMITH, TORONTO.

was not so evenly maintained during the whole period.

A comparison was made, in five experiments, of the results obtained from one acre of land, when the crop was pastured and when it was soiled:

"One acre of soiling crops furnished feed for two cows for 108 days; produced 3,145 lbs. of milk and 147.9 lbs. of butter-fat, valued at \$23.67. One acre of pasture furnished feed for two cows for 102 days, and produced 4,047 lbs. of milk and 189.8 lbs. of butter-fat, valued at \$30.37. This shows an advantage of \$6.50 in favor of the acre of land used as a pasture, compared with the same area used for soiling crops. These results are not conclusive, however, for the soiling crops."

The effect of feeding grain to cows on pasture was studied during four years. In all, 28 cows were used in the tests, 14 of which were fed 4 lbs. of grain per head daily. The records of the cows fed grain were compared with those of the cows on pasture alone, for the four months each summer during which the grain was fed, and also for the four months following, during which all the cows were fed alike:

"The cows which received grain while on pasture produced more milk and butter-fat than those not receiving grain, yet not enough extra to pay for the grain fed. The cows fed the grain on pasture maintained their flow of milk better throughout the milking season than did those not receiving grain, and thus during the fall months they produced considerably more than the cows not fed grain—enough more to more than pay for the grain fed."

The Cow and Her Milk.

Professor Clinton D. Smith, after five years' investigation of the milk question, publishes the following conclusions: "First—A cow yields as rich milk as a heifer as she will as a mature cow. Second—The milk is as rich in the first month of the period of lactation as it will be later, except perhaps during the last few weeks of the milk flow, when the cow is rapidly drying off. Third—There is little difference in seasons as to the quality of the milk. While the cows are at pasture the milk is neither richer nor poorer, on the average, than the milk yielded when the cows were on winter feed. Fourth—The milk of a fair-sized dairy herd varies little in composition from day to day, and radical variations in this respect should be viewed with suspicion."

Delighted with the Bible.

DEAR SIRS,—I am a young girl, living at home. My father takes your valuable paper and we are always anxious to get it; my father would not like to be without it. As you are aware, I sent you the names of two new subscribers, for which I chose as my premium, "Bagster's New Comprehensive Teacher's Bible," which I received lately in good order. I am fairly delighted with it. It is a good premium for the little effort put forth. Hoping I may be able to get more names in future.
Grey Co., Ont. CELENTA CLEMIS.

MISCELLANEOUS.

The Military Tournament and Horse Show.

It was first horse show, then it became horse show and military tournament, and now it is military tournament and horse show. When it was horse show it engaged one day, and was confined almost entirely to breeding and young stock, and was held and conducted as a farmers and breeders' exhibition, at a season when that class could attend, and also take their stock from home without interfering with operations on the farm and in the stud. Horse shows, however, took a turn, both on this side and beyond the lines, when the saddle and harness horse demanded and received more special attention, with the result that a remarkable work of improvement in these classes took place, until we see in competition from a score upwards in many classes, both in leather and under the pigskin. This is the outgrowth of a demand, and it is doing much to stimulate improvement in the breeding and fitting of this class of horse that moneyed folk want and will have. But the military tournament—well, that spirit is in the air, and people want it; yes, and the very class who delight in good horses and owning them too, are by it drawn, with the result that the market

is improved and enlarged for these horses. So that whether we fall in with the turn of affairs or not, it is doing the horse interests a valuable service that will grow as it goes, and delay the age of the automobile, that sometimes stands as a bugaboo to half-hearted horsemen who have never experienced the thrill of holding the ribbons over an intelligent "actor" in a well-appointed conveyance. It now takes four days of three full sessions each to carry out the well-arranged programme of tournament and show, that is felt to be a real success when it is all over. The first day was designated farmers' day, when the chief classes of weight-pullers were gone through with. There was not, however, a crowded house of "horny-handed sons of toil" present, but a fair attendance of stockmen, who breed horses, and who seldom fail to attend functions of this nature. The classes were not large, but choice.

In Shires, there were only three stallions and three mares forward. Of the former, the unbeaten (in Canada) Belshazzar, owned by Bawden & McDonell, Exeter, Ont., won, while the best mare was found in J. M. Gardhouse's (Highfield) black filly, Victoria, foaled in June, '99. There were some twenty Clydesdales, outside of teams, forward, not a big entry, but lacking nothing in quality. J. M. Gardhouse, Highfield, went to the top with King of the Clydes, the winner here a year ago, and in the fall, at the Industrial, as a three-year-old. Mr. O. Sorby's Sonsie Lass, forward in foal, was best mare.

The Hackney class was light, as were the Standard-breds, Coachers, and Thoroughbreds, although the last-named presented three newcomers, selected in England by Col. Dent, as qualified to get suitable remounts. It was one of these that captured the award for best stallion and hunters.

There were the usual large classes of horses in harness, of high-class form and action, numbering

over a score of entries in several instances, and the saddle classes were sufficiently well sustained both in numbers and Thoroughbred form to show that a keen interest is taken in riding. The same was true of hunters and jumpers. Roadsters and ponies were not strong in numbers, but well bred and fitted.

The attendance was the largest in the history of the show, and well sustained throughout the afternoons and evenings, taxing the spacious Armories, outside the horse-ring, to the limit of its capacity each evening, and some of the afternoons, when considerably more than half the time was engaged with military displays and competitions that were inspiring and much enjoyed because the movements were exceedingly well executed, and not for entertainment merely, but each exercise, whether tug-of-war, tent-pegging, lance-and-bayonet, sabre-and-sabre, heads-and-posts, naval drill, or what not, represented actual military operations, and were conducted with that vigor and command that all admire. Good horses and well-developed men lent charm to this part of the programme, and when one wearied of the performances in the ring, well-attired ladies could be admired in the boxes, where there was evidently a rivalry for admiration in no slight degree. The scenes and events was pretty and pleasing, and much more elevating than the platform programmes known as special attractions presented at the autumn exhibitions.

CLYDESDALES.

A good entry of this class was expected, but only in three-year-old stallions was there a big section. Some six entries were made in mature stallions, but four were all that came forward. Messrs. Graham Bros. were absent and missed, but they have found it difficult to retain horses good enough for this show this season of lively demand. The four forward were the following: Cloth of Gold, exhibited by O. Sorby, Guelph; King of the Clydes, by J. M. Gardhouse, Highfield; Grandeur 2nd, by I. Devitt & Sons, Freeman; and Harmony, by Robt. Graham, Ringwood. They were not as uniform as we have seen, but they were all good in their own particular way, and might have been placed differently by other good judges. The decisions were made by Messrs. Jas. Henderson, Belton, and Geo. Cockburn, Baltimore. The competition for first place lay between King of the Clydes and Cloth of Gold, both four-year-olds. The first named, a big horse weighing 50 pounds over a ton, in nice form, has proved a wise choice for Mr. Gardhouse, who selected him as a thin colt just off the boat as a two-year-old. That was in the fall of '99. He was a sort of "diamond in the rough," and it needed only a winter's wise care to bring out some of his brilliance, as he won as a three-year-old the following spring, again turning down his rivals in autumn at the Toronto Industrial, and now goes to the top among the seniors. He is possessed of much Clyde character in ends, middle and timber, and he goes well at all gaits demanded of such a horse. He was imported by Dalgety Bros., London, Ont., and sired by Ringleader. Cloth of Gold was bred by Col. R. Holloway, Ill., and is a son of Mr. Sorby's Lord Charming, whom he closely resembles in



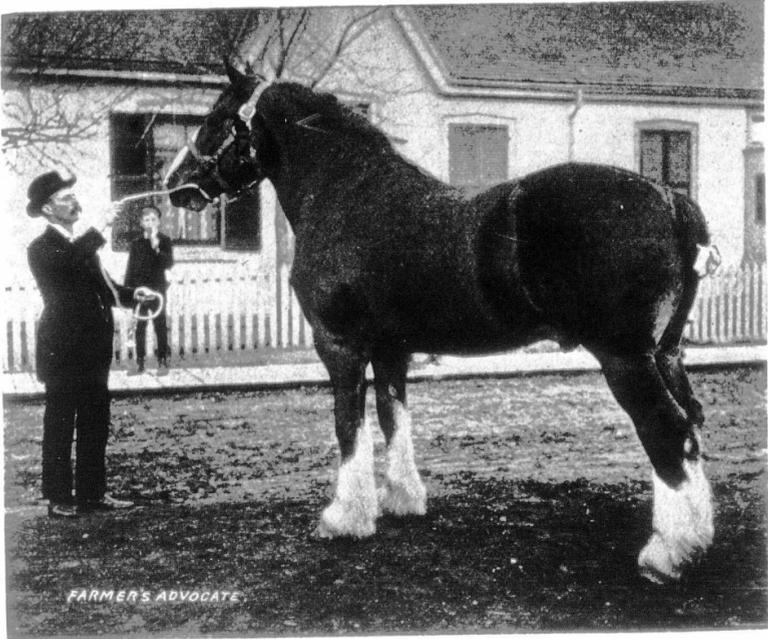
COUNTESS JOSEPHINE.

Two-year-old Hackney filly, from imported sire and dam, winner of Hackney Horse Society of Great Britain silver medal, Canadian Horse Show.

BRED AND OWNED BY H. N. CROSSLEY, ROSSEAU, ONT.

form, but is chestnut in color. His dam was by that good horse, Cedric. Cloth of Gold weighs 1,950 pounds, and could spare some of his quality and still be a good one. He is not a big-boned horse, and he has lost much of his feather, which further apparently reduces the size of his timber, but legs of better quality, or pasterns of more desirable character, would be hard to find. His quarters and

thighs are of the bulging sort, his fore end matches up, and his back and barrel leave little to be desired, and he goes with a force and dash that pleases. Harmony is a Scotch-bred four-year-old horse, by that good sire, Prince of Carruchan. He is not a big one, but very nice in all his parts, particularly so at the ground, and possesses a depth of chest that indicates a great constitution. He was



KING OF THE CLYDES [2569] (IMP.).
First-prize mature Clydesdale stallion at Canadian Horse Show, 1901.
OWNED BY J. M. GARDHOUSE, HIGHFIELD, ONT.

placed third, leaving Messrs. Devitt's massive son of Sorby's old Grandeur in fourth place. This is the largest horse in the lot, weighing about 2,200 pounds, and he is not rough; in fact, he is well proportioned and of good quality.

The three-year-old class was a particularly strong one of eight entries, from the studs of Robert Ness, Howick, Que.; Robert Graham, Ringwood; Robert Davies, Toronto; T. H. Hassard, Millbrook; Bawden & McDonell, Exeter; and H. G. Boag, Churchill. The great Baron's Pride, that has sired so many Scottish winners since his stock has come to a showing age, was represented in two beautiful colts owned by Robert Ness. They are of the thick, filled-out sort that attracts the eye at once, and bigger than they appear. It was one of these (Copyright, a brown, with characteristic white on hind legs and in face) that won the 1st award. He was a good one last autumn, but he has gone forward well since then, and his victory was popular and deserving. A more upstanding colt, Lyon Stewart, shown by H. G. Boag, won second. He is by Lassudie Rover. He too was before the public last autumn, when he defeated Copyright at London. He is a flash colt, nice in all his parts and gaits, and will be a hard nut to crack when matured. Robert Graham's Sir Redvers, bred by Marquis of Londonderry, Seaham Harbor, Eng., and sired by Knight of Cowal, was the next choice of the judges. He is a very sweet, compact colt, of genuine Clydesdale character. Bawden & McDonell's Lipton, by the great St. Everard, wore away the reserve ribbon. He is a big colt, with quality, and of the upstanding type, and is full of promise, being one that will continue to develop along desirable lines. After the show he was purchased by one of the judges, Mr. Henderson, in whose hands and in whose district he will do much good.

Three colts foaled in 1890 competed, all bred in Canada, and all good ones. Mr. O. Sorby's Charming Lad, by Lord Charming, would have won had he not favored a hind quarter, the result of a temporary strain, as he trotted. He is fine and well developed, possessing the sort of pasterns for which his sire is noted. J. W. Cowie's Bay Chief, by Lord Wellington, was placed at the front. He is a blocky fellow, of good type. Mr. Ness showed Laurentian, by Lawrence Again, here winning second. He is a particularly neat colt, of the tidy sort. Just one colt showed in the class for Canadian-bred Clydesdales, a two-year-old son of Erskine Macgregor, exhibited by D. Carstairs. He is a stylish fellow, that could have stood competition.

The remainder of our report will appear in next issue.

Out of the Fullness of His Heart.

SIR,—I have only been taking *ADVOCATE* since 1st January, 1901, and am delighted with it, and think you have information in every number that every farmer ought to read.

Wellington Co., Ont. W. W. SCOTT.

It will be wisdom to sow some mixed oats and peas or vetches for soiling the cows in the stable in the heat of the dog days, when pastures fail and flies torment them, causing them to shrink in their milk.

POULTRY.

The Little Chickens.

As the spring advances, the farmer's wife is anxiously awaiting the results of her egg-hatching. As yet, comparatively few of us use incubators, but rely on the faithful (not always) old hen. She is usually faithful if you are equally so, but don't expect her to do it all. Of course, sometimes a hen will hide her nest away and bring out a healthy brood, but this is not a safe enough thing to depend on. I have usually good success with little chickens, but as yet this spring my hens are all laying, and not even the old "cluckers" seem inclined to sit. However, I am watching them, and shall do as I have done for a few years, improving in any way I have learned by observation or by reading during the past year. I am not at all anxious to have little chickens before the 1st of May, because April is such an uncertain month, and we are so busy, as a rule, with housecleaning and other spring work that if the little twitterers are around then they are liable to be neglected, and if a chicken is neglected during the first five weeks of its existence, it has a neglected look until the end of the chapter.

When I notice a hen is brooding, I let her sit a few days on china eggs, to be sure she will make a sitter. Before I set her for good, I take the box I wish her to sit in and wash it thoroughly, and if lice are around or have been, I paint it inside and out with liquid lice-killer or dust with insect powder, then I put in a piece of sod, and on top of the sod some fine straw. I make the filling high enough so the hen can step down easily, and not have to give a jump every time she gets on. Not that a jump would hurt the old hen, but often the little, tiny chickens that are to be are completely ruined by these repeated jerkings. Before putting the hen on the eggs, I dust insect powder among her feathers and rub grease around her head. Some may say this is a lot of trouble, but I would far rather do it than bother with the young brood. On each box that I set I mark the date of setting and the day they should hatch, and in due time I get ready for the new family, and this is the way I do it: A few days before, while the hen is off for her daily feed, I remove the eggs and wash them in lukewarm water, put in fresh straw, and sprinkle it with insect powder, if necessary. Of course, the eggs must be handled carefully. I always have a better hatch when I use moisture.

I do not believe in letting the chicks run wherever they will. I have lost too many from the depredations of cats, dogs, pigs, etc., and my losses have taught me a far better way, and one I would not willingly give up. I have frames made some ten by twenty feet or six by twelve feet, and higher at the north side. I do not like it too high, for the lower it is the warmer for the chicks. Over the top I tack cotton, and paint it well with linseed oil. This lets the heat and light in, and keeps the rain out. In one end of this runway coop I place the brood coop, made the same as I always have made them—A shape or half a barrel. The shape of the brood coop is immaterial. Do not let the chicks get cold and damp in the night, for by this one mistake whole broods die off or else they don't thrive as they should. I never set the coop on the ground; always have boarded floor, and on cold nights I put

down clean straw, but as the nights get warm I don't bother with the straw.

If I have a brood house for the hen and no coop runway as described above, I always cover the front of the coop with an old piece of carpet at night and on cold days or during a rain or wind storm. A windstorm hurts the downy little things almost as much as rain. Keep the little coops clean. I clean mine every day if I can possibly do so. I have heard some women say that little chickens did not need water, but that's a mistake. They need fresh, clean water every day, and on hot days twice a day. Fresh water kept in a shady spot will help them to grow fast.

Feed often, but feed only a little at a time, is the rule for young chicks—five times a day for the first six weeks. Don't leave food around for them to trample on; it only sours, and this causes bowel complaint. Bread crumbs moistened (not sloppy) is the best feed for a few days. Oatmeal porridge just the same as we eat for breakfast is the ideal food, and is not expensive chicken feed if one buys it by the barrel. This porridge fed alternately with the bread crumbs, and occasionally a little meat and eggs, and the rapid growth of the chicks will fairly astonish you. I often mix sand in their food, as I think even baby chicks need grit in their little gizzards to grind up the food. Lawn clippings are excellent green food for them, and it is an easy matter to sow lettuce broadcast over almost everywhere, as old hens as well as chicks relish lettuce.

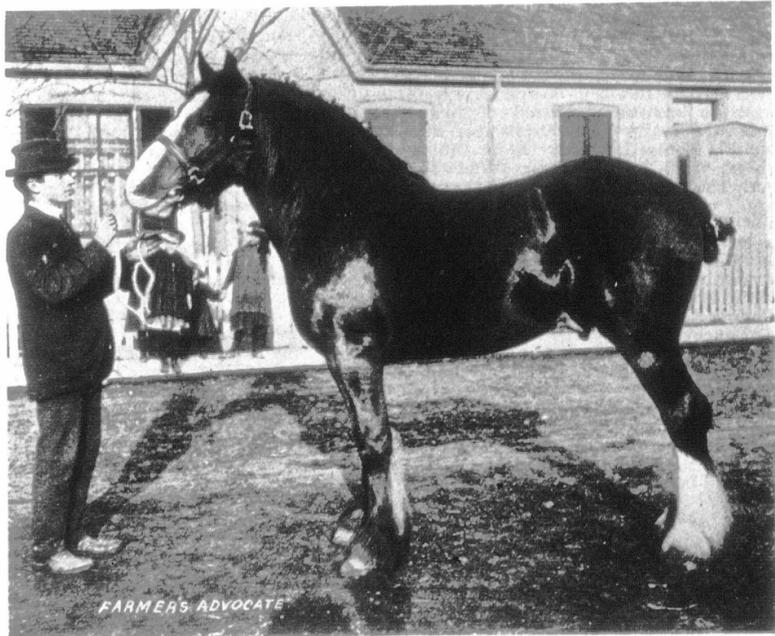
When six weeks old, the dangers of chickenhood are past, and then begins the feeding either for market or the laying stock.

I forgot to mention that often the last few days that a hen sits she gets restless, and I have found it a good plan to hang up something dark before her, and she seems to enjoy "cuddling" her coming brood in the dark. I never meddle with the eggs until all are hatched. I do not remove the chickens as they appear. They do nicely without anything to eat the first day or so. I always give the mother hen a generous meal of corn before shutting her up in the brood pen.

CARRIE HOLMES.

Brooding and Housing Chicks.

Believing the readers of the Poultry Department of the *FARMER'S ADVOCATE* will be interested in a house which I know to be both cheap and practical for raising brooder chicks, I will give a brief description of the same. This house is 8 feet long and 6 feet wide, about 5 feet 6 inches high in front, and 4 feet high in the rear. The timbers used are 2 x 4 inch scantling, and it requires only five posts—one at each corner and one at the door. The door is placed at one corner, so that the corner post serves as a door-jamb. One good large window facing the south is sufficient. It is double-boarded up and down, with tar paper between. The roof may be shingles or galvanized iron. Also put in a tight-board floor. There is a good accommodation to this house that we believe to be especially valuable, namely, two runners, both 8 feet long, or full length of the house; they are made of 2 x 4 inch scantling, slightly rounded up at each end, so as to run over slight obstructions. This allows one to hitch a horse to either end and haul it to any part of the farm. The house costs about \$5, and if once



COPYRIGHT [2739] (IMP.).
First-prize three-year-old Clydesdale stallion at Canadian Horse Show, 1901.
OWNED BY ROBT. NESS & SONS, HOWICK, QUE.

used will be found to be invaluable. They will accommodate from fifty to one hundred chicks until they are nearly matured.

Put your brooder into this house, and cover the floor to the depth of about two or three inches with cut straw. By scattering the grain in this litter the chicks will get necessary exercise. P.F. DOUPE.

Lice: Their Work, and Remedy.

Two years ago I made my first attempt at poultry-raising. I bought eight dozen pure-bred Brown Leghorn eggs, and set them under hens the last week in April. The hens were set in the barn, away from the other fowls, and food and water kept before them always. All the eggs hatched but nine. Imagine how proud I was of my chicks. But, lo, it was to have a terrible fall. When my chicks were not yet two weeks old, they began to die, not by ones and twos, but by the dozen. They seemed stupid, their little wings dropped, they would not eat, and soon died. I was at a loss to find the cause, and went to a neighbor and described the case. He immediately said: "Lice." I came home and applied lard and coal oil (mixed) to the chicks' heads, and, sure, the lice began to crawl out. I only managed to save twelve—five roosters and seven pullets. The following summer I raised fifty chickens from the eggs the seven laid, and have now a flock of thirty fine Leghorn hens, which have averaged twenty eggs a day for the past month. I have learned several lessons from experience on raising poultry, but the hardest was losing so many chicks from lice. It is two years ago that my hens were so lousy. I at once fixed a dust bath for them, putting in occasionally a handful of sulphur; greased their heads with coal oil and lard every two weeks; thoroughly cleaned the henhouse, burned brimstone in it, then whitewashed every crack and corner. The lice soon disappeared, and have not bothered since. I keep it as clean as I know how, and believe it is the secret of keeping away lice, and prevention far easier than cure. I write this thinking it may be a benefit to some new beginners.

VINA.

Selecting Good Layers.

That the majority of hens are capable of producing many more eggs than they usually do, is undoubted. The head of a good layer is finer and not so thick or coarse and heavy looking as the inferior layer. The eyes are brighter and bolder, and the combs, as a rule, are larger. It is considered that cocks that have been bred from a good laying strain can be distinguished. They are more precocious when cockerels, they begin to crow much sooner, and they do not grow very large. There are very few poultry-keepers, however, let their experience of fowls be ever so considerable, who could select their birds from such characteristics. A more satisfactory method is to take note of those hens that are busy ranging about the field or runs late in the evenings when most of the others have gone to roost, or those that are the first out in the morning. These are most invariably free layers. There is no doubt that the faculty of laying is to a large extent hereditary, and that pullets hatched from eggs laid by prolific layers will themselves be good layers. The eggs, again, of these pullets, particularly if they are mated with male birds bred from free layers, will produce chickens that should again inherit this tendency. The average number of eggs laid by the flock after two or three years of this selection will be largely increased. Poultry-keepers who wish to become possessed of hens that are really first-rate layers should take the trouble to notice those hens that pay most frequent visits to the nest. When these hens have laid, their eggs should be marked, and only those eggs retained for setting purposes. Another method by which the egg supply can be increased is to weed out annually all the old hens that have laid for two seasons. Where there are a large number of fowls, it is easy to recognize the age of the hens by marking all the young pullets by placing a ring on their legs. If these rings are varied every year, either in thickness or in some other way, the ages can be told at once on catching the bird when roosting. And if all hens not required for setting are removed from the rest directly they show signs of broodiness, and placed in a light coop, with some food and water, they will quickly commence laying again, instead of wasting many days, as they so often do.—*Ex.*

Profitable Poultry.

To the Editor FARMER'S ADVOCATE:

SIR,—In reading your paper with great interest, I have found many valuable lessons in regard to all kinds of stock and poultry. In the April 1st issue I read a very sensible article on feathers and eggs, by John B. Pettit, and I thought I would send you some account of my own success with Barred Plymouth Rocks. I have been breeding them for fifteen years, and think them the best fowl for the farmer. I have seventeen pullets which have been laying since November. They laid 208 eggs in January, and in February 450, and they are still laying. I keep them pure all the time. I had fifty last year that made me \$80, which I think is very good for the number of hens. T. R. Durham Co., Ont.

Mud and Eggs.

Farmers, would you in life succeed?
Don't fail the ADVOCATE to read.
Look sharp; your eyes wide open keep,
And shut them only when asleep.

Spring is here, and our feathered boarders are enjoying the lovely sunshine and outdoor exercise. Since I wrote last we have made an important discovery. A few weeks ago, when our men were hauling mussel mud, they shovelled off a load in the barnyard instead of taking it out to the field, as they always did before. Well, the roosters found it, and called their partners to come quickly. In a few minutes the mud was literally covered with busy workers.

Oh what a feast they had!

There is something in the mud that the poultry are particularly fond of—something they relish very much.

Now for the results.

In a few days we were carrying in eggs by the dozen. We found eggs lying around on the barn floor; some of the hens were in such a hurry to lay that they didn't wait to look for a nest. This was about the 10th of March, and they are laying just as well yet. They are out on the mud picking and scratching every day.

Now, farmers, jot this item down in your notebook lest you forget: "Mussel mud good to make hens lay." Of course, you are done hauling mud now, but next winter when you commence to haul again drive up to your henhouse and give your fowls a treat. Keep them well supplied with it. Mud is cheap. We know you are a little stingy when the women ask for some wheat for the hens, but you won't be stingy with your mud. Now don't run away with the idea that mud alone will make hens lay well, for it won't, but it is certainly a great help. It is a welcome change in the bill of fare, and that is what the fowls need. If we don't give them

that it always pays to try and please our customers and give them satisfaction. A. R. Charlottetown, P. E. I.

[NOTE.—Mussel mud is a product taken from the beds of streams near the seacoast in the Maritime Provinces. It is a mixture of mud, decayed seaweed and sea-shells, and hauled by farmers in winter to manure their land for wheat; it answers a good purpose. We get none of it in the inland provinces, so our henwives will require to hunt up a substitute.—EDITOR F. A.]

Setting the Hen.

As a rule it is not wise to make a hen sit where she does not want to, because you may not only lose the eggs, but also a good deal of your patience. It is best to have the hens as tame as possible before setting. If the hen is in an out-of-the-way place when she becomes broody, it is well to allow her to hatch a clutch of chickens where she is. If it is necessary to move her, allow her to sit on the nest she chooses for a few days before moving her. Then move her to where she is to sit, at night, and she will not notice the change so much. A good nest for a sitting hen is a small or medium-sized box placed on end, with a narrow board nailed across the bottom of the front to keep the nesting material in. Then strips are nailed up and down across the front so the hen can be confined or released at will. In the bottom of the nest place a layer of earth or sod nicely hollowed out at the center. On this place a little chaff or cut straw. Do not have it (the straw) too short nor too long.

In selecting the eggs for hatching, use only those that are well shaped, rejecting all of abnormal size or with any deformity whatever. In order to secure a uniform hatch, endeavor to get the freshest eggs possible, those laid as near one date as convenient. In order to have them all come out about the same time, get those which are laid about the same time.

Many amateurs, in ordering eggs from a distance, do not seem to understand that in order to get a satisfactory hatch, such eggs should not be set immediately on their arrival. Turn the package topside down, and let them remain that way for at least 12 hours. An oversight on this point has been the cause of many a breeder being denounced as a swindler, when, in fact, the whole blame rested on the purchaser.

Give the hen and nest a thorough dusting with insect powder before she is given the eggs. At night, when she has become accustomed to the nest, give her about thirteen eggs, more or less, according to the hen. It is well to set her in a cool, quiet place, where she will not be disturbed. Keep fresh water before her at all times, and feed her on whole grain, peas or corn. S. H. W. Huron Co.

APIARY.**Weak Colonies in Spring—When to Unite Them.**

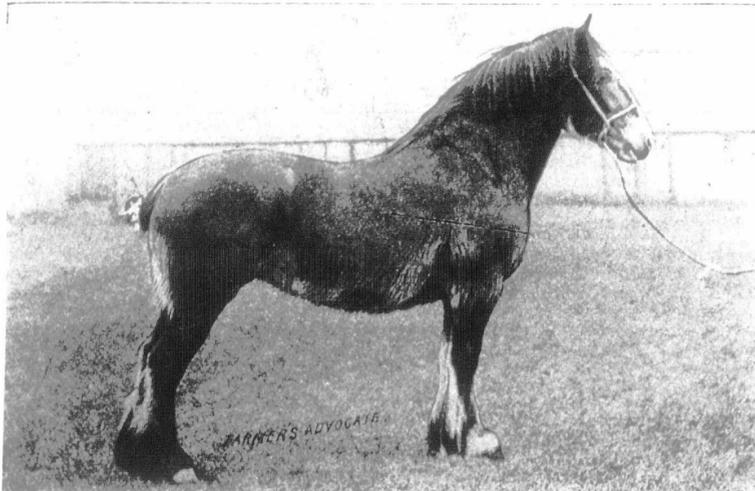
When colonies of bees come out weak in the spring, it may be beneficial to put two or more of these weak colonies together, so that one strong colony may be made from several weak ones. Some suppose that if any uniting of weak colonies is to be done, the earlier in the spring it is accomplished the better the results will be, but from years of experience along this line I am positive that such early uniting is a mistake. If these colonies are left to themselves, the best we can hope is that they will become strong enough in bees and honey for winter; while by uniting just before the honey harvest I secure a good yield of honey from the united colony and get the two in good condition for winter. My plan of work in uniting, and looking toward this end, is as follows:

As early in the spring as the bees can be looked over, all of the weaker colonies are shut on as few combs as they have brood, by using a division-board to contract the hive. They are now left till warm weather comes, being sure that all have stores enough where they can conveniently reach them to carry them until this period. They are now built up as rapidly as possible by reversing the brood, etc., so that by June 1st the best of them will have five frames of brood, others four, and so on down to one for the very weakest. As soon as the best has its five frames filled with brood, down to the very bottom corners, a frame of hatching brood is given to one having but four frames, and an empty comb put in its place.

In taking a frame of hatching brood in this way I generally take all the bees there are on it right along, only being sure that I do not get the queen, so that all the young bees on this comb help to give strength to the weaker, as the younger bees will not return to their old home.

In a few days a frame of brood and bees are taken from each of these two five-frame colonies, and given to the one having but three frames, and so I keep taking till all have five frames each.

Do not make the mistake some do and try to strengthen the very weakest first, for by so doing

**MOSS ROSE.**

A champion Clydesdale mare of Scotland, dam of imp. Montrave Matchless. PROPERTY OF LEVI S. BOWLES, SPRINGVILLE, ONT. (SEE GOSSIP, PAGE 319.)

what they want, they won't give us what we want. Give them a variety. Here is where many persons make a mistake. They wonder why their hens don't lay, while they feed them all winter on oats and potatoes. One needs to study their poultry. It is surprising how much we can learn by close observation. This is women's work. Men, as a general rule, are not much interested in poultry. Well, women-folk, let me give you a bit of advice: If you have been feeding your hens on potatoes for a while, take notice how they eat them, or if they eat them at all. If they don't seem to care for them, stop feeding them at once. Don't say, "If the saucy things won't eat potatoes, they can starve," but go and get them something they will relish. Boil some barley or scald some corn meal for them, and see how greedily they will eat that. Look over your flock to see if all your hens are smart and lively. If you find one moping around the henhouse, that will scarcely move out of your way, kill the good-for-nothing. Like some human beings, the hen that has no activity or push about her, and refuses to scratch for a living, is merely a cumberer of the ground.

Now, I suppose many of you have hens set by this time, and some have chickens hatched. I am waiting yet for the hens to cluck. That is where the trouble lies. We can't persuade them to cluck, but must just wait until they are ready. The only sure way to have early chickens is to use an incubator. Setting hens is slow work. Our chickens should be all hatched in April if possible.

As eggs are cheap now, people can afford to use more of them. We take our eggs to market. I find it a good plan to pick out all the small eggs and keep them for our own use. I sell them readier, for people don't like to buy small eggs; they would rather give a little more money for large ones. Then there is a great deal in having them always looking nice and clean, and perfectly fresh. I find

from one-half to two-thirds of the brood will be liable to perish with some cool spell, as these last colonies have at this time all the brood they can properly care for.

By the above plan we are always safe, and advancing warm weather is in our favor also. In a few days after all have five frames of brood, we are ready to unite, and if all has been done as it should be, the uniting will be done about the time white clover begins to yield honey nicely.

To unite: Go to No. 1 and look the frames over till the queen is found, when this frame having the queen on it is set outside the hive. Now spread the frames apart in No. 2, when the brood, bees and all, from No. 1 are carried and placed in each alternate space between the frames of No. 2, closing the hive. Return the frame having the queen on it to No. 1, placing beside it an empty comb; adjust the division-board and the work is done. In two or three days, put the sections on the hive No. 2, and see what a pile of honey they will store up. At the same time place an empty frame, having only a starter in it, between the two filled ones in No. 1, and in a few days you will have a frame filled with as nice worker-comb as you ever saw, which is much cheaper than to buy foundation. Nearly all the old bees carried to No. 2 will have returned by this time, so that No. 1 is a splendid nucleus, just right for building straight worker-comb, and by giving empty frames as needed, this colony will be in good condition for winter, while No. 2 will have given three times the honey the two would have done if left to themselves, or had they been united in early spring.—G. M. Doolittle, in the American Bee Journal.

GARDEN AND ORCHARD.

Spraying.

BY JOHN B. PETTIT.

During the seasons that I had charge of the experimental spraying in the "eastern division" of Ontario, carried on under Government supervision, I had ample opportunity for finding out why there are so many fruit-growers that do not make use of the spray pump, and also the reasons why so many others that have used it did not have any beneficial results from their work, and therefore condemned the method of orchard preservation, and laid their outfits in a fence corner, in some back field, to go to ruin. I will enumerate a few of the most frequently-repeated excuses, and also the main reasons of failure, and try to show that the excuses are very poor ones, and that proper methods and thorough work must bring beneficial consequences.

Many of the growers said that they could not spare the time, and there are still many men who will present this as an excuse to day. True, they could not if they dissolved their copper sulphate in cold water, and the Paris green by throwing it on the top of the barrel of water and stirring it about with a shingle. Then, when the barrel of solution was finally prepared, they used enough on one tree for half a dozen or more, thereby necessitating the preparation of four or five times the solution that was needed. By using boiling water for dissolving the sulphate and slaking the lime, and by dissolving the Paris green in a bowl by putting but a little water upon it first and stirring it into the green, then adding a little more water until it gradually comes to a paste and then a liquid state, I have often prepared the whole barrel of solution in less than 15 minutes, and once, when working against time, I did it in seven minutes; and with the assistance of one man, I more than once sprayed from 20 to 25 good-sized trees in an hour.

Another excuse, and probably the most frequent, was the "tremendous expense." Well, let us look at the "expense" side of proper spraying. Take one barrel of solution for say thirty good-sized trees, with sulphate at 6 cents per pound, Paris green 16 cents per pound, lime 20 cents per bushel, and in most places water is free.

4 pounds sulphate.....	24 cents
4 " lime.....	2 "
4 ounces Paris green.....	4 "
40 gallons water.....	0 "

Thirty trees sprayed once for 30 cents for solution.

Suppose you spray five times during the season, then we have 5 cents per tree for solution. Allow 10 cents per tree for labor, or a total expenditure of 15 cents per tree for the season. Expensive? I would think the contrary, when we consider the increase of from 50 to 80 per cent. of first-class fruit, besides the health and growth promoted in the tree.

The principal reasons for unsuccessful spraying are (1) lack of thoroughness, (2) improper method of application, (3) beginning too late in season, (4) solution not properly prepared.

There is no use doing this work at all unless it is done thoroughly; otherwise, it is time and money worse than wasted. "Spraying" does not mean "drenching." Every part of the tree should be covered with a thick mist, but as soon as the leaves and branches begin to "drip," pass on to the next tree.

Many growers wait until the trees are nearly in full bloom before giving the first application. Here is where a great mistake is made. It is astonishing how early in the season the insects make their appearance. They are often hatched before the buds show any green, and are watching for the first bursting buds, longing for a feast. This is the time to slay them, while they are yet young and small. Do not wait until they are half or fully grown and your trees are stripped of their foliage. Then, these early sprayings are most beneficial in fighting fungous growths.

Often the strength of the poison is not obtained. Unless the Paris green is dissolved by the method above mentioned, there is little use of putting it in the barrel. It is an impossibility to dissolve it by throwing it into the barrel and stirring it about in the water. If the solutions are properly prepared and the work in connection with the application is thoroughly done, spraying will prove of great benefit, and the expense will be mere nothing when compared with the results obtained.

April 19th.

The Fruit Garden.

Farmers should plant currants, strawberries, and other small fruits. Select the best soil, and all the better if not far from the house, as the bushes will be better guarded and tended and be the more convenient for picking. One can buy the bushes so cheap now, and it is well to order them from a good reliable firm, and then soon have an abundance of all the varieties of small fruits.

Strawberries.—In starting a bed of these, do it as soon as the ground can be worked. Give a generous manuring, and work it in deeply and thoroughly. The best distance for the rows is 3 feet apart, with the plants a foot apart in the row. Some plant them in hills, and do not allow them to form, or rather grow, runners. Old beds that were covered should have the straw removed just over the plants, to expose them to the sun and air, leaving the mulch on the ground until after the fruit is gathered. After fruiting, go over the patch and mow the plants down. They will come on fine and green by fall, and then they should be given their covering for the winter. For a little trouble you can have all the strawberries you need for your own use and dispose of any surplus in the market. It is well to put out a new plantation each year, as after the second year weeds and grass are apt to take possession, and the crop is not so satisfactory.

Blackberries should be set out very early. Six feet apart each way is a good distance. Set a stake six feet high to each. See that plants that are to bear this year are well tied to stakes.

Raspberries.—Thin out the old dead wood; lift and tie to stakes all branches that are lying on the ground. Give them a good top-dressing of straw manure; it makes a good mulch, and the spring rains will wash off all the dirt and filth, so there will be no unpleasant odor by picking time.

Currants.—If new bushes are set out, let them be 4 feet apart; if old bushes were not pruned last fall, do so at once, before the leaves start. Thin out the old wood and shorten back the growth each season at least a third. By manuring, the size of the fruit may be much increased. The plan of making a kind of tree of the currant gives so much better chance of cultivating around them, and you must not forget to remove sprouts that start from the root, by rubbing off when small, or you will be troubled by the worms. All currant-growers are aware that worms first make their appearance on a new growth and then spread over the bush. Consequently, no sprouts, no worms; but in case you have not rubbed off every sprout, and the worms come, give them a dose of copperas water, 1 pound to 6 gallons of water. Use a hand sprayer, and spray the under sides of the leaves as well as the top. Possibly the Scotch method, of dusting fine soot upon them after a shower or when the dew is on, and also working small quantities of it into the soil around the bushes, is the best way after all, as it is claimed this latter plan in a year or two will banish them from the garden altogether.

Gooseberries.—The bushes should have more attention than they usually get. An annual manuring will greatly increase the size of the fruit, and a mulch will retard the ripening and prolong the season. The fruit usually brings a better price sold green than when ripe.

Grapevines.—Grapes in plenty should be found on every farm. Plant some good sorts this spring, wherever there is a place. Plant one-year-old vines of the varieties known to succeed best in your own vicinity. You should bear in mind that the whole new growth of the vine and the fruit comes from the buds that were upon the canes at the fall of the leaf; hence, you should renew the growth each year from the lower buds on each cane, usually cutting away the cane above the lower two buds. If you wish to train a vine upon an arbor at the top of a fence or high building, you can easily do it by allowing some of the uppermost buds to grow, and clip off the lower ones. The vine is so easily managed, that whoever has a few feet of soil for the roots can have an abundance of grapes. Grapevine insects are numerous. As soon as the young shoots start, a small caterpillar will often be found rolled up in the young leaf, and it should be removed at once. As soon as the vine is in flower, the rose bugs will attack the blossoms. This insect can only be kept in subjection by catching and killing it. In early morning they are torpid, and may be shaken from the vines. Catch them in a pan holding a little water upon which there floats a film of kerosene. In training the vine, the shoots should be kept tied to the trellis. New shoots from canes that have been layered should be kept tied up to stakes. Young vines making their first growth should produce but a single shoot. If others start, remove them and tie up the strongest to a stake.

The varieties of fruits I have named are within the reach of all, and if you have not a small-fruit garden, set out one this spring. You will find it to repay all work or trouble in two or three years at the most. Once started, it will always remain.

FARMER'S WIFE.

Some Splendid "Annuals."

BY "FLORIST."

This is the month that most farmers' wives or daughters—I am extremely sorry that I cannot use the word "farmers" without having to spell it with an apostrophe "s"—will make preparation for a little floral supply for the coming summer and fall months. In most cases, they will have plenty to do without taking a spade and rake and preparing flower beds, but in many instances it is about the only change from regular routine work that farmers' wives have, and, tired as they may be, a few minutes in a flower-bed seems to revive their spirits and make a pleasant spot in their monotonous lives. It is just at this time of the year that wives would appreciate a little assistance from their husbands, and they should remember that they are the more pleased, on a hot summer day, when they sit down, tired, to a dinner-table that is decorated with a bouquet of daintily-arranged, beautiful flowers, and be kind enough to prepare their wives a few flower-beds ready for seed-sowing.

Many will be puzzling their brains over what kind of plants they will make use of. There are three kinds that are grown from seed: annuals, biennials, and perennials. Annuals grow from the seed and bloom during the summer and die. Biennials grow from the seed, bloom that season, then go through a winter and bloom during another summer and then die. Perennials grow from the seed, and bloom for many years, until something happens to in some way injure the roots and cause them to die. Of the three classes, the annuals are used most extensively by the amateur.

Among the finest of annuals is the petunia. Some who have grown the old-fashioned single red petunia may think that the writer has poor taste. Well, true, I have little use for that, but there is a far better type: it is called "Giant petunia," or "Giants of California." They come both single and double, and no matter which one is selected, the flowers are beautiful. The "singles" are very large, with open throats, most exquisitely marked, mottled and shaded, and some of them are very fragrant. Some of these come with ruffled, fluted and fringed edges, and this, combined with their intense colors and markings, makes them beautiful beyond description. The "doubles" of this strain are also very large, and in these also the colors and markings are most beautifully blended and the fringed edges are often present. The petunia is very easy to grow, and no one who tries the "Giants of California" can help being pleased. Right here is a pointer: If you are growing petunias from double seed, and desire to have double-flowered plants only, there is one sure method of discarding many of the "singles" that have not come true from seed. Scattered over the surface of the soil in which you have started your seed will be plants growing tall and slim, while the remainder are short, and one would think weak. These tall, slim plants will, in nearly every instance, turn out to be "singles."

Another splendid annual is the phlox. There has been great improvement in these flowers during the past few years. New and richer colors have been introduced, and the size has been increased, and we also have new shapes. The colors range from maroon-black to pure white, with all the intervening shades.

An indispensable garden flower, and one fitted alike for rich and poor, is the dianthus. This succeeds in any soil, and is an exceedingly free-blooming plant. They are closely related to the carnation, and their intense, rich colors and peculiar blotchings and markings make them very beautiful. The blooms are splendid as cut flowers, and will last for several days in water. The flowers come very double, semi-double, and single. The shades of the dianthus run from almost black to pure white. These plants often prove to be biennial.

Before ending, I must make mention of the old favorite, the aster. A marvellous change has taken place in this flower of late. We now have some imbricated, like a rose; others are globular, like a peony; and, again, some are with great difficulty distinguished from the finest chrysanthemums. These can be planted at intervals of a couple of weeks until July, and by so doing, the period of bloom can be greatly prolonged.

These are but a few of the best annuals. They are all hardy and easily grown, and that is the kind of plant the farmer's wife wants. If you have not tried them before, try them this season; and if you have, use them again, getting the best seed obtainable, and you cannot but be pleased with the results.

N.-W. T. Farmers' Institute Meetings.

At several N.-W. T. Institute meetings it was complained that many Ontario fruit packers have been acting dishonestly by filling the middles of the barrels with a quality of apples quite inferior to that at the ends, and inquiries of our merchants elicited the same complaint. Even should the new Dominion enactment fail in any respect to compel honesty in the packing of fruit, it will not pay to trifle with the Manitoba and Northwest markets; honesty, rather, will be found the best policy. There is a proverb, "Once bitten, twice shy," and while good Ontario fruit is in high favor here, yet we can and will purchase elsewhere rather than have deception practiced upon us. What I have said does not apply to all, or even the majority, of the Ontario fruit packers and dealers; but the trouble is that one dishonest man brings his fellows into disrepute.

A DELEGATE.

ENTOMOLOGY

A Cattle Tick.

To the Editor FARMER'S ADVOCATE:

SIR,—The specimens sent with your letter of 16th inst. are, as you surmise, true ticks. The finding of these on a horse at Chilliwack, in the Fraser River Valley, British Columbia, must, I think, be an unusual occurrence. From the crushed specimens, it is not possible to be positive of their exact identity, but I think there is hardly a doubt that they are the well-known cattle tick of the Southern States, *Boophilus bovis*. This has been found occasionally on cattle and horses in the West, and it would be interesting to learn if the animal upon which these were found had been recently imported, or had been running recently with animals imported into British Columbia from the Northern States. In Texas and some others of the Southern United States, the cattle tick is a serious pest. When, as is frequently the case, it is very abundant, it rapidly reduces the condition of animals upon which it occurs; but its worst injuries are due to the fact that it is the immediate means of conveying infection of the Texas cattle fever. These ticks have the power to fast for a very long time—several weeks—and after gorging themselves on an animal, they drop to the ground, and then, after a considerable period, climb up on to grasses or bushes and attach themselves to any passing animal. When they have bitten an animal suffering from cattle fever, they convey the infection to the next animal they attach themselves to. Of course, in districts where there is no fever, they cannot convey the infection to animals they bite. I do not think there is any likelihood that this tick will develop into a serious pest at Chilliwack or in British Columbia. Specimens have been occasionally sent to me from various places in the Northwest and British Columbia; but they have never been very abundant except upon an occasional animal which was in poor health.

In our country it is not a very difficult matter, as a rule, to free animals of this parasite. Several applications have been found effective. Almost any greasy or oily substance applied to the parts affected will destroy the ticks. A mixture of lard and sulphur, $\frac{1}{4}$ of sulphur in 1 lb. lard, or sulphur and kerosene, will kill them. The ticks, as a rule, are found on those parts of the animal where the skin is thin. When the parasites are numerous, washing, brushing, spraying or sponging the animals with one of the several well-known commercial sheep dips gives the greatest satisfaction. They are efficient, cheap, easily applied, and are not poisonous or irritating either to the skin or eyes. If these are not obtainable, the ordinary kerosene emulsion will answer. On a few animals they may be applied with sponges, mops, brushes, or a syringe.

J. FLETCHER, Entomologist.

Central Experimental Farm.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the *Farmers' Advocate* are answered in this department free.

2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest or which appear to be asked out of mere curiosity.

3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessarily for publication.

4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

Veterinary.

LAME MARE.

I have a nice Standard-bred mare, 6 years old, that is lame in the left fore foot or leg. About two years ago she got lame in the right foot or leg, and was taken to the best vets. convenient, but none of them could locate the lameness. She was blistered from shoulder to foot without any apparent benefit, but she finally got better, and is now sound in that foot. About six months ago she got lame in the left foot. I had her shoes taken off, and she got better, but limped a little occasionally, and sometimes appeared altogether well. About three weeks ago I got her shod, and have been driving her some, and she has been getting more lame every time I drive her. I drove her a few miles last night. She was pretty lame when she started, but got over it after driving a mile or two, but this morning she is very lame. It appears to be difficult for her to put her foot ahead, and the muscles of her neck, from the point of the shoulder up, raise out as large as a man's arm when she steps. The temperature of that foot is about the same as the other, and unless she is very lame she stands as firmly on that foot as on the other. There does not appear to be any soreness or swelling. She is in foal.

R. H. HAWLEY.

Middlesex Co., Ont.

[From symptoms given, I think your mare has navicular disease, and a cure, in all probability, cannot be effected. Repeated blistering around the coronet, and a long rest, will help her, and possibly effect a cure. If she become so lame that she is useless, you can get a veterinarian to perform neurotomy (removing the nerves of the foot). This will cure the lameness, but not the disease, and she will be liable at any time after the operation to become entirely useless, while, on the other hand, she may last for years.

J. H. REED, V. S.]

WORMS IN COLT—LYMPHANGITIS.

1. I have a colt, twenty months old, which passes worms about an inch long. He is in fairly good order, but is not growing much. When he is let out he will eat the dirty straw that is around the yard. What will clean him out?

2. About a month and a half ago, one of my horses took a sore leg. He was all right the night before, but in the morning one of his hind legs was swollen twice its natural size, and so sore that he could not put his weight on it for three days; it then got better, but the swelling did not come all out, although I bathed it with hot water and rubbed it well with spirits of camphor. Three weeks after the first attack, he took the same thing again, and was lame for three days. He is not lame now, but the leg is still swollen. What shall I do for it?

Pictou Co., N. S.

J. W. M.

[1. If the worms are about the size of a knitting-needle, pointed at one end, and from 1 to $\frac{1}{4}$ inches long, they are pinworms, and confine themselves to the rectum or back bowel. Horses affected with this rub their tails, and generally show a white slimy substance around the anus. Give a physic of Barbadoes aloes, 8 drams, and one teaspoonful each of baking soda and ginger, mixed in a pint of warm water as a drench. Now give an injection of warm water to clean out the bowel, and follow it with one of salt and water, one ounce of salt to two quarts of water, or a decoction made by boiling half a pound of quassia chips in one gallon of water. The eating of dirty straw indicates indigestion, for which the colt should have, after the above physicas operated, soft food three times a day, to which has been added a teaspoonful of the following mixture: Ground gentian root, baking soda, ginger and sulphate of iron. It would be well to get a quarter pound of each thoroughly mixed, which should be enough to tone up his system. If the colt passes any long, round worms, give after the physic and before the tonic, raw linseed oil one half pint, mixed with one ounce of spirits of turpentine.

2. The swollen and sore condition of the legs points to lymphangitis, big leg, or weed, due generally to overfeeding, lack of exercise, or sudden changes from work to idleness, or from a poor to a rich diet. A horse once attacked is liable to have the trouble recur, and, as a consequence, a chronic enlargement or thickening of the limb. The treatment should consist of limiting the feed and giving a purge. Give Barbadoes aloes, 8 to 10 drams, and ginger, 1 tablespoonful, in a pint of warm water. Bathe the leg for an hour with hot water in which the hand can be borne, rub thoroughly and bandage. A teaspoonful three times a day of saltpetre sulphur and gentian, for two weeks, will improve the condition of the blood.]

CHRONIC CONSTIPATION IN COW.

I have a well-bred Jersey heifer, three years old, which had her first calf three weeks ago. She seems to have trouble to pass her manure, strains, and forces her parts out very much while straining. What she does pass comes away in small quantities, and often. I noticed it first last fall just before she went into the stable for winter. She then seemed constipated. We have fed her ground oil-cake and ground flax at times with her chop and cut corn-stalks and oat straw, with some hay. Her hair has not looked right all winter, and since she has started milking, she is coming down in flesh. She eats fairly well, and gives about twelve quarts of milk per day, which all goes to the calf. Could you suggest a remedy? Her skin seems tight, especially across her loins. She gives promise of being a valuable dairy cow.

A. C. M.

Montreal.

[Your cow has chronic constipation. I would advise the following treatment: Give one pound Epsom salts, dissolved in one and one-half pints of warm water, and given as a drench. Feed nothing but a little bran for twenty-four hours after giving drench. Then get the following mixture: sulphate of iron, powdered gentian, powdered ginger, bicarbonate of soda, of each three ounces; powdered nuxvomica, two ounces. Mix, and make into twenty-four powders. Give a powder every night and morning. If she will eat them in her dampened food, it will be all right; but if she will not take them that way, you will have to shake one up with one-half pint cold water and give as a drench. It will be better to repeat the prescription. If at any time the feces become dry and harder than normal, give a dose of Epsom salts, say about one-half pound.

LUMP IN THROAT OF COW.

I have a young cow which is swollen on the glands of the throat near the jaw. The swelling broke and ran for some time, and then left a calloused lump. Now the other side of the throat is swollen, but going down without breaking. It seems to be just under the skin and not attached to the jaw. Would you advise blistering? Do you think in time it would turn to lump jaw? Do you think her milk fit for use, or had I better fatten her?

H. B.

Middlesex Co., Ont.

[It is probable your cow has actinomycosis, but the bone is not as yet affected. A cure can be effected by dissecting carefully out with a knife. If the trouble be an ordinary abscess, nature may effect a cure, but it is probable the trouble is lump jaw. In cows suffering from this disease, neither the milk nor flesh is considered fit for human food, and a person offering either for sale is liable to a heavy fine. If the cow is cured either by the use of the knife or otherwise, her milk and flesh are both good, as she is then a healthy animal.

J. H. REED, V. S.]

DIARRHEA IN CALVES.

I have had a good deal of trouble with calves—some last spring, but it has become general this spring. I have lost two-thirds thus far—8 out of 12. Calves are strong and seem all right when calved. At 24 hours old, first symptoms are sudden and severe diarrhea, and in 24 hours more they are generally dead. Cows are in apparently healthy condition, bowels normal, are fed and watered and stables cleaned regularly; stables large and fairly ventilated. Ration: Fed on wheat straw, cut, mixed with good ensilage, with a little oat chop and bran; good oat straw to pick over at night, with hay after calving. Some of the cows had no ensilage, but the same results. The silo is in the middle of barn. Calves have been tried on whole milk. Have also mixed one-third water with a little soda and cornstarch, but with no better results.

Norfolk Co., Ont.

Wm. J. W.

[This epidemic of diarrhea in calves must be either contagious or due to local causes. It may be due to impure water taken by the cows. If the water you use contains any liquid manure from the barnyard, it might cause the trouble, but if the water and food are above suspicion, we must conclude that the disease is due to contagion. You do not mention whether you allow the calves to suckle their dams or feed them out of a pail. It is very hard to get those writing for causes and treatment for diseases in stock to give full particulars. We should have all particulars in such cases. You state that you diluted the milk with water in some cases, and from that, of course, we gather that the calf referred to was fed out of a pail; but you do not state whether it had been allowed to suckle at all or not. I would advise not allowing it to suckle, and to dilute the milk with about one-sixth part of lime water—that is, 1 part lime water, 5 parts milk. If diarrhea commence, give about 1 dr. laudanum, mixed with a little milk, every 3 hours until the diarrhea ceases. It would be good practice to give cows about to calve, for 2 or 3 weeks before calving, about 25 drops of carbolic acid, mixed with half pint water, twice daily, and give each calf the milk of its own dam.

J. H. REED, V. S.

NOTE.—Dr. Reed seems to have overlooked the fact, as stated, that these calves were only 48 hours old at time of death, and only 24 hours when the trouble began, so that they were practically living abortions, as there was too little time to apply an effectual remedy. This is surely something different from either ordinary or epidemic diarrhea, and is a serious difficulty.—EDITOR.]

LAME STALLION, ETC.

I have a seven-year-old stallion, one of whose fore knees has a lump on it that is just as hard as the bone itself, and he is lame when he trots. What can I do for this? I have also a mare, seven years old, that is very dull. When she was five, she was smart and lively, but now is slow and dillitary. She only had one foal, and is with foal this year. One of her hind legs swells up in the fetlock, and will stay swollen for a week at a time. What can I do for her? She keeps her head down to the ground, and can hardly be made to trot.

Can a male pig be drugged so as not to breed, as I bought one and can raise no stock?

H. M.

Northumberland Co., N. B.

[1st. From symptoms given, I would say that your stallion has an inflammatory disease of the knee, which causes an exudation of soft material which is becoming converted into bone and joining some of the bones of the joint together. It is possible the lameness might be cured by fring and blistering the joint, which should be done by a veterinarian.

2nd. There may be something wrong with your mare's teeth which prevents her eating enough to give her the spirits you desire. Have her mouth examined, and if the teeth require dressing have them attended to, but you should remember that a pregnant mare becomes more and more sluggish as pregnancy advances. Regular exercise and bandaging the leg while in the stable will prevent the swelling.

3rd. No.

J. H. REED, V. S.]

LAMPAS IN FILLY.

I have a fine young mare, rising three years, due to drop her foal in June. She is in good condition, but since a few days ago does not eat her hay well. My blacksmith says she has lampas; the gums are swollen out past the upper front teeth. What is the cause and cure for this disease? I receive your valuable paper, the *ADVOCATE*, and should like to see it in the hands of every farmer in this country where agriculture is so much neglected and less understood.

WM. MACKINTOSH.

Antigonishe Co., N. S.

[The filly has lampas, which is not a disease, but simply a swelling of the gums just inside the upper front teeth, caused by the shedding of the first teeth and the introduction of the new ones. Some authorities claim to believe it is a provision of nature to protect the young teeth from injury. The frequent treatment administered by blacksmiths and others, of cutting the affected parts roughly or burning them with a hot iron, is barbarous and useless. The feeding of corn, peas or whole roots as a treatment to break down the swelling is also cruel and useless. Ordinary cases need no treatment, as a cure will come of its own accord when the new teeth are well grown out. When the swelling projects below the table of the teeth, incisions may be made close to the teeth in order to relieve the congestion. An incision made back in the roof of the mouth is liable to dangerous

results by opening a large artery in that position. After scarifying the swelling slightly, apply, a couple of times a day, alum water—alum two teaspoonfuls to a pint of water. The food should be soft and of a nutritious character.]

PROBABLY BONE SPAVIN.

I have a nine-year-old mare that had water farcy last winter, and she walks lame on right hind leg when starting in the morning, but after having walked ten or fifteen minutes she seems all right. Please tell me, through the *ADVOCATE*, what would be good for her, and oblige?
D. H.
Muskoka District, Ont.

[It is impossible to make a positive diagnosis of the lameness from such indefinite symptoms. In writing for advice for either sickness or lameness, a person should give all symptoms presented. In all probability your mare has bone spavin, and the lameness can be cured by firing and blistering the front and inside of hock. It requires a veterinarian to operate properly. In some cases blistering alone will remove the lameness; this can be done without employing a veterinarian. Directions for blistering have frequently appeared recently in this department.
J. H. REED, V. S.]

WEAKNESS OF FORWARD ANKLES IN THREE-YEAR-OLD ROADSTER.

I have a road colt, rising three years old, that knuckles over in the front fetlock joints. He has done so ever since he was foaled. He appears to be worse when he is backed up; but can trot along, and you would never know that there was anything wrong with him, and can stand perfectly well. Would you advise getting leather leggings made for him that would fit tight around his legs? Would getting him shod with a high calk in front and none at all behind do him any good? Please let me know what would be best to do, and if he can be cured?
W. S. F.
Perth Co., Ont.

[Congenital weakness of the ankles that continues until the colt is three years old is a condition very hard to improve. It is due to a weakness of the extensor muscles, those on the anterior portion of the forearm, the tendons of which extend down, one being attached to the bone just below the fetlock joint and the other extending to the bone of the foot. The flexor muscles, those on the posterior portion of the forearm, are abnormally strong, and by their strength cause flexion of the fetlock, which should be counteracted by the anterior muscles. Do not shoe the colt as mentioned; it will do harm, by placing the foot in an abnormal position. Leggings such as you suggest, if nicely made, so as to not scarify, may benefit the case. A blister repeatedly applied to the anterior muscles mentioned will also do good.
J. H. REED, V. S.]

PROBABLY TUBERCULOSIS IN FOWLS.

I have some fowls that apparently were all right one day; the next day found two dead. On cutting them open, I found the livers enlarged, with yellow spots on them. In the hen was a growth attached to the liver, about the size of a walnut, with yellow growths on it about the size of a pea. I have been feeding them corn and buckwheat mixed. They have had a box of gravel to go to all winter. The others appear all right. Would you please tell me what it is and remedy for same?
W. W. S.
Norfolk Co., Ont.

[We submitted the above question to a medical man who has given considerable study to ailments of fowls, and he inclines to the opinion that the spots found on the liver are tuberculous in character. While the birds appeared active, the probabilities are they were much reduced in flesh before they died. Nothing could have been done to save the birds in question had their condition been known. The only treatment for this trouble is outdoor exercise, nourishing food, comfortable dry quarters with plenty of sunlight and fresh air.]

SKIN DISEASE IN MARE.

Please give information about a mare ten years old. She seems to be in good condition, but as soon as warm weather comes she begins to rub and bite herself, and gets scaly all over body and neck. I feed her two pounds of oat chop and hay three times daily.
F. K.
Wellington Co., Ont.

[Your mare is predisposed to eczema. As a preventive, give her a purgative of eight drs. aloes, two drs. ginger. After the bowels have regained their normal state, give two ozs. Fowler's solution of arsenic shaken up with one-half pint cold water as a drench night and morning for three weeks. If the itchiness should appear, wash the parts thoroughly with strong soft-soap suds, and then rub the following well into the parts twice daily: one part corrosive sublimate, one thousand parts water.
J. H. REED, V. S.]

LUMP ON PASTER OF HORSE.

I have a four-year-old very clean-limbed horse that has a very slight enlargement about half way between hoof and fetlock on each side, not in front or like ringbone, not low enough for sidebone, I think. They can be felt, but barely distinguished by sight. No lameness. Is it likely to grow, or would you advise treatment? If you do, kindly give directions.
F. M.
Frontenac Co., Ont.

[We believe the enlargements to be the natural articulations of the os suffraginis and os corone, the two bones between the fetlock and hoof. They are therefore not diseased conditions, so that no treatment is necessary.]

INTESTINAL WORMS IN PIGS.

I have twenty pigs about two months old. They are all in one pen, but divided into three parts. They have a dry, comfortable place to sleep in, and get a run out every day. For feed, they get milk, both sweet and sour, and bran and oat chop, soaked, with a few mangels. They eat well; in fact, they are ravenous, but they are not doing any good. They sweat very badly, especially after eating. They appear to be just the same as those of E. McI., that he writes of in the *ADVOCATE*, in March 1st issue. Two of them have died. The last one ate heartily in the morning and was dead before noon. I opened it and found the small intestines completely filled with worms, from the size of a pin up to about 8 inches long, having round bodies and tapering toward both ends. I would like to know the cause, and cure, if there is any, for I am afraid I am going to lose all of them.
R. J. R.
Peel Co., Ont.

[You are possibly right in assuming that your pigs are affected in the same way as those of E. McI. He gave no post-mortem appearances, and I assumed they died from digestive trouble. Worms, in such numbers as you describe, will cause constipation, by filling up the digestive tract. It is very hard to say how such young animals get the worms. I would advise the following treatment: Take 1 part oil of turpentine, 14 parts sweet milk; shake well, and give each pig from 2 to 4 tablespoonfuls, according to size. When they are more than 2 months old, they require larger doses, if of average size. If the bowels are not acting freely, give about the same quantity of raw linseed oil, 4 or 5 hours after giving the vermifuge. Repeat the vermifuge in two days, and again, if necessary. As a preventive for worms, it is good practice to give a little powdered charcoal in the food once daily, as soon as the pigs commence to eat.
J. H. REED, V. S.]

PROBABLY HEMATURIA IN HEIFER.

Please prescribe for bloody murrain in a yearling heifer. Is it likely to occur again? She is fed on hay, oats and mangolds?
N. T.
Elgin Co., Ont.

[You probably mean bloody urine (hæmaturia). I have never heard of bloody murrain. In European countries there is a contagious disease called foot-and-mouth disease, or murrain, but it has never been seen in this country, and it is not probable your heifer has anything of that kind. You should give symptoms when you are asking for advice. I have, on different occasions, called the attention of subscribers to the necessity of giving minute symptoms when asking for advice for sick or injured animals. You give no particulars at all, simply ask for a cure for a disease that does not exist. I expect you mean bloody urine. The treatment for this is to keep the heifer quiet, in a comfortable box stall; feed liberally on nutritive food. If the bowels are constipated, give about 1½ pints raw linseed oil. Give 1 ounce tincture of iron, mixed with ½ pint water, as a drench, three times daily until blood ceases to pass in the urine. This disease is liable to be confounded with red water. In hæmaturia, you can see the little blood clots in the urine; in red water, no clots are formed. Of course, there is a liability to a recurrence of the disease.
J. H. REED, V. S.]

NOTE.—“Bloody murrain” is a term we have heard for many years. Dr. James Law classifies it under black-quarter, sometimes called anthrax, with extensive engorgement of a shoulder, quarter, neck, breast, or side. It is most frequent in young and rapidly-thriving stock, and runs its course so quickly that animals are usually found dead in the field as the first indication of disease. The first symptoms are fever, plethora, stiffness, tenderness, swelling, followed by yellow or bloody oozings. Recoveries are the exception, and often slow and tedious.—ED.]

REPEATED ATTACKS OF INDIGESTION IN MARE.

I have a mare, ten years old, that aborted two years ago. Since then she occasionally gets attacks of colic. When working, perhaps an hour after noon, she shows signs of pain, and will want to lie down in harness. When taken to the stable, she will lie down and roll as if in acute pain, repeating this every few minutes till relieved by raw linseed oil, laudanum and sweet nitre. She is carefully fed on good hay, a few roots at noon, and oat chop in moderate quantities, according to her work, three times a day. She is always in moderate condition, and never worked very hard. How and what should I feed this mare to prevent these attacks, and what should I give her should an attack occur, and what drugs should she have after an attack to tone her up?
D. L.
Oxford Co., Ont.

[Your mare has weak digestive organs. In order to prevent attacks of colic or indigestion, she should be very carefully fed on food of first-class quality. Feed in small quantities. Give hay only twice daily, morning and night, and only in limited quantities. Feed grain four times daily, giving only the same amount in four feeds that you usually do in three; water before meals, not allowing any water after. Do not work or drive soon after meals, nor give grain shortly after a long drive. Feed a little ground ginger, say a teaspoonful, in her feed once daily. This will aid digestion by increasing the secretion of digestive juices. The treatment you mention is all right in case of an attack. If this fails to give relief, repeat in one and a half hours, and if this should also fail, you had better send for your veterinarian, as the disease will then require treatment according to complications.
J. H. REED, V. S.]

Miscellaneous.

STANDARD BARRED PLYMOUTH ROCKS.

1. Please give standard of perfection for Barred Plymouth Rocks.

2. In exhibiting a cock or cockerel, is it necessary that they should be of standard color? Might they not be medium or even light?

3. In showing a pen of Barred Rocks, can they be either a cockerel mating, a pullet mating, or a mixture of both?
J. L.
Ontario Co., Ont.

[1. American Standard of Perfection:—

STANDARD WEIGHTS: Cock, 9½ lbs. Cockerel, 8 lbs. Hen, 7½ lbs. Pullet, 6½ lbs.

The Male.—HEAD: Of medium size and carried well up. BEAK, short, stout, regularly curved, yellow. EYES, large, clear, bright, bay. FACE, bright red.

COMB: Single, medium in size, in proportion to the specimen, perfectly straight and upright, free from side sprigs, with five or six even and well-defined serrations, those in front and rear smaller than those in the center, fine in texture, bright red.

WATTLES AND EAR-LOBES: WATTLES, of medium size, equal length, moderately rounded, bright red. EAR-LOBES, of medium size, bright red.

NECK: Of medium length, well arched, tapering, with abundant hackle.

BACK: Broad, of medium length, flat at the shoulders, and rising with a slight concave sweep to the tail. SADDLE FEATHERS, long and abundant.

BREAST: Broad, deep, full.

BODY AND FLUFF: BODY, broad, deep, full, compact. FLUFF, moderately full.

WINGS: Of medium size, well folded, the wing bows and points well covered by the breast and saddle feathers.

TAIL: Of medium length, spread at the base, carried moderately upright. SICKLES, fairly developed, spreading laterally beyond the tail proper. LESSER SICKLES and TAIL COVERTS, well developed and well curved.

LEGS AND TOES: THIGHS, large, strong, well covered with soft feathers. SHANKS, of medium length, stout in bone, well apart, yellow. TOES, straight, strong, well spread, of medium length, yellow.

COLOR OF PLUMAGE: Body color grayish-white, each feather regularly crossed with parallel bars of blue-black, the barring also showing in the down or under-color of the feathers. The barring on neck and saddle-hackle, narrower and closer, and running the entire length of the feather.

The Female.—HEAD: Of medium size and carried well up. BEAK, short, stout, regularly curved, yellow. EYES, large, clear, bright, bay. FACE, bright red.

COMB: Single, small, perfectly straight and upright, free from side sprigs, with five or six even and well-defined serrations, those in front and rear smaller than those in the center, fine in texture, bright red.

WATTLES AND EAR-LOBES: WATTLES, of medium size, equal length, well-rounded, bright red. EAR-LOBES, of medium size, bright red.

NECK: Of medium length, comparatively small at the head, nicely curved, with hackle flowing well over the shoulders.

BACK: Broad, of medium length, with slight incline from the base of the neck to the tail, or slightly cushioned.

BREAST: Broad, full, round.

BODY AND FLUFF: BODY, broad, deep, full, compact. FLUFF, moderately full.

WINGS: Of medium size, well-folded.

TAIL: Of medium length, spread at the base, carried moderately upright. TAIL COVERTS, fairly developed.

LEGS AND TOES. THIGHS, of medium size and well covered with soft feathers. SHANKS, of medium length, fine in bone, well apart, yellow, which in hens may shade to light straw-color. TOES, straight, well-spread, of medium length, and in color the same as the shanks.

COLOR OF PLUMAGE: The same as described for the male.

2. There is nothing in the rules of poultry shows to prevent one showing fowls not standard in color, but birds that are off-color are not likely to win prizes, provided better ones are shown against them.

3. Before making entries for any poultry show, one should read carefully the rules and regulations governing the show, and be guided by them in making up pens, etc. For a breeding pen it is well to put in half the birds for pullet and half for cockerel mating. For an exhibition pen the birds selected should all be as near perfection as possible.]

EXPROPRIATION OF LAND FOR RAILWAY.

I have a muck deposit on my farm. I sent a sample of it to a chemist for examination. He reported it worth \$3.20 per ton in the air-dried state. The railroad, being built in this county, passes through this muck deposit.

1. Are the appraisers on railway damages legally bound to take this muck deposit into consideration when appraising the railway damages to my property?

2. Is it also their duty to consider or allow for consequential damages?
SUBSCRIBER.
Nova Scotia.

[1. Yes.

2. It is as to such as are not remote.]

THICK AND THIN CREAM.

1. I should like some light as to the effect of leaving say a half-inch of the skim milk immediately under the layer of cream, where creamer cans are used, and drawing it off with the cream. The idea is not to lose any butter-fat in skimming, or in case a separator is used, adjusting the machine so as to run out what is called "thin" rather than "thick" cream. What will be the effect in the ripening process, and on the quantity and quality of the butter made? Some say it has a tendency to cause "streaky" butter, or butter with white spots in it.

2. In selling or buying cream, is there any standard of quality? What percentage of skim milk is allowable, or what percentage of butter-fat should good average cream contain? Some city customers contend there must be some rule or standard to govern cream. With deep-setting cans, or a separator, respectively, how will the dairyman produce a fair average cream? Some sell two brands, one at 20c. and the other at 30c. per quart. MILKMAID.

[In answer to Milkmaid's question No. 1, I should say that if one-half an inch of skim milk next to the cream line is left, there is less danger of losing butter-fat in skimming, but this skim milk tends to make the cream thinner, and it is consequently more labor to handle it, and it is more difficult to churn. If the milk stands for 12 hours only, then I would say it would be advisable to leave from one-quarter to one-half an inch of skim milk next to the cream, if close skimming is required and thin cream is not a disadvantage. If it stands 24 or 36 hours, then it is not necessary, and the skim milk may be drawn close to the cream line. In the case of a separator, it is advisable to adjust the machine so as to take off rather thick cream. Cream should test from 25 to 30 per cent. fat in order to give the best results in churning. The effect on the ripening process of having the cream thin, is that it tends to hasten ripening, and also probably to give a higher flavor to the butter; but there is danger, if the milk be tainted, of developing bad flavors; and, on the whole, we would prefer thick cream to thin cream, as there is less loss of fat in churning. I do not think that there is any greater tendency to cause "streaky" butter, or butter with "white specks" in it, if the cream is thin, unless it is put into the churn without straining, in which case there would be more curdy matter in the cream, and a greater tendency for white streaks in the butter.

2. There is no legal standard of quality for cream. Good commercial cream should contain about 20 per cent. fat; and it is customary, where different qualities of cream are supplied, to charge according to the percentage of fat which each contains. At the present time there is a demand in cities for very rich or thick cream, testing 30 to 40 per cent. fat. Then dealers are able to dilute it to the desired thickness, and they are thus saved so great an expense for freight. With deep-setting cans, richer cream, or cream containing a higher percentage of fat, may be obtained by allowing the cream to stand for a greater number of hours. For a separator, it is an easy matter to obtain thick cream or thin cream by adjusting the skim-milk screw or cream screw, whichever method is adopted by the manufacturers of the separator. If it is a skim-milk screw, to make the cream thicker turn the screw out, which allows a larger proportion of the whole milk to come from the separator as skim milk, and consequently there is a smaller proportion of cream which is richer. With a cream screw, to obtain richer cream turn the screw in, which forces a larger volume of the whole milk out as skim milk, and a less volume in the form of cream, thus making it richer, or containing a higher percentage of fat. So long as a separator is not taking less than ten or 12 per cent. of the volume of the whole milk in the form of cream, there is little or no danger of extra loss of fat in the skim milk, if the speed, feed and temperature are correct. H. H. DEAN.
Dairy Dept., Ontario Agricultural College.]

CORN SPOILING IN THE SILO.

Would you please tell me the reason that some people have corn spoil in the silo, as I intend building one this summer? N. T.
Peel Co., Ont.

[To have good silage, several conditions are necessary. The silo must be practically air-tight, the corn must be put in just at the glazing stage, soon after being cut, and very firmly packed, either by its own weight or by pressure in some other way. It should be well tramped around the edges of the silo. When corn is cut up and put in just right, it at once commences to heat up, reaching a temperature of 150 degrees Fahr. in a few days. This seems to cook the corn, stopping all decomposing fermentation, provided there is no further admission of air. It is here that a tight silo counts in preserving the corn, similar to the preservation of fruit by the canning process. If air is admitted in any considerable quantity, the silage molds or becomes sour. Sour silage is also due to the corn being too green when put in, by reason of its not having heated up sufficiently to destroy the acid fermentation organisms. Moldy ensilage is frequently due to the corn being overripe or too dry when put in, which prevents it from packing sufficiently close to exclude the air. Corn in this condition should be moistened with water as the filling is in progress. There is seldom any complaint of silage spoiling in a round silo, in which the settling and pressure is uniform. It is in the corners of square silos that spoiled silage is generally found, the result of insufficient pressure.]

LAYING OUT A LAWN.

I have noticed, at different times, in your valuable paper, articles on beautifying lawns. Will you please let me know, either directly or through your paper, if I can obtain plans and directions for laying out a lawn? I wish to have mine overhauled, and do not know what will suit my situation. P. M.
Wentworth Co., Ont.

[Some make the mistake of planting trees on the lawn in rows. These are all right in an orchard where cultivation is to be done, but it makes a lawn look stiff and unnatural to have trees all over it in rows. Trees and shrubbery on a small lot should be selected with a great deal of care, for nothing is more common than to see a small village lot with trees on it too large for the place, and then we are obliged to trim them up like avenue trees. Trimming a tree to a tall stem is necessary on streets, but lawn trees should be allowed to take natural shape, and only be pruned to keep them somewhat regular. A coniferous evergreen should be allowed to sweep the turf with its branches and rise in pyramidal form and make an object of beauty instead of the trimmed-up monstrosities we see all around. In preparing a lawn for the grass the preparation of the soil should be very thorough. All you need is plenty of Kentucky blue grass and red-top, and sowing should be very thick. Four bushels of the mixture, half of each grass, is none too much if a good lawn is wanted at once. The red-top comes up at once, while the blue grass is slower and keeps coming up for months after sowing. The red-top soon gives way to the blue grass, but protects the slower blue grass in the start. Start the lawn mower as soon as the grass is tall enough to give it a bite, and during growing weather cut weekly at least, and never use a grass catcher or rake the cut grass off the lawn. If cut as often as it should be there will be nothing unsightly about it, and the cut grass will form a mulch that will thicken up the lawn and protect it from drought. In planting trees and shrubbery, plant so as to conceal boundaries, by irregular groups of shrubs and trees. Never plant a dark evergreen right in front of a deciduous tree, but use them as a background against which the winter spray of the deciduous tree will have a lace-like effect. Have groups of shrubbery along the road front if the lawn comes to the road or street, to secure privacy. Always understand that roads and walks and fences are mere matters of utility and not part of the ornamentation. Hence they should be as few as are absolutely needed. Filling a lawn with walks breaks up the beauty of the grass, which should sweep up to the house in unbroken green. Always strive to have from the front a view of unbroken grass, without tree or shrub, all of which should be grouped to make the frame of the picture. A curved road or walk is more graceful in outline than a perfectly straight one, but it should never curve in a meaningless way, nor curve so much as to present a constant temptation to cut across the grass. If pedestrians habitually make a path across the lawn, it is evident that the walk is in the wrong place. Therefore, while making a curved line to a road or walk, make it reasonably direct. Do not have too many trees right about the house. For health, the sun should shine on all parts of the house at some time of the day, and a smother of trees is not desirable. Plant out of view all disagreeable objects, and provide plenty of open grass and vistas towards fine views. Plant for the comfort of your family and the beauty of your home, and no matter how much time you spend in beautifying a place it will pay in a money way. This has been proved time and again, and there is no better investment a man can make in increasing the selling value of his farm than in the proper lay-out and keep of the ornamental grounds. Grass kept in good order is more pleasant to walk upon than gravel, and walking on the grass does no harm if not continued in the same place so as to make a path. General rambling over the grass is rather a help to it than otherwise.]

ENSILAGE OF CLOVER—PEAS AND OATS.

1. Will clover do for putting into a silo for ensilage? If so, at what stage of growth is it best to cut it?

2. Would peas and oats, sown at 2 bushels of oats and 1 of peas per acre, cut green and put into a silo, keep? If so, at what stage of growth would it be best to cut them?

3. In what proportion would you mix clover ensilage, pea and oat ensilage (if it will keep) and corn ensilage to make a well-balanced ration for cows, or will it be necessary to add a little bran and meal? Lambton Co., Ont. J. A. G.

[1. An article in this issue by Mr. Grisdale, of the Central Experimental Farm, Ottawa, supplies an answer to this question. There is, we believe, no question about the practicability of preserving clover in a silo, yet we do not recommend it as being nearly equal in value with corn for winter fodder. It may serve a good purpose for summer feeding, and be fed out before the corn harvest.

2. We have no experience and no record of experience in siloing green peas and oats, and would not recommend it, as we feel sure that, being so full of sap, it would make sour ensilage, and certainly we think there would be more economy and profit in cutting and curing the crop in open air when nearly ripe, when it makes excellent fodder, and if run through straw-cutter would mix well with cured clover cut in the same way, or the whole mixed with corn ensilage would make a fairly well balanced ration, which would be improved, of course, by the addition of a little bran and meal, which, in the case of milking cows or fattening cattle, would be amply paid for in the product.]

STANDARD WHITE LEGHORNS.

Please give standard of perfection for Rose-combed White Leghorns? W. C. PLUMAS.

[The Male.—HEAD: Short and deep. BEAK, yellow. EYES, full, bright, red. FACE, free from folds or wrinkles, bright red.

COMB: Single or rose; bright red. ROSE: Square in front, firm and even upon the head, tapering evenly from front to rear, without inclining to one side; the top comparatively flat and covered with small points or corrugations, and terminating in a well-developed spike at the rear.

WATTLES AND EAR-LOBES: WATTLES, long, thin, pendulous, bright red. EAR-LOBES, smooth, thin, free from folds or wrinkles, fitting closely to the head, and white or creamy white.

NECK: Long, well arched, with abundant hackle, flowing well over the shoulders.

BACK: Of medium length, with the saddle rising in a sharp concave sweep to the tail. SADDLE FEATHERS, long.

BREAST: Round, full, and carried well forward. BODY AND FLUFF: BODY, of medium length, tapering from front to rear, and closely feathered. FLUFF, rather short.

WINGS: Large and well folded.

TAIL: Large, full, and carried upright. SICKLES, long and well curved. COVERTS, abundant.

LEGS AND TOES: THIGHS, of medium length, slender. SHANKS, long, and in color bright yellow. TOES, yellow.

COLOR OF PLUMAGE: Pure white throughout.

The Female.—HEAD: Similar to that of male, but smaller. BEAK, yellow. EYES, full, bright red. FACE, free from folds or wrinkles, bright red.

COMB: Single or rose, bright red. ROSE: Similar to that of the male, but smaller.

WATTLES AND EAR-LOBES: WATTLES, thin, well rounded, bright red. EAR-LOBES, smooth, thin, free from folds or wrinkles, fitting close to the head, and white or creamy white.

NECK: Long and well arched.

BACK: Of medium length, slightly cushioned.

BREAST: Round and full.

BODY AND FLUFF: BODY, of medium length, deep and plump. FLUFF, rather short, but more fully developed than in the male.

WINGS: Large and well folded.

TAIL: Long, full, and carried upright.

LEGS AND TOES: THIGHS, of medium length, slender. SHANKS, long, slender, and in color bright yellow. TOES, yellow.

COLOR OF PLUMAGE: Pure white throughout.]

SAWDUST AS MANURE—PROLIFIC LAYERS.

H. H. H., King's Co., N. S.:—"I thank you very much for your attention in answering my question on the sore eyes in my hens. Will you kindly advise, through your valuable paper, on the use of sawdust for bedding, thus putting considerable of it in the manure? Will it produce scabby potatoes if the manure is used on potato land? Is it also safe to use it in the orchard?"

"2. I have a pen of White Wyandottes, four pullets and one cockerel. In the last seven days the four hens have laid twenty-eight eggs, each hen thus laying every day. I think this is as good as usual, don't you?"

[Sawdust in moderate quantities along with yard manure will do no harm, and little, if any, good, in ordinary soil, as it contains very little fertilizing constituents. An excess of sawdust plowed into land does harm on all but very heavy clays, as it leaves the soil too loose and open, and therefore more liable to dry out. On clays, it tends to prevent baking. We have never heard sawdust blamed for causing potatoes to be scabby. Sawdust as a top-dressing in an orchard should do no harm; but plowed in, its effects would be the same as on other land. These are our views. What have our readers who have manured with sawdust to say about it?

2. Yes; one egg a day for a week is all that should be expected from any hen, and more than most of them produce.]

LEG WEAKNESS IN HENS.

F. H. R., Stormont Co., Ont.:—"What is the matter with my hens? They are in fine condition, and I have been getting a few eggs all winter. I feed them buckwheat and occasionally a little corn and cooked meat once a week. I have had four of them lose the use of their legs; they were all right at night, and the next day they could not walk at all. I had two the same way last winter. They seem to eat all right, but cannot walk. There are fifteen in a house 13x24 feet, with a ground floor; roosts are about 2 feet from the ground, which is always dry, as it is sand."

[I am inclined to believe your subscriber has been feeding too heavily of corn and buckwheat, both of which are inclined to make birds overfat. If he were to give his fowl as much exercise in the open air as possible, and reduce the amount of whole grain fed, I think he would overcome the difficulty somewhat. Those that are weak in the legs will be benefited by giving half a teaspoonful of Epsom salts, and feeding very little of grain foods, but more vegetable foods, such as mangels, cabbage, etc. Leg weakness among hens that have been forced for winter egg production is not at all uncommon, and I have found the above treatment to give fairly good results.

W. R. GRAHAM, Manager.

Poultry Dept., O. A. C.]

HEIFER AND COW FAILING TO BREED.

We have a registered Shorthorn heifer, two years old, which we cannot get in calf. She comes in regular every three weeks, and we have bred her every time. Whenever she is served she seems to be in pain, for she presses and sometimes passes bloody liquid. We would like to know cause and cure? We have also a cow which we bought from a reliable breeder last spring. She was guaranteed to be in calf. About three months before her time was due we noticed her urinating very often, but did not pay much attention to her. When her time was due she came in and we bred her. She came back, and we bred her four or five times. We were then advised to feed some medicine about six weeks before we took her away to the bull. She came in once more, but we did not breed her. She has not come in now for two months. We would like you to advise us in regard to this?
Peel Co., Ont.

AN OLD SUBSCRIBER.

[It is very doubtful whether the heifer will ever breed. It is rarely that one does in such case. It is probable that the os, or neck, of the womb is closed and calloused. The only hope is an operation by a veterinarian when the heifer is in heat and before service. Sometimes this is effected without the use of the knife, by a continued rotary motion of the forefinger in the os until first one finger and then another is introduced. Smearing the part with belladonna an hour or two before the operation may be helpful. If an opening cannot be made by this means, a closed knife may be introduced, having a spring by which the blades are opened, and in drawing it out an opening is made, when a piece of sponge is placed in the passage until healing takes place. It is claimed that success has in some instances attended such operation. It is better to use a young bull in such case.]

The case of the cow looks quite as hopeless, unless she may have been with a bull unknown to the owner, and may now be in calf. We have known cows to come in season when far advanced in pregnancy, and, on the other hand, we have known young cows cease to come in heat, and prove hopelessly barren after producing one or two calves, and we know not how to account for it.]

RAPE: ITS CULTIVATION AND VALUE AS PASTURE.

A. W. L., Compton Co., Que.:—"Kindly give us a little advice about growing rape: How to prepare the ground, time to sow, quantity to sow per acre, its value for pasture, number spring pigs an acre would pasture, etc.?"

[As a rule, the best results from growing rape, especially where dry summers are common, are secured by sowing late, say about last of June or first of July, as during a severe drought it is liable to be affected by plant-lice if sown early. Its highest usefulness is as a pasture for lambs and sheep in fall months. As a pasture for pigs it is highly spoken of by some, and for this purpose may be sown as early as the land is dry and warm, say the latter end of May, as when eaten off it will spring up again and again, if the season is fairly favorable. As a preparation, it is better that the land be plowed the previous autumn, and, if reasonably free from weeds, need not be plowed in the spring, but cultivated, harrowed and rolled to secure a fine seed-bed. On very clean land it may be sown broadcast, at the rate of 4 or 5 lbs. per acre, and covered with a harrow. On good land, in a moist season, we have seen good crops grown in this way, but, as a rule, better success is attained by sowing in drills, 24 to 26 inches apart, at the rate of 2 lbs. of seed per acre, and cultivating with a horse hoe. This is the common practice of the most advanced farmers and stockmen. We have seen very fair crops of rape grown on inverted pasture sod or clover sod after hay harvest, well harrowed, the seed being sown either broadcast or in drills on the flat. The number of pigs an acre will pasture cannot be stated definitely, as so much will depend upon the conditions and growth of the crop. An average crop will sustain from 10 to 15 sheep for 60 days, and they will fatten rapidly at the same time if the rape is strong and well advanced, but it does not make so complete a feed for hogs, and they will eat less of it than will sheep.]

CAUSE OF SMUT.

SUBSCRIBER, Halton Co., Ont.:—"Could you kindly inform me, through your valuable paper, of the cause of smut in oats? One of my neighbor's oats were very dirty last year, while another's were perfectly clean. I saw in your issue of March 1st a treatment for smut, but did not know the cause."

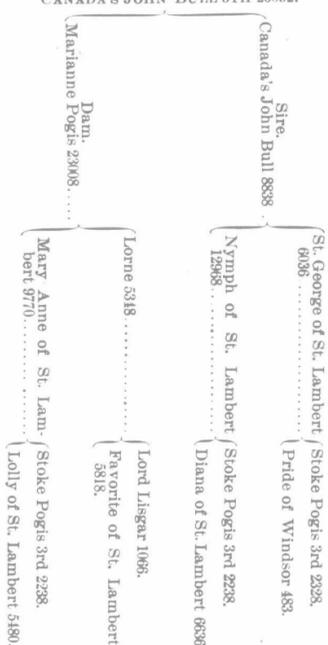
[The cause of smut is smut, the same as the cause of wheat is wheat. The black masses of smut consist of millions of minute spores, by means of which the fungus reproduces itself. The spore masses ripen about the same time as the oats are in bloom. The spores are largely distributed from the smutted heads and lodged in the chaff of sound kernels, where they remain until the oats are planted. They then germinate by sending out little tubes, which enter the young plant through the first leaf-sheath. When the germinating tube has entered the plant, it sends out branches in all directions, penetrating the stem and all its parts, thus forming the vegetable portion of the fungus. As the oat plant grows, the smut plant also grows within it, taking possession of the new tissue and forming within the head a mass of thick threads. These eventually become masses of spores or smutty heads of oats. The treatment recommended in our issue of March 1st destroys the germinating powers of the spores on the seed treated.]

TO TRACE PEDIGREE.

1. In writing a pedigree for registration, which is the proper way to trace ancestors, through sire or dam? Would you please give an example pedigree of offspring of two pedigree animals, by giving imaginary pedigrees of two animals and copying pedigree of their offspring therefrom? H. F. Wright Co., Que.

[If the sire and dam are registered in the herd-book, studbook or record you wish to register the offspring in, all that is necessary to do in making application for such registration is to give, on the form of application supplied by the secretary, the name and address of the breeder and owner of the offspring; the name, color, and date of birth of the youngster; and the name and herdbook number of the sire and dam. Thus: Edward 7th—White; born April 15th, 1901; bred by B. B. Blank, Blankton, Que.; owned by C. C. Clark, Clarkson, Que.; sire Adam Bede 27652; dam Eve Evergreen 68762. If Adam and Eve are registered in the proper record, under numbers assigned them, the above should be all that is required to have the offspring registered. If the sire and dam are not registered in that book, of course they must be registered there before the offspring can be recorded. In most of the Canadian registers the pedigree is traced only through the dam, the name and number only of the sires being given. This is clearly a one-sided and incomplete pedigree, and it is strange that breeders have so long been content with such a record and such a showing of the pedigrees of their stock. The family tree or pedigree chart illustrated below, and which is adopted by several of the American Breeders' Associations, is the only complete, up-to-date and wholly satisfactory form of registration—showing at a glance the whole genealogy. In the example given the pedigree is only extended to three generations, but the system is capable of indefinite expansion:

CANADA'S JOHN BULL 5TH 20092.



Blank forms for this style of pedigree are furnished free by the West Chemical Fluid Company, Toronto.]

FOUL-BROOD INSPECTION.

Would you inform me, through the ADVOCATE, who pays the expenses of the inspector of foul brood: is it the Government or the party that employs him? M. MACDONALD. Bruce Co., Ont.

[Foul-brood inspection is done by Wm. McEvoy, Woodburn, Ont., who is paid by the Government through the Beekeepers' Association. When inspection is desired, either Mr. McEvoy or John Newton, Thamesford, president of the Beekeepers' Association, should be applied to, and the inspection will be attended to in due time.]

"INTERNATIONAL FOOD" SATISFACTORY.

In reply to a question by Wilbur Ferguson, of Peel Co., I would say that after over two months' feeding stock with "International Stock-food," I can recommend it with great satisfaction. By using it in skim milk, I fattened a calf that at five weeks old sold to a butcher for \$4.75. A neighbor had two sick pigs that were nearly ready for market. One of them died. I persuaded him to try the "Food" on the other, and it immediately began to improve, and came around all right. I might speak of others, but I think this sufficient at present. W. R. JOHNSON. Elgin Co., Ont.

POTATOES OR CARROTS FOR HORSES.

Are potatoes good for horses? Are they as good as carrots for horses? Should potatoes be cooked for hogs? J. R. D.

[It is not considered that potatoes are suitable feed for horses. If washed clean and fed in small quantity they are wholesome, but by no means equal to carrots as food for horses. Potatoes should be cooked for hogs. They are little use as hog-feed uncooked.]

SHEEP PEN—CEMENT FLOOR—BOILING FEED.

Last year I built a stone foundation under my barn, intending the stabling for pigs and sheep. The building is 30x60 feet.

1. Would it be a proper place for sheep, say one-half the basement, if well ventilated and boarded tightly from pigs?

2. Would you put small stones under grouting for cement under pigs? I have a good clay bottom.

3. How many barrels of cement would I require to complete one-half of basement, say 28x35 feet inside?

4. Could I have a cooking kettle in connection with pigs, to have one end outside for steamer, if fire could be made secure; or does it pay, counting all expenses? Would the results be nearly as good by pulping roots and putting dry chop on? Simcoe Co., Ont. E. R.

[1. If the pen were well ventilated and lighted, and has wide doors on the south side, which should be left open to allow the sheep access to the yards at all times, they would take no hurt in the stone basement. In the judgment of many successful sheepmen, the most satisfactory sheep house consists of a roomy board shed, made draft-proof, with constant access to a yard, but so arranged that a portion of the pen can be enclosed separately and made warm for the ewes at lambing time.]

2. It is not necessary to put small stones for a foundation for a cement floor. From one to two inches of sand or gravel, well rammed down, is much better. Cover this with three inches of rough concrete, ram it solid, and put on a finishing coat one inch thick, of two parts clean, coarse, sharp sand to one part cement; also rammed well while the lower concrete is still soft.]

3. A floor 28x35 feet would require about 15 barrels of Queenston or Thorold cement.]

4. Repeated tests between cooked and uncooked feed for hogs have shown there is little or no advantage in the boiling. If one has a lot of potatoes to feed, it will pay to cook them; or if the hogs have a cold pen, it will pay to warm their feed in very cold weather. But apart from these instances, it does not pay for the work and fuel to cook feed for hogs. Mixing chop with pulped roots 12 hours before feeding will give first-rate satisfaction in hog-feeding.]

ABOUT CREAM SEPARATORS AND RAISING CALVES.

As we are thinking of buying a cream separator, first, which kind would you recommend, or which make, and how long would one last?

Do you think calves could be raised on separator milk alone, or what should they be fed with it? JOHN R. SHERWIN. Northumberland Co., Ont.

[There are several kinds of cream separators advertised in our columns, and we believe they are all first-rate machines, differing somewhat in minor points, but much the same in durability and work done by them. They are all substantially made, and will last for many years with proper care. Occasionally small parts will give out and need replacing, but they will, as a rule, cost very little.]

Calves will do fairly well on warm milk fresh from the separator as soon as they are able to eat a little chop and hay. Better calves can be made, however, by feeding along with the milk one or other of the calf meals prepared by good firms, such as those advertising in our columns, or by adding to the milk a small quantity of boiled flaxseed, the seed being first soaked for twelve hours in water and then slowly boiled, when it forms a jelly, which is both nourishing and wholesome if given in moderation. Whole milk fresh from the cow should be fed in limited quantity until the calf is three or four weeks old.]

CLOVER SILAGE—ROBERTSON'S MIXTURE.

Would you please inform me, through your most instructive pages: 1. If siloing clover is a success, and is it practiced to any extent in Canada? Does clover silage constitute a full ration? How much can be fed to mature animals? Would it not be economy to put clover in silo for summer feed rather than use as pasture?

2. Is Professor Robertson's silage mixture—i. e., corn, beans and sunflowers—adopted to any extent, or is it not as great a success practically as it promised? Probably some of your readers have had experience along these lines. Would they kindly let us hear from them, with your permission? Brant Co., Ont. JOHN HAMILTON.

[These questions are addressed to those of our readers who can answer them from experience, which they have our permission to do. We believe Robertson's mixture has not been adopted by farmers to any great extent, chiefly, we think, because of the difficulty in growing the horse-beans and sunflowers and in putting the three crops, properly mixed, into the silo. It is, we believe, less used at the Ottawa Experimental Farm than formerly. Clover siloing has been practiced to some extent in British Columbia, and, we believe, with fair success.]

COLLECTION OF SERVICE FEE.

Can I collect fee for services of a pure-bred registered boar, if parties who obtained services knew amount of fee at time of service? Or has boar to be advertised, through local papers, before fee can be collected? Wright Co., Que. H. F.

[We think there is a clear case, and that advertising the terms is not necessary in order to collect fee. Even if the owner of the sow did not know the amount of fee at time of service, he is liable for the same amount as you charge others.]

CHEAP SHEEP HOUSE—FENCING—MARE'S LEGS SWELL.

1. Please give me a plan of a sheep house and yards, at as moderate cost as possible, suitable to keep sixty sheep, considering lambing time. I do not want my sheep in barnyard with cattle.

2. I have a lot of rough, stony land which I wish to fence for pasturing sheep. Fencing timber is rather scarce. What would you consider the cheapest and most advisable way to fence? Do you approve of fencing with barbed wire? Is a farmer entitled to enclose his bush by stretching 3 or 4 strands of barbed wire on the trees; or, say he keeps in on his own land 10 or 12 feet, would he be allowed by law to fence in this way?

3. I bought a mare last fall. She is ten years old this spring. I have worked her all winter, but at times one of her hind legs swells and slightly cracks in front. I think it is a grease leg. Would you kindly advise me if the leg can be cured, and by what treatment? W. E. P.

[1. The sheep-house plan illustrated and described in our issue of April 1st has many features to commend it. This plan could be adopted in a much cheaper house if so desired. The walls would do if double-boarded, with tar paper between, using good sound pine lumber outside and cheaper pine or hemlock inside. One drawback to this plan is that sunshine cannot be got into all the pens for any length of time during the day. A long pen, running east and west, 24 feet wide, having a 5-foot passage along the north side, or, perhaps better, across the pen from north to south, and dividing the space off into three pens, with racks on either side, answers a good purpose. More room for sheep can be secured by dispensing with passages and having solid racks around three or all sides of pen. Such a pen could have one yard along the entire length and as deep as desired, or it could be divided off the same as the pens inside; or, better, let the two end yards extend beyond the length of building so that all could be wider. The square pen referred to could have a better feed-storage above than the longer, narrower pen. In either case the hay could be put down chutes in the feed passages—or in an enclosure in corner of pen—and distributed below. A pen 20 by 15 feet will accommodate about 15 ordinary sheep. These pens could be subdivided by hurdles to accommodate ewes with young lambs.]

2. He is not prohibited from doing so unless by local municipal by-law, and as to the existence of any such by-law enquiry should be made of the clerk of the municipality. But, while it may not be illegal for him to do what is proposed, he would, at the same time, incur the risk of possibly having to pay damages for injuries to horses, cattle or the like sustained owing to the dangerous character of such fencing. We would add that by the Municipal Act councils are empowered to pass by-laws for providing proper and sufficient protection against injury to persons or animals by fences constructed wholly or in part of barbed wire or any other material. We would ask subscribers to describe the best class of fence for this location.]

3. It is very difficult and probably impossible to entirely cure cases of this sort, although the symptoms can be much relieved. A good treatment is given in answer to W. M., Victoria Co., page 231, April 1st issue.]

SUGAR-BEET FACTORY AND SEED.

To J. R., Halton Co.:—I. We are not aware that there is any likelihood of a sugar-beet factory operating in Ontario this season, but possibly work may begin on one or more to operate in 1902. John A. Moody & Co. are promoting the establishment of a factory here, and meantime undertake to ship beets grown this year to U. S. factories, for which \$3.00 per ton, f. o. b. cars, is offered from London or other stations west. Seed is furnished to those who sign acreage contracts to grow beets, and cost of same deducted from beets delivered. To others the seed is sold at 15 cents per pound, and 15 pounds per acre is what they recommend sowing. The Ontario Dept. of Agriculture is distributing seed gratis to those making trials under certain conditions laid down by Prof. Shuttleworth, of the O. A. C.

ANGORA GOATS WANTED—CREAM-EQUIVALENT FOR CALVES.

1. Are there any Angora goats kept in Canada? If not, where is the nearest place they could be obtained, and at about what price?

2. Is cream-equivalent profitable to feed calves? If so, would it do to feed if they were getting no milk? THOS. E. BARTLETT.

Hastings Co., Ont.

[1. The only Angora goats we know of in Canada are owned by Jas. Bray, Longburn, Man., and Jos. B. Jickling, Carman, Man. Either of these gentlemen will quote prices and furnish other desired information on application.]

2. Cream-equivalent is a good substitute for new milk, and can be fed to calves, with good effect and profit, with little or no milk.]

DOES GREEN RYE FLAVOR MILK?

Will you, or any of your readers, kindly answer through your valuable paper whether rye fed in a green state will taint milk unfavorably for cheese or butter? W. R. JOHNSTON.

Elgin Co., Ont.

[If rye is cut and allowed to wilt for one day before feeding, and then fed in moderate quantity, it will not taint the milk perceptibly. Cows should not, however, be allowed to pasture on green rye, nor should green rye be fed at all after it becomes woody, which is after it commences to come out in head, else it will impart an objectionable flavor to the milk.]

A SWITCHER AND KICKER.

W. L., Victoria Co., Ont.:—"I bought a blood mare ten years old, that is a bad kicker. We can't drive her singly. She will kick the rig all to pieces, and is a bad switcher, too. Can she be cured of kicking and switching?"

[We would suggest the use of an iron crupper. This crupper is made out of a small round rod three feet long, flattened at both ends, bent into shape of crupper, and small hole punched in each end for rivet, by which attach to harness. Allow this crupper to project down the dock about four inches. Fasten the tail down to crupper with a strap concealed under the hair. Have the iron crupper covered with leather. Very often switching leads to trouble, and kicking follows. To prevent kicking, if continued, would suggest the use of the Rockwell bit and overdraw check. Keep the head well up. When she attempts to kick, give her a sudden pull, which will set her back and cause her to forget her heels. The above is a preventive, not always a cure. As she is too old and confirmed in her habits to be readily cured, the preventive plan is about all we can recommend. If, with the iron crupper and Rockwell bit, the mare is considered dangerous, it will be well to apply a firm kicking-strap, passing over the rump, underneath the crupper, and fastened at each side to the shafts.]

SUBSTITUTE FOR TURNIPS.

I am doing a little building this summer. I am scarce of help, and as turnips take a great deal of work, I would like to try something that will partially take their place and be easier handled. What would you suggest as a partial substitute? How would millet and Hungarian grass do? When should they be sown? R. C.

Wellington Co., Ont.

[Corn ensilage, on account of its succulent nature, would most nearly take the place of turnips or other roots for winter feed, but that means the building of a silo, if you have not one, and the care of the crop, though requiring less labor than turnips, may be more than you can attend to. Millet or Hungarian grass make good fodder for cattle if you are fortunate enough to have a favorable season and secure the crop without getting it damaged by rains after cutting. It should be sown about the end of May or 1st of June, and the preparation of the land should be about the same as for corn. It may be sown by hand broadcast, or with the grass-seed attachment of grain drill. From two to three pecks of seed per acre, on rich and well-prepared soil, is considered good seeding if for hay, and less should be sown if for seed. The land should be rolled before sowing and also after sowing. The crop should be cut when the heads have shot and the seed is forming, and before commencing to ripen; curing takes place rather slowly. It should lie in the swath one whole day at least, and then in small cocks for a few days.]

FIRE PROTECTION FOR VILLAGE.

Can you tell me what is the most suitable hand fire-extinguisher for a village of 500 population, and where it can be got, and all other information you may be able to give? W. MCKEE.

Victoria Co., Ont.

[We assume that you have, to begin with, a sufficient water supply in some form. Chemical and other engines, more or less expensive, are in use, but for your village, all things considered, probably a steam hand fire engine would suit you best. In addition to that, you will require hose-reel, hose, wrenches, axes, etc. The Waterous Company, of Brantford, manufacture fire-protection apparatus, and we would advise you to communicate with them at once. Very frequently they have on hand good second-hand engines quite serviceable, with a little repair, for villages.]

REGISTERING A SHORTHORN.

I have a registered Shorthorn heifer which I bred to a neighbor's registered bull. Will you kindly inform me what steps I would have to take in order to have the calf registered, and what it would cost, and oblige? J. F. S.

Penhold, Alta.

[Apply to Henry Wade, Secretary Dominion Shorthorn Breeders' Association, Toronto, for transfer and registration entry blanks. Full particulars are given on these blanks. The charges for registration are \$1.00 to new members, and 50c. to members of the D. S. B. A., and 25c. extra for copies of the pedigree certificates.]

BLACK SPANISH EGGS.

I would like to learn, through your valuable paper, where I can get eggs from pure-bred Black Spanish hens for setting? H. TRENT.

Simcoe Co., Ont.

[Write R. J. Laurie, Woolverton, Ont., or W. W. Reid, Ayr.]

WHERE TO GET AN HYDRAULIC RAM.

Please inform me through the ADVOCATE where I can buy a hydraulic ram? G. F.

Lambton Co., Ont.

[The American Well Works, Aurora, Ill., U. S. A., also the Ontario Wind Engine & Pump Co., Toronto, Ont., manufacture hydraulic rams.]

ROOT DRILL WANTED.

Do you know a field root drill in which the operator can see if he has any seed in the boxes without stopping and taking the drill apart to find out? R. M. WHITE.

Cardwell Co., Ont.

[Will manufacturers of this class of root-seed drill say so in their advertisements?]

GADFLY—GRUB IN THE HEAD.

I have lost three sheep with grub in the head, and as there appears to be no cure, I would like you to publish a history of the fly in all its stages. I caused the last sheep I lost to inhale the fumes of burning sulphur, which caused her to cough up at least one grub. She appeared better for 24 hours, during which time I continued to use the sulphur. She got worse, and I injected into her nostrils a solution of turpentine and milk, as advised in the FARMER'S ADVOCATE of April, 1900, and as a last resource, drenched her through the nostrils with coal oil. After her death I examined her head, and found 27 grubs, in different stages of maturity, and four more in her windpipe, down near the lungs. How is the species perpetuated? If there is any other remedy besides those I have used, I would be obliged if you would publish it, as I have two or three more apparently indisposed, possibly by this disease. Any information on this subject will be acceptable to a number of your subscribers in this section, as we appear to have an epidemic about here. R. M. ANDERSON.

Lanark Co., Ont.

[The grubs are the larvæ of the gadfly, a dull-colored insect, resembling a large house fly. The female deposits not the eggs, but the young larvæ, within the nostrils of the sheep, few only being placed on any one animal at one time, owing to the agitation and violent movements of the sheep on the approach of the fly. These small grubs proceed to crawl up the nostrils, investing the frontal and maxillary sinuses of the head, where they remain and grow to about three-quarters of an inch long, when they escape from the nostrils of the sheep to the ground, where they immediately hide by boring down under the surface. It remains in the ground from one to two months, developing into a fly, when it emerges, and is soon ready to deposit its larvæ in a sheep's nostril, thus reproducing itself. We would point out that these larvæ do not enter the brain cavity, but the sinuses or spaces in the skull in front and below the brain. These sinuses connect with the nostrils. The larvæ reaching the superior maxillary sinuses grow in size, but never escape from their location, finally dying and undergoing degeneration. Those that reach the frontal sinuses, on reaching maturity find their way back to the nasal chamber, and are voided to the ground. As the larvæ grow in size in the sheep's head, the animal becomes affected with a catarrhal discharge. This is clear at first, but becomes thick with mucus. The animal will lie down and hold the nose pointed in the air, gradually turning its head round and backwards. The eyes become red and watery; the sheep moves with nose close to the ground, stepping high with the hind feet. They may be seized with giddiness and stagger. In extreme cases, the animal becomes dull, emaciated, and dies of nervous exhaustion.]

There are two kinds of treatment, preventive and surgical. The preventive treatment consists of smearing the noses of the flock with tar and grease, equal parts, once a week during June and July. When the flock is large, salt the sheep in large auger-holes in logs, and keep the edges of the holes smeared with tar. The writer's practice has always been to mix tar with the salt till it became a brown color. This is believed to maintain the flock in good health, as well as to keep off the gadfly. The surgical operation consists in trepanning the skull at the frontal sinus and extracting the larvæ by forceps; also inject benzine, moderately diluted with water, to destroy others. The flap of skin is then cleaned, applied to the opening, and sewed to the adjoining skin. The whole is then covered with a turpentine-coated leather plaster.]

ABOUT SILOS.

1. Would a round silo 10 ft. in diameter and 25 ft. high be large enough for 15 head of cattle?

2. What would be the probable cost of a concrete silo the size mentioned?

3. Would it be of any advantage to have the bottom say 6 ft. underground?

4. Do the users of silos think it would pay to borrow money to up put a silo, and what is your own opinion? I have been taking the ADVOCATE for some years, and I think it is the paper for farmers, and I would not do without it. W. M.

Grenville Co., Ont.

[1. A round silo 10 by 25 feet would hold about 40 tons of silage, which would give 15 head of cattle about 28 pounds per day for six months. A silo 12 by 25 feet holds 56 tons, which would provide 40 pounds per day for six months, or 30 pounds per day and have a few tons left over for feeding when the grass has failed.]

2. A concrete silo of 56 tons capacity would cost probably \$100.00.

3. We see no advantage in having a silo run down 6 feet underground, unless it would be in a bank so that the bottom would be a little below level with a stable floor.

4. The extra number of cattle a man can keep and the better condition he can keep them in by using silage instead of either dried corn or roots and hay will easily justify a man in borrowing money to build a silo.]

TICKS ON HORSE.

I enclose specimens of ticks found on a horse here. Please inform me what it is, its history, habits, etc., and best treatment to get rid of it? Sumas, B. C. E. A. W.

[The ticks sent us were forwarded to Dr. Fletcher, of the Central Experimental Farm, Ottawa, whose reply to this question will be found in another column, under the head of Entomology.]

LIABILITY UNDER CHATTEL MORTGAGE.

A bought a team of horses from B, and one of them (which was said to be a good horse, only a little poor, but which never was fit to do a day's work) died. B had a mortgage for his money on several articles and also on the horses. When the horse died, B came and took the remaining horse, and all that he had a mortgage on, as A was not able to pay him just then, but he would not give up the note. Can B seize on A's crop or wheat in the granary next fall? He has already got many times the value of the horse.

Avonhurst.
[If B falsely guaranteed the horse to be sound, A would have a right of action against B. In any case, B, after seizing under the mortgage, should render A an account of the proceeds realized by the sale, and if the amount realized did not cover the amount of the mortgage, he would have a claim against A for the balance. He would not have the right to seize A's crop without getting judgment and seizing under execution.]

MARKETS.

FARM GOSSIP.

Oxford County.

We did not have any rain here until the 18th, when we had a nice shower, and then on the 20th we had a heavy snow-storm, and these both have done much good, as the snow was not accompanied by frost, but melted off in a few days. The fall wheat on the light loamy or gravelly soils has a very uncertain appearance and does not look well, and I hear of several farmers who are plowing up their wheat to plant in spring grain. The wheat is better on the heavier soils. Clover seems to have wintered pretty well and is coming up after these rains and snows. A great many farmers here are well on with their spring seeding. We have sown one field with mixed grain, very much after Mr. McMillan's formula as given in the ADVOCATE, only we have given a little more seed to the acre than he did, as our land may not be in as high a state of cultivation, and we added about 1 1/2 to 2 lbs. per acre of rape seed, expecting that if we should get a nice rain after harvest it would rush up and make good feed for the pigs and young cattle. We have a small field of rye looking well, much better than the wheat, which we intend to pasture for a time, or as long as it is good, and then will likely plow up and sow Hungarian grass, millet or rape.

We have, for the last 2 or 3 seasons, found it a great help to the horses to singe off all the long hair on their bellies, legs, neck and throat. They do not sweat nearly so much, and stand the work much better and do not catch cold nearly so readily as if they were clipped, and then it does not cost any money. A torch can be made by nailing some old rags on the end of a short piece of an old fork-handle and soaking in coal oil. But the best that we have tried was an asbestos fire-lighter well soaked in coal oil. The horse should be taken to a place where there is no draft, and twitched, and a good job can be made in an hour. We have found it a good plan to bathe the shoulders of the horses, but especially the colts just commencing to work, with cold water when they come in from work, at first commencing spring work. And horses that have not been working steadily should not be worked too long at a time: perhaps 2 or 3 hours is enough for a few times until they get seasoned to the work.

Our cattle have wintered very well, and have not got any hay, but we had the best of straw and plenty of roots. We will now have to feed hay. Our cheese factories have nearly all commenced operations some time ago, but are not getting very much milk yet, as many of the farmers are raising or vealing calves. There have been some sales of cheese effected at 8 cents, and it has gone away very green. Hay has risen in price and is now worth about \$10, while much was pressed and shipped in the winter months at from \$6.50 to \$7. Potatoes are plentiful and almost unsalable. It is a pity that some enterprising dealer cannot buy them up and ship them to some place where they are needed. Hogs are keeping up and sold last week at \$6.50 to \$6.60. The buyers should be pressed upon and make a discrimination in prices and give more to those who breed and fatten the kind of hogs they prefer. Our hogs have done fairly well. Not one has gone off its feet yet. They get plenty of roots. Wheat keeps steady in price, at about 65 cents; oats about 30 cents; and barley for seed, at 50 cents. I do not think there will be many peas sown this year in this neighborhood, as between the bugs and mildew they have come to be rather an uncertain crop, and then we can generally buy corn at from \$15 to \$17 per ton, which is very good for growing pigs, but we like the peas to finish off with. We had a visit of a member of the ADVOCATE staff, which was an inspiration and help to us. Long may the ADVOCATE flourish and prosper.

Kent Co., Ont.

Up till to-day (18th) April has been one succession of beautiful, bright, cool, and sometimes cold days, and colder nights. Grand weather for hardening our teams and rushing spring work. Spring seeding of wheat, oats, peas and barley is pretty well over, and work generally is fully two weeks in advance of previous years. Such weather tends to keep the fruit buds back, and lessens the danger from frost, and has dried up the mud and put our roads in the best condition in the shortest time in years. On the other hand, it is playing havoc with our fall-wheat crop; in fact, a certain acreage will be plowed up, but on the whole the prospects are fair for a good crop, if we get a good warm rain or two at once. Rain is also needed badly to start the pastures and replenish the soft-water supply. The Thames River has fallen fully four feet lower than can be remembered by the oldest settlers. What will be the outcome of this unusual drought remains to be seen. There will be a heavy acreage of corn and beans planted, the former crop to finish the large crop of young hogs that farmers are preparing to place upon the market next fall. Present prices of pork are \$6.25 to \$6.50 per cwt. Present indications point to a full crop of fruit of all kinds. Apples that went to waste by the carload last fall would now bring \$1 per bag if they had been properly cared for. Potatoes, at 25c. to 35c. per bag, are being fed freely to farm stock, in preference to marketing them.

Butter is 18c. to 20c. per lb.; eggs, 10c. to 12c. per dozen. Maple syrup is \$1 to \$1.25 per gallon. This has been a very poor syrup year. The prices of various farm products and mill feed have varied but little from last month's quotations. Most farmers are now interested in the horse market and breeding horses. Our Old Country buyer paid \$250 for a fine carriage horse the other day, and good prices are being paid right along for suitable horses. Chatham has been fortunate in securing additions to her present industries, in the form of a carriage-spring factory and a binder-twine factory. The Mineral Water Co. have also placed several thousand dollars of stock upon the market, which is being rapidly taken, and it is expected that a large bathing sanitarium will be erected at once. The Radial R. R. is also an assured fact. It is expected operations will begin at once. So many men will be required by these establishments, along with the large contingent that went to the Soo, it is a difficult matter to obtain hired help on the farm at any price.

South Perth, Ont.

Spring seeding commenced on April 12th. The soil was in a good friable condition and more uniformly dry than usual, conditions which go a long way towards insuring a fair crop. The heavy rain and snow storm about the 20th freshened up the grass considerably, and the higher temperature prevailing will give the seed a start. It will also help the wheat and young clover, which were suffering a good deal from hot days and cold nights, although, on the whole, they have both passed the winter and spring in good condition. The supply of milk to the St. Mary's Creamery is also increasing rapidly, now running at about 175,000 lbs. a week, including outlying stations. The prospects for the butter trade are good, much better than last season. The Creamery has just received an order from the Klondike for four thousand pounds put up in 2-lb. tins. This style of package is much used in the army, and is a very efficient method for shipping long distances, but it is tedious work packing that way. The March report is not handy, so I give the same for Feb.: Total milk received, 331,739 lbs.; total butter made, 14,491 lbs.; total butter-fat, 13,103 lbs. It required 22.5 lbs. milk to make 1 lb. butter; it required 89.17 lbs. butter-fat to make 100 lbs. butter. The butter sold for 22.00c. per lb. Net price to patrons (after deducting making at 3 1/2c. per lb.) equals 18.54c. Net price butter-fat, 20 1/2c. One hundred lbs. milk at average test (3.94) realized patrons \$1.7c. Add value of skim milk over whey for feeding at 15c. per hundred, makes net value of 100 lbs. milk at average test 96.7c., and at highest test (6.2) \$1.43.6c. The first year of running gave a net profit of five per cent. on the investment, which profit, however, was used up for improved appliances such as pasteurizers for the different separator stations, and later a cold-storage plant and machinery for making their own ice at the central. Consequently, the shareholders have not realized interest on their money that they expected, but as it is now fully equipped and turning out a first-class article to an ever-expanding market, the prospects are bright. Cheese factories are strong rivals, and their season is expected to open May 1st, so that I presume some fodder cheese will be made, although it is injuring the market. As far as I have had opportunity of judging, stock will come out of the stables in fairly good condition, but will meet a low market.

Prince Edward Island.

Spring here opened up fully a fortnight earlier than usual. Plowing went on in some localities since April 15th. There is still considerable snow on the roads, which makes traveling difficult. Clover has kept the ground well and is making a fine showing. There has been no winter-killing of meadows, new or old. We are looking forward to splendid crops of hay and good pasture. Some little seeding has already been done, but there will not be much grain sown till May 1st. Stock has been well wintered, and now that we are almost assured of early pasturage, milch cows will do well at the pail through the spring months. Many of the dairy stations have made butter all winter, and will continue to do so till June, when the cheese season opens here. Fat cattle are not very plentiful. There has been a great many slaughtered and shipped in carcasses during the winter to Sydney and other Nova Scotia cities.

Good horses are in better demand than for some years, and are readily bought up as soon as offered. Prices.—Oats, 30c.; wheat (milling), 70c.; seed, 80c. to 90c.; timothy seed, \$2.50. Potatoes, 20c. Best beef cattle, 5c., live weight. Hogs (bacon), \$6.25; fats, \$6, live weight. Hay, \$11 per ton. Factory butter, 22c.

Our Local Government has inaugurated a new agricultural policy. It is patterned after the Institute system of Ontario and the system that obtains in Nova Scotia. It will allow for a yearly grant of \$50 each to agricultural societies organized under it, or an expenditure of about \$2,000 annually. A professor of agricultural science has also been appointed to the Prince of Wales College, who will also have the oversight of the "Government Stock Farm." The grant to the Provincial Farmers' and Dairymen's Association has been withdrawn, as it is intended that all organizations come under the new system. Many think it would have been better to have adopted the Institute system pure and simple, and to have the money spent in educating and giving information to the farmers in up-to-date methods, rather than assisting them to purchase improved stock, which they may or may not take enough interest in to manage profitably.

How to Grow Clover.

I have read with pleasure and profit the articles in the FARMER'S ADVOCATE on "Obtaining a Good Clover Catch." Regarding that in the March 15 issue, by Mr. McNeill, of Essex Co., I have one or two references to make. In Eastern Ontario fall wheat is not a success, and we never, or very seldom, summer-fallow; so that we have not those two advantages to obtain a "catch"; and as to breaking the capillary action by plowing, here we do our plowing in the fall, and our soil is either a clay loam or a sandy loam, interspersed with streaks of gravel. A man always plows stubble deeper than when plowing sod, so that we have not that hard subsoil to contend with which is found with a heavy clay soil. I understand what Mr. McNeill means, for I saw the same illustration very plainly in Manitoba one fall after a very dry summer. My plow ran along the soil-bed of itself, turning up the stubble turned down the fall before, as white and fresh as when plowed down. The soil being dry and rich in humus, had not taken any of it up. But Mr. Sullivan, of Carleton Co., comes nearer the chief reason for failure when he says it belongs to the quantity and quality of the seed. The quantity is important, to cover all the ground, but the quality more so, for we read that Prof. Harrison, of Guolph College, found as high as 9,080 foreign or weed seeds in a single ounce of clover bought from a seedsman, and advertised and well put in the young plants always cover the stubble well in the fall. Then the winter comes, and if the snow leaves before the frosts stop heaving in the spring, often the clover is all killed except around the fences. What does this show us? That the clover roots must be covered for protection against spring frosts. How are we going to do this? By manuring the crop of grain we seed down with, thus growing a good heavy covering of young clover for the ground; and then do not let the cattle pasture it down. This is the secret. So many farmers think a good pasturing of clover is wasted if not eaten down in the fall, so they turn in their stock, which strip the roots bare, and next spring the frost kills them, leaving the owners lamenting, "The frost always kills my clover."

A Letter from Scotland.

I again enclose another year's subscription price for the ADVOCATE. It always reaches here in good regularity, and brings always something fresh for everybody about the farm. Your Christmas number was splendid, and I think is getting better every year. I have shown it to many of my neighbors, and they are greatly taken with it. I find great pleasure in looking over its contents, and I see advertised land for everybody. Farming in this country is getting terribly depressed. The rents are high and will not come down. Wages are getting very high, but the price of oats and cattle are not nearly in proportion to the output, so farms are changing hands freely. But still about the old rents are maintained. I wish every success to the ADVOCATE in future.

Chicago Markets.

Chicago, April 26. Cattle.—Receipts, 2,000; good to prime steers, \$5 to \$6; poor to medium, \$3.50 to \$4.15; stockers and feeders firm, \$2.50 to \$4.00; heifers, \$2.75 to \$4.85; bulls strong, \$2.90 to \$4.50; calves firm, \$1 to \$5.25; Texas-fed steers, \$4.25 to \$5.10; Texas-fed grass steers, \$3.50 to \$4; Texas-fed bulls, \$2.75 to \$4. Hogs.—Receipts, 25,000; mixed and butchers', \$5.75 to \$6;

good to choice heavy, \$5.80 to \$6.05; rough heavy, \$5.65 to \$5.75; light, \$5.75 to \$5.95; bulk of sales, \$5.90 to \$5.95. Sheep.—Receipts, 8,000; good to choice wethers, \$4.65 to \$4.90; fair to choice mixed, \$4.30 to \$4.65; western sheep, \$4.65 to \$4.90; yearlings, \$4.65 to \$4.90; native lambs, \$4.50 to \$5.30; western lambs, \$4.70 to \$5.30.

Toronto Markets.

The business at the Western cattle market has been very good. Prices hold steady; quality fair. The steady rush of cattle for export caused the annex to be overcrowded. The local run of live stock for the last week was a record, being 259 carloads of stock of all kinds, 4,500 cattle, 5,500 hogs. The run for the same week last year was 165 loads, being an increase of 94 loads.

Export Cattle.—Demand good for best quality; prices higher for picked loads. Best quality export cattle sold at \$5.25 per cwt.; good shippers sold at \$5.15 per cwt.; medium class cattle sold at \$4.35 to \$4.50 per cwt. An exceptional load of best export cattle were purchased by Mr. Snell at \$5.35, but the price was top for the day.

Messrs. Dunn Bros. bought five loads of exporters at \$4.75 and \$5.15 per cwt.

Mr. W. H. Dean bought three carloads of export cattle at \$1.80 to \$5.12 1/2 per cwt., 1,200 to 1,400 lbs. average.

Cable reports are not good. Butchers' Cattle.—Demand good for best quality of butchers' cattle. Local trade demand very much improved. Several outside buyers on the market made prices firmer; the supply above the average; prices steady and unchanged. The demand is for choice butchers' cattle at steady prices, the right kind selling at \$4.50 per cwt., weighing 1,000 lbs. average; medium butchers' sold at \$3.50 to \$4 per cwt.; poor class drag the market, at from \$2 to \$2.75 per cwt.

Mr. Wm. Crealock bought 65 head of butchers' cattle for the Montreal market at \$3.25 to \$3.80 per cwt.

Mr. M. Vincent bought four carloads of butchers' cattle for Montreal at \$3.80 to \$4 per cwt.

Bulls.—Demand for export bulls not good; the offerings small. Prices steady at the quotations: \$4 to \$4.25 per cwt. for choice, and \$3.50 to \$4 for light; inferior rough stock sold at \$3.40 to \$3.50 per cwt.

Feeders.—Well-bred, short-fed cattle in good demand; not many on offer. Prices steady at the quotations: Best short-fed feeders at from \$4 to \$4.50 per cwt.; light feeders at from \$3.25 to \$3.65 per cwt.

Mr. W. Reid, of Kingston, was on the market for feeders. Heavy steers weighing from 1,100 to 1,200 lbs. in demand and wanted; light steers weighing from 900 lbs. upwards sold at \$3.50 per cwt.

Stockers.—Yearling steers, 500 to 800 lbs., sold at \$3.25 to \$3.50; those of inferior quality, off colors, black and white, mixed colors, sold at \$2.50 to \$3 per cwt.

Sheep.—Deliveries light; prices easier, at \$3.50 to \$3.75 for ewes, and at \$3 to \$3.25 for bucks.

Lambs.—Yearling lambs sold at \$4.50 to \$5.37 1/2; choice grain-fed baryard lambs sold at \$4 to \$4.50 per cwt. The run of lambs and sheep very light; price a trifle firmer.

Calves.—Only twenty-five on offer. Best quality veals sold at from \$6 to \$10.00; those of inferior quality sold at from \$2 to \$5 per head. Very few choice veals on offer.

Milk Cows.—Choice milk cows and springers in demand; prices easier on all other classes. Choice milk cows, \$50; poor to medium, from \$25 to \$40.

Hogs.—The Old Country demand quiet; foreign demand weaker in tone; prices are steady. Increased supplies has somewhat unsettled the market, although \$6.87 1/2 is the quoted price. Only very few drovers received more than \$6.75. The hog business promises very dull for the next two weeks. Mr. Wm. Harris is making a holiday and business trip to the Old Country to cultivate the dressed-meat trade. He sailed last Saturday, in company with Mr. J. W. Flavell, of the Wm. Davies Co., on the S.S. Campania, from New York. Mr. James Harris will be in charge of the hog business at the market during his father's absence.

Grain Market.—Deliveries of produce on the street market were small during the week. The farmers are busy seeding, which has been under the most favorable conditions this season along the lake front, both east and west.

Wheat.—The market is dull and easy. One load of white wheat sold at 69c. per bushel; two loads of red sold at 68c. per bushel; two loads of goose wheat sold at 67c. per bushel.

Oats.—One load sold at 34c. per bushel.

Dressed Hogs.—Very few delivered; prices steady, at \$8.25 to \$8.75 per cwt.

Butter.—The stocks of butter are large; the supply heavier than the demand. Choice pound rolls sold at 14c. to 15c. per lb. Creamery steady, unchanged, at 20c. to 21c. for prints.

Eggs.—Deliveries at the commission houses very liberal. Prices easy, at 11c. to 11c. per dozen from farmers' wagons; from 12c. to 13c. per dozen for choice new-laid eggs.

Hay.—The advance in hay brought out an over-supply, and prices again fell to the old price of \$15 per ton, one load only going to \$16.

Straw.—One load sold at \$9.50 per ton.

Baled Hay.—In car lots on track, \$10 per ton.

Straw.—Baled straw, in car lots on track, at \$5.50 per ton.

	Extreme comparative prices to-day, April 25, 1901.	2 weeks ago, April 9, 1901.	Same date last year, April 26, 1900.
Export cattle.....	\$ 5 25	\$ 5 00	\$ 4 75
Butchers' cattle.....	4 35	4 40	4 40
Bulls.....	4 25	3 25	4 00
Stockers.....	3 50	3 25	4 00
Feeders.....	4 35	4 25	4 10
Sheep.....	4 00	3 50	4 25
Hogs.....	6 75	6 87 1/2	6 25
Lambs, each.....	5 50	5 00	6 00
Milk cows.....	45 00	45 00	40 00

Hides.—A large number of hides show warble holes; these are graded No. 3 and 4. No. 1 green, at 6c. per lb.; No. 1 green, steer, 7c. per lb.; cured, 7c. per lb.; calfskins, 7c. per lb.; sheepskins, 9c. each; wool, fleece, 14c. per lb.; wool, pulled, extra, 20c. per lb.

DRESSED BEEF.

The Wm. Davies Company are reaching out for more business, and propose opening stores in all the larger cities for the sale of their products. They have lately opened a fine store in the town of Oshawa. There are a great number of enquiries from the Old Country desirous of acting as agents for Canadian dressed beef, but at present there is no possibility of that demand being filled in anything like good shape, as the enquiry takes the form as for a commission business, which, up to the present, has been quite a failure. Each successive shipment has lost money.

Buffalo Markets.

Calves were in fair supply, good demand and higher; choice to extra, \$3.75 to \$6; good to choice, \$5.25 to \$5.75.

Sheep and Lambs.—Total offerings, 57 loads, 17 of which were over from yesterday; the basis was \$5.25 on clipped lambs and \$5.00 on wool; the light, handy, clipped lambs were on the basis of \$5.25; clipped lambs, choice to extra, \$5 to \$5.25; good to choice, \$4.75 to \$5; common to fair, \$3.75 to \$4.75; wool lambs, choice to extra, \$5.50 to \$5.60; good to choice, \$5.25 to \$5.50; sheep, clipped, choice to extra, \$4.50 to \$4.75; good to choice, \$4.25 to \$4.50; market was fully 15c. lower than yesterday; several loads were left unsold.

Hogs.—Market opened slow, with 50 loads on sale; heavy, on the opening, at \$6.15 to \$6.17 1/2; mixed, \$6.15 to \$6.17 1/2; Yorkers, \$6.10 to \$6.15; pigs, \$6 to \$6.05; roughs, \$5.40 to \$5.50; stags, \$4.25 to \$4.75; the close was dull, on the basis of \$6.10 for Yorkers.



A Message from Cromarty.

For its share in the kindly comments of an Old Subscriber, the Home Department returns many thanks. Such a message should be as beneficent in its results as the bright sunshine and soft spring showers which will soon be falling upon the pretty gardens in which the busy hands of our farm daughters are even now planting the seeds, for their labor in which we would wish them also a rich reward. The matter of the photograph must rest between "Uncle Tom" and our correspondent.

"We have taken the ADVOCATE for years and years; in fact, almost since its first edition. It has become like a friend of the family, and to stop taking it would seem almost like slighting that friend. We congratulate you upon the excellency of your paper in all its departments. As an agricultural magazine, it ranks first amongst such, whilst the department for the home is very good: every article of excellent merit, showing the earnest endeavor to give that only which will uplift and purify. We were great lovers of Uncle Tom, and were so sorry when he dropped out of the staff. His successor is very good, and writes with good purpose."

The writer asks for an engraving of "Uncle Tom" in the ADVOCATE, and would like to make his personal acquaintance.

"God does not send us strange flowers every year: When the south wind blows o'er the sunny places, The same dear things lift up the same dear faces— The violet is here.

"So after death—winter it will be: God will not set strange signs in heavenly places; The old love will look out from the old faces, Veilchen! I shall have thee!"

A Bit of Our Everyday Life.

I've just been thinking what a good idea it would be if we were to set up a woman-ruled republic in one quarter of this globe, such as Aristophanes feigned, or the imagined world in Tennyson's "Princess," where no male can enter—just to make us, generally, and the men, particularly, understand that we cannot possibly get along without one another, and perhaps some of these crooked ideas which have crept into our farming world lately would straighten out. I can quite imagine about the end of the first week peace negotiations would come flying into our realm, and the men not only willing, but anxious, to accede to any code of laws which it might be our pleasure to draw up. And can you not fancy, too, the flag of truce flying full-mast above our fortifications?—for we should be getting so tired-out about that time. The first week our energy would know no bounds. Then our backs would begin to ache, and our accounts would be so tangled; and only the women who were brave enough in the old life to lead trump first hand in whilst would be enterprising enough to buy our pigs and potatoes.

Admitting, then, that men are necessary, there is another way I can suggest in which we can "lick them into shape," and may prove a future benefit. That is by forming a Mothers' Club—not to bring forth a panacea for teething babies, or various remedies for whooping-cough, chicken-pox, etc., but to ask the mothers not to allow their love and pride for their fine strong boys to crowd out the fact that their girls are physically weaker; and it should be a brother's proud privilege to protect his sisters with tender care, and always be courteous, kind and considerate. As a brother, so will he be as a husband. I think nothing makes us love Hawthorne more than his wife's story of his tender care of her, helping her to prepare the meals when she was without servants. I wonder how many wives nowadays can ever remember one single instance of their husband's "magnificent head bent over the potato pot." Then, too, there's a power of philosophy in that bit of slang, "It depends on the way it's done." Doesn't it? Why, if we are sufficiently courageous, we can ignore our stubbed fingers and roughened palms, and look upon cooking, sweeping and scouring as fine arts, and blacken the kitchen stove with as high a moral purpose as ever inspired Maria Theresa. "It depends on the way it's taken, too." The other day I met a girl out driving. She was so angry—before I got near her she said: "Don't keep me; I'm only allowed twenty minutes to go to the village for groceries. They want this horse for cultivating. I'm going to cultivate too," she added, sarcastically—"cast-iron feelings. Look at this stupid, forlorn-looking beast of a horse, and the harness tagged up with rope! I feel like Noah's dove, sent out into the world with nothing substantial to rely on."

"Why, what's the matter? What are you so angry about?" I laughed. "The horse is all right, and I can't see any rope."

"They always warn me, when I go out, to be careful about the cars, as Dick is such an 'awful shiver'; to watch the tugs up-hill and the breeching down-hill. Then, to kind of finish off with, and make things pleasant, I'm warned to look-out and not get my neck broken."

"Now, your father never once hinted that it was an impossibility for you to manage a horse and come home whole?"

"Well—but it was the way father said it."

"Not altogether, my dear; it was the way you took it."

Such a heap of chiefly nonsense, from

ONE OF THE GIRLS.

Humorous.

A dealer in stuffed animals, who also kept a few live creatures for sale, gave his shop-boy, who was permitted to sell the stuffed specimens, orders to call him when anyone asked for any of the living animals. One day a gentleman called, and demanded a monkey. "Any of these?" asked the boy, who was in charge, as he pointed to the stuffed specimens. "No; I want a live monkey," said the customer. The boy stepped to the door of the back shop, and shouted to his employer—"You're wanted, sir."

Tommy (to teacher)—"Can a feller get punished for something wot he has not done?" "Certainly not," said the teacher. Tommy—"Then I want to tell you that I haven't done my exercise for to-day."

The Bore—"Do you know, Tennyson's poems carry me completely away." Miss Pert—"Really? I'm awfully sorry we haven't a volume in the house."

A COSTLY AFFAIR.

The new mistress of that brand-new house on Park Avenue was tripping down the softly-carpeted Queen Anne stairway to her first breakfast in her own home. She had hurried down before her new husband (bless me, what spick-and-spanness) to see that everything was in order; opening the door of the breakfast-room, first; giving a loving, dainty touch to its shining array of bridal silver, and then hastening on to the library. This was the cosiest room of all. True, there wasn't much "library" about it yet, for all Mr. Winston's books and all of hers could not be made to fill many shelves. But there was her pretty, tall escritoire, and Mr. Winston's writing table, and the amusingly new dictionary on its jaunty stand, and—oh, there was library enough, and it was a dear, pretty room, with a friendly little coal fire glowing out a warm welcome to her. The bride looked smilingly content, and yet a trifle anxious too; else, why that pucker between the pretty brows? And what was she looking for? Ah, here it is, a little silver bell, with an image of some queer old heathen idol for a handle. She opens the door and tinkles the bell sharply in the hall, while her color comes and goes. Almost immediately her domestic appears, having clapped a clean white apron on top of a checked gingham one of less immaculate character.

"Sit down, Martha," says the lady, still nervously. "Frank—I mean Mr. Winston, will be down directly and we will have prayers."

But Martha was nervous too; she took her seat on the edge of a chair that never was meant—I think—to be sat on, and edged this chair so close to the wall as to endanger seriously the stamped leather paper. Then she pulled one finger after another, until she had cracked all her joints. Still Mr. Winston did not appear.

"I'll just tell you the truth, Mis' Winston," she burst out at last: "I don't like this thing of comin' to prayers. I'm a first-class cook, and I know I can give satisfaction in my meats and fancy breads, but I haven't been brought up religious, and I don't take to it. Why, I ain't seen the inside of a church this five year, and for prayers, none of my families ever asked it of me before."

"But would you have us take God's good gifts like dumb brutes, Martha," said the new house-mistress, her voice trembling with the effort it cost her, "and give Him no thanks?"

"Oh, I ain't raisin' any objections to prayers," answered the cook with the free-and-easy tone of an American-born servant; "fact is, I wouldn't think as much of you if you didn't have 'em; quality folks mostly do; but I feel queer, and like a fish out o' water, when I ain't in my own kitchen."

"Very well," said the new mistress a little hurriedly, for she heard Frank shut the chamber door up-stairs. "I only ask you to try it for a week; after that you may do as you choose."

"Good morning, Martha," said the gentleman gaily as he came in. "Well, Mrs. W., is my congregation ready?"

His tone was rather light, perhaps, but the new duty embarrassed him, and he took this altogether masculine way of hiding his embarrassment. When Letty had first proposed setting up a family altar, Mr. Winston had demurred, laughed at her a little, asked why their individual prayers wouldn't do, called her a superstitious child, but finally yielded to her entreaty that their new home might be placed under the shadow of the sweet-sanctities belonging to both old homes. And having yielded the point, he made up his mind to be gracious about it, and do the thing in the best possible style. That was part of his nature. Frank Winston never knowingly made anyone uncomfortable, though he was a careless fellow on the whole. Martha, for her part, was much impressed with his rich, sonorous voice as he read with faultless elocution the story of the child Jesus, and still more so by the fervent and far-reaching petitions; that both tone and words were conventional, habits of mind and speech inherited or acquired by unconscious imitation, she could not possibly know. But there was never a word more about her staying away from morning prayers; she allowed no domestic exigency to keep her away, and her keen, though undeveloped, intelligence was aroused to a lively interest in the reading and prayers, which was to prove a surprise to both master and mistress. One of the newnesses enjoyed by the young wife was the shining condition of her kitchen. Coming from the South, where the negro cooks held absolute sway in their domains, and where the old pots and pans had done service for a lifetime, Mrs. Winston had not imagined that a kitchen could be such a thing of beauty. She was always making the excuse of "trying a new recipe," to spend a morning hour with Martha. And Martha, being essentially sociable, was well pleased with her company.

"Who is sick, Mis' Winston?" she inquired on one of these occasions when mistress and maid were sitting together, their knees under the white oilcloth covered table.

"Sick? I don't know, I'm sure; why do you think anybody is sick, Martha?"

"Didn't Mr. Winston pray for him this morning?" asked the domestic in reproachful surprise. "I thought he seemed mighty sort o' anxious about the Lord raisin' him up off his sick bed."

"Yes, yes," agreed the mistress hastily, "so he did." But she had a secret, shamefaced consciousness that Frank hadn't meant anything in particular by that well-rounded sentence about the "sick and afflicted."

"I wish you'd please ask Mr. Frank who it is, Mis' Winston," was Martha's next startling request, 'cause this is my afternoon out, and I thought I might take him a glass of that calf-foot jelly, it's more'n you all is going to eat, for you're tired of it, and that prayer has been runnin' in my head all day; seems as if I wanted to do something for the poor fellow myself."

Mrs. Winston told her husband when he came home to lunch, and they joked over it a little, but with some constraint.

"Your maid takes morning prayers with uncomfortable literalness," said the young man; "perhaps it would be better if we did the same. Oh, by the way, there is a sick man in our congregation; I stepped into Mr. Stuart's office to engage half of pew sixty-four for us, the one opposite the window, you know, and I had to wait a few minutes while he and a brother deacon consulted about giving help from the church fund to a man named Brooks, who broke his leg yesterday."

"Oh, well, that will satisfy Martha," said Mrs. Winston eagerly; "I hated her to think—to know, that is—"

"Yes; it would be a pity for her to know how little we think or feel what we say at prayers," agreed the husband honestly.

So Brooks the carpenter stopped this gap very well. Martha told him that he was prayed for at her house, and told Mr. Winston that she had told him, and this time they joked still more faintly about it, and the gentleman said they had Brooks' faith on their consciences now; Brooks wouldn't believe in their prayers unless they followed them up by more tangible help. Of course the help followed, and the connection with the Brooks' established a sort of domestic mission between the new house on Park Avenue and the rickety tenement on Tauwer street. And now Mr. Winston began to have a livelier consciousness of what he did mean when he came with his morning petitions to the Almighty. But careful as he set himself to be, Martha's next innocent bomb exploded in the heart of his affairs.

The new house on Park Avenue was getting ready for what its master called "a blow-out," which sadly slang phrase seemed to mean a large entertainment; large, to judge from the days the mistress and maid spent stoning raisins and cutting up citron for fruit-cake. Martha entered heartily into the festive spirit of the occasion, and as she attacked the last green sugary lobe, she proffered the request that the blinds in the back parlor should be left up, "just a teensy mite," enough for her to see the assembled company.

"Of course you shall see the people," agreed her mistress gleefully, "if I have to walk them all around by the back windows myself."

"I specially wants to see Mr. Frank's brother and his wife," confessed Martha. "Susan Parks has been 'lowing to me that they beat my folks for looks, and I've been 'lowing they don't. So now's my chance to get even with Susan."

But what was this? Mrs. Winston's face flushed an angry color, her eyes looked forbidding, and the pleasant smile vanished from her lips as if a whirlwind had caught it.

"Mr. Winston's brother will not be here, Martha, she said stiffly; nor his wife; they have both behaved very badly to us, and we never expect to invite them to the house."

Martha dropped the citron and the knife and her hands and her under jaw; it looked for a minute as if she meant to drop her mistress's acquaintance, from the stillness of surprise that came over her. Then she shut her eyes and repeated, in a clear imitation of Mr. Winston's resonant tone, "Forgive us our offences, O Lord, this day, even as we, obeying Thy command and following Thy blessed example, do this day strive to forgive all who may have offended or injured us."

Martha opened her eyes when she had finished her quotation, and fell upon her citron vengefully. But she opened her lips no more that day, except in answer to a question. And when the little silver bell rang for prayers the next morning, no Martha appeared. Mr. Winston waited a few minutes and looked inquiringly at his wife.

"We'll have prayers without Martha this morning," she said hesitatingly, "I'll see about it another time."

"Is it one of her practical jokes on us?" asked the gentleman.

But when inquiry was made, the domestic declined to come to prayers any more, and also declined to give her reason. Then Mrs. Winston confessed, with considerable trepidation, what had passed between them over the kitchen table. What if Frank should fly into a rage and order Martha off on the spot? Just before the party, too! Mr. Winston looked red enough in the face when he heard the quotation from himself to have done even such a desperate thing as that, but he tried to meet it in his old, light way.

"See here, Letty," he said, "We've either got to get rid of this woman, or—or—" his voice suddenly lost its banter, and he spoke with great feeling, "or we've got to set about living nearer to our prayers!"

It was the evening of the entertainment at the new house on Park Avenue. Mrs. Winston came shimmering into the kitchen with her pretty white satin gown and slippers on. Why not? There wasn't a cleaner floor in her house. "Martha," she said shamefacedly, "I have left the blinds up in the back parlor, and Mr. and Mrs. Ross Winston have promised to come early, so don't miss seeing them."

"Lord bless you, honey!" said the cook, her grumness disappearing like a snow wreath in April. The hired waiters from "Bonsack's" stood around in their high-and-mightiness, and wondered what it all meant; but Martha knew, and the guardian angels of the new home, who had come unbidden to the feast, knew, and the reconciled kindred—though they had not heard the story there—knew how sweet and pleasant it was beginning to be for brethren to dwell together in peace and unity. The family were a little late in coming down to prayers the next morning after the "blow-out," and when the husband and wife opened the library door, there sat Martha waiting for them against the wall, in a white apron and a radiant smile, and something like tears in her old eyes.

Travelling Notes.

How often the unexpected happens. When we set sail from New York for London, we fully expected rough seas and bad days, instead of which we had most beautiful weather and no waves to speak of, with, consequently, no excuse for being ill, so we were well, happy and jolly all those thirteen days at sea. By preference, we had selected a slow steamer, and a slow steamer has many advantages to compensate for its lack of speed. In a long voyage you are cut off from all the world and its interruptions, its vexations and pretty worries. They may exist for you elsewhere, but they cannot reach you at sea, and so the weary brain finds rest. A lady passenger told us that she had been ordered by her doctor to take this particular boat, because it was slow, and, consequently, "so good for the nerves." Apropos of her remark, another lady told us of an experience she had had on one of these quiet, easy-going-lucky kind of steamers, which she, too, had chosen as being so "good for her nerves." One morning the steward came up and said, "Do you know the snake is out?" "What snake?" she shrieked. "Do you mean to tell me that there is a live snake on this boat?" "Yes, madam, the snake we are carrying to England got out of her cage and we can't find her. She is about eight feet long. There are fourteen monkeys and a zebra on board, too." "Mercy," exclaimed the lady, "an eight-foot snake foraging loose around the ship and a whole menagerie in cages, and I'm taking this pleasure trip to quiet my nerves!"

But Fan and I have had no such excitement on this voyage, although we had four funerals—all horses—not many, after all, out of the eight hundred horses and cattle we had down below. There is little to mark the calendar days at sea, one day is so much like another. The ladies went to bed early, the men yarned till midnight. Then the lights were put out, and the vessel crept through the waters silently, with her green eye on the starboard side, and her red eye on the port side, while the bells rang out every half hour and told the stars the time.

Fan is a grand travelling companion. She enjoys everything, never gets excited, is always sweet-tempered, and never fails to see the humorous side of things.

We have been in "Old Smoky" only a week as yet. We find it as grand, and old, and substantial as ever. Arriving on the day before Good Friday, everything was practically dead. All the large shops closed until the following Tuesday. Still there was quite stir enough for us. The weather ever since our arrival has been fairly bright, some days lovely and warm, buds bursting and spring flowers all out. "And, pray, where did you see them?" you probably ask. Well, in London, in the baskets of the flower-girls as they offer their gathered bunches upon the curbstones, and also at Tunbridge Wells and Enfield, at both of which places I have already paid a hurried visit. Flowers, yes, flowers everywhere. But our London sight-seeing is still to come, and about that you shall hear from time to time, if you care to do so, from—

MOLLY.

In Memoriam.—"I presume you carry a memento of some kind in that locket of yours?" "Precisely; it is a lock of my husband's hair." "But your husband is still alive." "Yes; but his hair is all gone."

THE CHILDREN'S CORNER.

How Queen Victoria Won the Love of Her People.

The prize essays on this subject were exceedingly good, but as the writers were nearly all 14 or 15 years old, we could not divide them into classes. Four prizes have been awarded, the names of the winners being: Pearl Shepherd (aged 15), Waterdown, Ont.; Hazel P. Flewelling (aged 14), Oak Point, King's Co., New Brunswick; Mary Colhoun (aged 15), Alvinston, Ont.; Edna Shaver (aged 15), Ancaster, Ont.

I must congratulate you all on your splendid essays, which well deserve a place in our columns, and I hope you will be pleased with the prizes sent you. Those deserving honorable mention are Lulu M. Meadows, Janet Waterman, Wilhelmina L. Willson, Effie Letson, Charles MacKenzie, and Fanny Newman.

Look out for another competition in our next. I was glad to receive dispatches from Captain Bowman and Captain Matchett. Why didn't you send an essay, Jemie, after suggesting the subject?
COUSIN DOROTHY.

FIRST-PRIZE ESSAY.

We must remember that the Queen's goodness and wisdom did not make the demons of discontent disappear suddenly. At the time of her accession the prejudice against royalty was strong. But by degrees men learnt, as Lord Melbourne, her first Prime Minister, did, that instead of being a weak woman, with no opinions of her own, or else obstinate and self-willed, Victoria was a wise, clear-headed young lady, with amazing appetite for work, and absolutely conscientious in performing it. They found too, that the Queen, though a constitutional monarch, could be a useful check on over-powerful and ambitious ministers, and that her influence was being exerted in the cause of liberty and reform rather than against them. They found that although, like every human being, she made mistakes, she had an honest desire to make her subjects' lives happier, and that behind dignity and queenliness there was true womanliness. It was this true womanliness which first conquered, and then held captive for over sixty years, the hearts of the British people.

It is not easy to say which of all our dead Sovereign Lady's virtues won our hearts most thoroughly. I am inclined to think that while her readiness to take her people into her confidence, and to rely on their support, gained her immense popularity, that her large-hearted sympathy for all classes was the main source of her power. She had "a heart at leisure from itself." Tender in her sympathy, true in her friendship, faithful in her love, caring always for the welfare of her subjects—no wonder she was so loved, no wonder she is so honored. From the very first, people were touched, and touched deeply, by stories of her regard for the weak and suffering, of her consideration for the aged and helpless, of her remembrance of kindness shown to her before she became queen, or some delicate attention to the widowed and fatherless.

All of these things have marked her life, and there never was a great national sorrow or rejoicing which the Queen did not share. A railway or colliery disaster, a famine, a war, or the loss of life in shipwrecks or floods, always touched her womanly heart to the quick, and her tender messages of grief and sympathy, or of praise and congratulation, often penned by her own hand, are among the nation's most precious possessions.
PEARL SHEPHERD.

SECOND-PRIZE ESSAY.

I think our late dearly-beloved Queen, "Victoria the Good," as she is justly called, won the love of her people when she came to the throne, by her very youth, being then only eighteen. She was so young to bear on her shoulders the responsibility of so great an Empire. The love which was formed then grew stronger through every year of her reign, and she never committed an act to lessen it in the least degree.

One great reason that her people loved her so, was her own love for them.

She thought only of their interests, and the countless acts of kindness which she always showed endeared her to our hearts more and more. Who has not read of that graceful act of hers at her coronation, when one peer, old and almost blind, while going up the steps of the homage-throne to greet her, stumbled and fell. This act, though small, showed what a kind, gracious Queen had just been crowned, and all her life was made up of acts like this. Ever kind and sympathetic to her people, she showed a lively interest in all they did, and her love for them was repaid a thousand-fold by their love for her. The English Nation has grown greater and more powerful under her hand, and if for no other reason, we would have loved her for the gentle rule to which she has subjected us—never grinding the country down under hard laws, as was done so frequently before she came to the throne. And now, without forgetting her memory, let us give to her son, King Edward VII., who now reigns over us, the love we gave her.

Let us sing "God Save the King" as heartily as we sang "God Save the Queen," and pray that King Edward may walk in his mother's footsteps.
HAZEL P. FLEWELLING.

"Queen of the May."

Who can look at my May-day picture without instantly bringing to mind Tennyson's familiar poem with its gladsome refrain—

"For I'm to be Queen of the May, mother,
I'm to be Queen of the May?"

Let us hope that the little Queen in the picture which the ADVOCATE offers you to-day, as she stands by the Maypole, shyly waiting to be crowned with "gathered knots of flowers and buds and garlands gay," is quite as glad-hearted as her older prototype; but, unlike her, with many a merry, merry May-day still in store for her.

In these days of rapid developments and marvellous changes, we run some risk of losing sight not only of old landmarks themselves, but of the significance of the lessons they could be made to convey.

The exigencies of our climate may make it difficult upon a Canadian May-day to find "the honeysuckle round the porch, the cuckoo-flowers

by the meadow trenches, or the wild marsh-mari-gold shining like fire in swamps and hollows gray," but if it be wisely and happily ordained for us in Canada that for time immemorial "The Queen's Birthday" is never to be without its loyal recognition, might not the Maypole dance and the crowning of the May Queen in the playgrounds of our city and village schools serve to perpetuate her honored memory, and be an ever-living source of delight to the rising generation of the Dominion? We commend the thought, which, we hope, may be crystallized into action by some, at least, of the readers of our Home Magazine in the more remote regions, where each center has to provide its own festivities and arrange its own loyal celebrations.
H. A. B.

"We'll All Go a-Hunting To-Day."

What a bright hunting day! 'Tis as balmy as May;
And the hounds to the village will come;
Every friend will be there, and all trouble and care
Will be left far behind them at home.
See servants and studs on their way,
And sportsmen their scarlet display,
So we'll join the glad throng that goes laughing along
And we'll all go a-hunting to-day.

(Chorus.)

We'll all go a-hunting to-day,
All nature is smiling and gay.
We'll join the glad throng that goes laughing along,
And we'll all go a-hunting to-day.

Farmer Hodge to his dame says, "I'm fifty, and lame,
Times are hard and my rent I must pay;
But I don't care a jot if I raise it or not,
For I mean to go hunting to-day."
There's a fox in the spinny, they say,
We'll find him and get him away;
I'll be first in the rush, and ride hard for his brush,
For I mean to go hunting to-day.

There's a doctor in boots, with a breakfast that suits
Him, of old English beer and good beef.
And his patients in pain say, "We've come once again
To consult you in hope of relief."
To the poor he advice gave away,
For the rich he prescribed and took pay;
But to each one he said, "You will quickly be dead,
If you don't go a-hunting to-day."



"QUEEN OF THE MAY."

Now the village bells chime, there's a wedding at nine,
And the parson unites the fond pair;
But he hears the sweet sound of the horn and the hound,
And he knows it is time to be there.
Says he, "For your welfare I pray,
And regret I no longer can stay;
Now you're safely made one, I must quickly be gone,
For I mean to go hunting to-day."

As the Judge sits in Court, he gets wind of the sport,
And the lawyers apply to adjourn;
For no witnesses come, there are none found at home,
They have followed the sound of the horn.
Says His Worship, "Great fines they must pay,
If they will not our summons obey,
But it's very fine sport, so we'll break up the Court,
And we'll all go a-hunting to-day."

There is only one cure for all malady sure,
Which reaches the heart to its core:
'Tis the sound of the horn on a fine hunting morn—
And where is the heart that needs more?
It turneth the grave into gay, makes pain unto pleasure give
way,
Makes the old become young, and the weak become strong;
So we'll all go a-hunting to-day.

Recipes.

BOSTON BROWN BREAD.

Half pint corn meal, half pint rye, one cup Graham flour, two teaspoonfuls salt, and mix well; one cup molasses, one and a half cups sour milk. Mix well, all together, turn into a mould, steam two hours and bake in the oven thirty minutes.

GRAHAM BREAD.

One pint milk, one pint hot water, add sufficient Graham flour to make a batter, add one cup hop yeast, or, if desired, one yeast cake dissolved in warm water; beat thoroughly, and stand aside in a warm place two and a half hours; add enough ordinary flour to make a soft dough; knead and make into loaves at once; stand in a warm place one hour, then bake forty-five minutes.

Why Some Women Do Not Get Married.

During a round-table talk upon home topics some suggestive remarks were made which are, by permission, handed on to the readers of the ADVOCATE by the "Chield among them takin' notes." The question as to "why some women do not get married?" evoked many replies. Here are some of them:

Because their lovers have turned out false or unworthy.

Because they see so many unhappy marriages around about them.

Because some women prefer helping an aged father and mother to getting married.

Because they think their chance is past (often by their own fault), and it will never come again.

Because it would hinder their sphere of usefulness to their relatives or to the public.

Because some men like to be their own masters, and so some women like to be their own mistresses.

Because they can't help it.

Because probably the right man has not turned up yet.

Or, perhaps, because death has stepped in and severed the tie which bound two faithful hearts—"the one taken, the other left."

One bright young girl, earning a fair salary as a bookkeeper and accountant, looked up somewhat quizzingly, and said: "Why, there are more women than men in the world, so it goes without saying that all of us cannot be married, even if we wished to be. I, for one, frankly confess that for me a life of single blessedness is not without its compensations. Anyways, unless I could give my whole heart with my hand, I would a thousand times rather have to earn my own bread than marry a man whom I could not thoroughly respect for the mere sake of a home or to avoid the stigma of 'old maid.' Mind, I do not say that if the ideal husband and the ideal home were to be offered to me that I should not accept them, and thus be a far happier woman than I can hope to be if my whole life is to be spent under its present more limited conditions, but we cannot all draw prizes in the matrimonial lottery, and I, for one, do not mean to worry if none of them come my way."

Another girl remarked that "perhaps some of us who remain unmarried do so from a keen sense of the responsibilities entailed by marriage, and a fear lest we should fall short of the duties it would entail upon us. I read once," she said, "that 'marriage is a partnership where the woman is responsible for the happiness of both; that there are few marriages where the wife does not have to laugh at things which do not amuse her, and where the husband does not have to sympathize with grievances and griefs which do not appeal to his masculine sense of justice.' I should fall short there." "Oh! my dear," said the president, "it is evident that you have not had the discipline of many brothers, and also that you have not as yet been really in love. Love works miracles, and 'although the most perfect union of hearts will not be proof against the growing discovery, on both sides, of limitations which characterize all human intercourse,' yet the reward will come to those who care so intensely for the happiness of others that they lose sight of self in promoting it. Don't be afraid to enter upon your woman's true kingdom when the right opportunity to do so is offered to you, for the very fact that you recognize its duties will make you wise, tactful and happy in their fulfillment, especially if you rely upon a strength greater than your own."

Jeannie, a bonnie lassie from a country home not a hundred miles from the office of the ADVOCATE, here looked up and said, "I am afraid you will have no respect for my scruples when I tell you how prosaic and commonplace they are. I suppose if ever I do marry, my husband will be a farmer, and I am certain that I should fall short of the virtues of Lucindy, whose husband was able proudly to reply to the question, 'Is marriage a failure?'—'No, indeed, I should say not! Why, there's Lucindy, gits up in the mornin', milks six cows, gits breakfast, starts four children to skewl, looks after the other three, feeds the hens, likewise the hogs, likewise some motherless sheep, skims twenty pans of milk, washes the clothes, gits dinner, et cetera, et cetera. Think I could hire anybody to do it for what she gits? Not much. Marriage, sir, is a success—a great success.'" As the laugh went round the table, Jeannie added, "Lucindy and her appreciative husband lived in Oregon, where, perhaps, the women are made of cast-iron, and never grow tired, and maybe she never existed at all; but, all the same, I don't feel like taking any chances, even in Ontario."

But, "all the same," no one seemed to take Jeannie seriously, nor did any one doubt her will or capacity to fulfil faithfully any duties which might become hers in "any station of life to which it might please God to call her."

A sweet-voiced, gray-haired matron spoke next, quoting from a short article upon the "Art of living together," an art which, she said, lay at the

very root of domestic happiness. "In order to live happily together we must not insist that there is only one way of doing things—our way. If we would avoid friction and irritation, which at last may lead to positive alienation of affection, let each make some concession to the other. 'It is the little pebbles which hurt the feet, and the tiny grain of sand which inflames the eye.' If love begets love, so contention begets contention, and we all know the aphorism, 'It takes two to make a quarrel.'"

"I, too, have my apt quotation," said the president, "and with it we will close our pleasant little conference. Under the heading of 'The Unprepared Wife,' the writer says: 'The normal girl naturally looks forward to the time when she will have the care of home, husband and children; yet, sad to say, she is often wholly unprepared to assume the responsibilities when they come to her. To presume to make a home and care for a family without preparation is parallel to a physician attempting the practice of medicine without study, and with the expectation of gaining knowledge from experiments on his patients. We would be horrified at the temerity of such a physician, and yet we complacently leave our girls without instruction in the highest, holiest duty of womanhood. Under these circumstances, can we wonder that many homes are absolute failures? One of the first things a girl should be taught is that wealth and social position count for nothing unless united with purity of thought and life and honesty of purpose. Until such standards are required by young women in choosing their husbands, the marriage relation cannot be what God intended it to be—the highest type of earthly happiness.'"

We commend our last home topic to the thoughtful consideration of our readers. H. A. B.

A Stocking Yarn.

Two Western men happened to meet one day, and from stories which they expected people to believe about the number of bushels of wheat and corn which their land produced to the acre, they gradually passed to some which they doubtless expected their hearers to receive with a grain of allowance.

"I tell you what!" said the man from Dakota, "a Norwegian woman went out raking and binding one summer, and dropped half a dozen darned needles. And what do you think! The next year there was a large crop of knitting needles came up all over that part of the field!"

"Oh, I can believe that," said the man from Washington Territory, "but it is nothing to the richness of the land out in our country. Why, a year ago last summer a German woman dropped some darned needles in a field out there, and last summer the field was growing thick with a crop of—guess what?"

"Give it up."

"Nice hand-knit woolen stockings, all ready to put on."

Horse and the Dog Got Back.

Sam Kiser, an old Cleveland boy, now on the editorial staff of the *Chicago Times-Herald*, is the author of the appended clever bit of poetry. It should serve as a moral to some of our swell society people, who to this day persist in having their beautiful horses butchered, and to the man in the common walks of life who seeks to beautify his small dog by clipping off his ears. The poem follows:

The horse and the dog had tamed a man and fastened him to a fence;
Said the horse to the dog: "For the life of me, I don't see a bit of sense
In letting him have the thumbs that grow at the side of his hands, do you?"
And the dog looked solemn and shook his head and said: "I'm a goat if I do."

The poor man groaned and tried to get loose, and sadly he begged them stay!
You will rob me of things for which I have use by cutting my thumbs away!
You will spoil my looks, you will cause me pain! Ah, why should you treat me so?
As I am God made me, and he knows best! Oh, masters, pray let me go!"

The dog laughed out and the horse replied: "Oh, the cutting won't hurt you! You see,
We'll have a hot iron, to clap right on, as you did in your docking of me!
God gave you your thumbs and all, but still the Creator, you know, may fail
To do the artistic thing, as He did with furnishing me with a tail."

So they bound the man and cut off his thumbs and were deaf to his pitiful cries,
And they seared the stumps and they viewed their work through happy and dazzled eyes:
"How trim he appears," the horse exclaimed, "since his awkward thumbs are gone!
For the life of me I cannot see why the Lord ever put them on!"

"Still it seems to me," the dog replied, "that there's something else to do;
His ears look rather too long for me, and how do they look to you?"
The man cried out: "Oh, spare my ears! God fashioned them as you see,
And if you apply your knife to them you'll surely disfigure me!"

"But you didn't disfigure me, you know," the dog decisively said,
"When you bound me fast and trimmed my ears down close to the top of my head!"
So they let him moan while they cropped his ears away,
And they praised his looks when they let him up, and proud, indeed, were they!

But that was years and years ago, in an unenlightened age!
Such things are ended now, you know; we have reached a higher stage!
The ears and thumb God gave to man are his to keep and wear,
And the cruel horse and dog look on and never appear to care!

THE QUIET HOUR.

Don't Make the Wrinkles Deeper.

Is father's eyesight growing dim,
His form a little lower?
Is mother's hair a little gray,
Her step a little slower?
Is life's hill growing hard to climb?
Make not their pathway steeper;
Smooth out the furrows on their brows—
Oh, do not make them deeper.

There's nothing makes the face so young
As joy, youth's fairest token;
And nothing makes the face grow old
Like hearts that have been broken.
Take heed lest deeds of thine should make
Thy mother be a weeper.
Stamp peace upon a father's brow—
Don't make the wrinkles deeper.

In doubtful pathways do not go,
Be tempted not to wander;
Grieve not the hearts that love you so,
But make their love grow fonder.
Much have thy parents borne for thee,
Be now their tender keeper;
And let them lean upon thy love—
Don't make the wrinkles deeper.

Be lavish with thy loving deeds,
Be patient, true and tender;
And make the path that ageward leads
Aglow with earthly splendor.
Some day thy dear ones, stricken low,
Must yield to death, the reaper;
And you will then be glad to know
You made no wrinkles deeper.

Help One Another.

We could make life much easier for one another if we would. For instance, some people have conveyances and some have none. It would cost nothing but a little trouble to go with your carriage and take an aged or infirm saint for a ride some week-day, or perhaps to church on communion Sunday, or, it may be, round to "God's acre," where a green sprig or flower might be laid on the grave of a precious one. Yet how much a breath of air during the drive would invigorate, an hour in God's house would refresh, or a few moments in the cemetery would sadly but surely comfort. And we, doing this kindness, without cost of a cent, would turn homeward listening happily to the song some angel would sing to our hearts.

This is but one way in a countless multitude, showing how in city or country we could relieve the hard monotony of life to which our neighbors are often subjected. A visit, a letter, a token sent, some bit of tempting food—in ways past mention, we could lift a burden, let in a ray of sunshine, brighten a home and bless a heart. The cost would be nothing, or next to nothing, and the result would be better than silver or gold.

Add to these helps, that cost so little, those that demand some outlay of money or substance, and it will be seen that our statement is as true as truth—we could make life easier for one another, if we would.

Why don't we do it?

Do not, then, stand idly waiting
For some nobler work to do,
What your hand each moment findeth
Is the work God means for you.
Go and toil in any vineyard;
Do not fear to do and dare;
If you want a field of labor,
You can find it anywhere.

Some may not care, do not care, but others do; and yet few sit down to think how they can render a helpful kindness. People do not think. To pursue our instance—owners of carriages do not realize the condition of those who do not keep them. When they need a conveyance they have it. They don't put themselves in the place of those without the luxuries so common to them. So it probably is with the kind hearts of other good people. They do not realize what their neighbors lack.

We write to awaken thoughtfulness. Do, brother, sister, sit down and think how you can better the life of someone near you. They are at hand. Do not for a moment suppose that there are none you can help. If you fail to recall one, talk it over with your pastor, or with someone. And when you find your opportunity, thank God for it; ask Him to give you tact to do the right thing.

"What Wilt Thou Have Me to Do?"

Hast Thou, my Master, aught for me to do
To honor Thee to-day?
Hast Thou a word of love to some poor soul
That I may say?
For see, this world that Thou hast made so fair,
Within its heart is sad;
Thousands are lonely, thousands sigh and weep,
But few are glad.

But which among them all to-day is mine?
Oh, guide my willing feet
To some poor soul that, fainting on the way,
Needs counsel sweet;
Or into some sick room, where I may speak
With tenderness of Thee;
And showing who and what Thou art, O Christ!
Bid sorrow flee.

Or, unto one whose straits call not for words
To one in want indeed;
Who will not counsel, but would take from me
A loving deed,
Surely Thou hast for me some work to do:
Oh, open Thou mine eyes,
To see, O Lord, how Thou wouldst have it done,
And where it lies.

Ingle Nook Chats.

"Nothin' like green grass and woody smells to right folk up. When I was a gal, if I got riled in my temper or low in my mind, I just went out and grubbed in the gardin, or made hay or walked a good piece, and it fetched me 'round beautiful. Never failed; so I came to see that good fresh dirt is first-rate physic for folks' spirits, as it is for mounds as they tell on." LOUISA M. ALCOTT.

Have you ever experienced the truth of the above statement? If not, just put it to the test. I can assure you that the medicine recommended will prove efficacious in many cases of insomnia and loss of appetite, and it costs nothing, which fact is in itself a charm; but the return that surely follows faithful "grubbing in the gardin" should doubly enhance it.

As soon as the snow leaves, and the earth is dry enough to work, I begin my "labor of love" in the flower beds, and from the first day's work I am mentally delighted with thoughts of the coming beauty and the pleasure in store for myself and others. So you see I have a treble share of joy—that of anticipation, that of realization, and, best of all, the joy of sharing with others. If I were obliged to keep all my flowers myself, I should scarcely care to grow them; but who does not enjoy the gracious gift of a sweet-smelling bouquet! No matter if your first attempts be attended with difficulties, go ahead and try only two or three of the more easily cultivated varieties at first. Nasturtiums will almost care for themselves, and a bowl of their brilliant blossoms, with a few leaves and tendrils, add materially to the daintiness of the table at mealtime. One lesson they and many other plants teach us, is not to be niggardly in giving; the more they are culled the better they bloom, and I really think the more generous we are the more we are enabled to give.

OUR COMPETITIONS.

The awards in Contest VIII.—poem on Queen Victoria—are as follows: Class I., Miss Mary Spencer, England (please forward full address); II., Miss Florence M. McEachren, Cotswold, Ont.; III., Verne Rowell, Bryanston, Ont.

The following deserve a place in the roll of honor: Class I.—Jennie MacFaden, "Mind and Pen," E. B. Buckbee, Jain Aindris; II.—Ethel Ironside, "Highland Helen," Chas. MacCallum, M. A. Revington, Edgar MacKinlay, "Jock o' Hazeldean," Mary Hunter, Walter Beaton; III.—Maud Jose, Eunice Dunning, and Flossie B. Schurman. Other contributions were received from G. D. Legge, Nelson Thomson, Fred Dawson, Geo. F. Jamieson, Fanny Flewelling, Mrs. Pound, Mrs. J. H. Taylor, L. H. Libby, I. M. D., Mrs. A. Bunt, Arthur Frayn, "Molly," "Antrim Farm," Wm. Abbott, H. F. Raby, Mrs. A. Rodd, Fred Walls, "Helen," Arthur Dunning, Clement Devine, Alice L. Dunning, Willie Minogue, Fred Cummings, Charlie Franklin, Maggie Kincella, Abbie Kincella, Irene Dunning, Maud Minogue, Theo. Lavergne, Fred Burton, D. H. Silverson, Annie McIntosh, Elizabeth Radcliffe, A. W. Gordon, David P. Wills, Arthur Lavergne, Florence O'Brien, Morgan O'Brien, Nelly Lavergne, Minnie Kellam, J. Dunlop, David Kennedy, Geo. Ferguson, Walker Watts.

In all sixty-five papers were received, and it was not easy to decide just which three should win. Many containing good ideas, quite nicely clothed, had to be discarded owing to incompleteness of some of the sentences; others on account of defects in metre, etc. But, on the whole, as a first attempt I think the result was fairly good. No. IX. has drawn out a large number of competitors, and I expect some excellent essays in No. X. The story of our compatriots who have specially distinguished themselves should be an agreeable topic for those who are clever with the pen. See April 15th issue for fuller announcement.

Ingle Nook Chats, Pakenham, Ont.

PRIZEWINNING POEMS—CONTEST VIII.

CLASS I.

Queen Victoria.

A sorrow—like a pall—is spread o'er all the land,
And stretches o'er the seas as stormy foam,
Binding a world of nations with a tender band,
For she whom all named "Mother" has gone home.

Gone home, but leaving us with sad and stricken hearts,
Murmurs of grief rise as from murr'ring sea,
The whole world mourns, as she from earth departs,
The Royal shell cast off—the Royal soul set free.

Free to return again to her Heavenly Father's place,
Where nought can spoil or wither wreaths of green,
Which in our thoughts as crown her brow shall grace
In Heaven the Spirit, as on earth the Queen.

England. MARY SPENCER.

CLASS II.

Queen Victoria.

Our saintly Queen has left this sin-stained land,
Peacefully trusting, crossed death's sullen foam;
And by th' expectant, joyous angel band
Been welcomed to her last palatial home.

There mourn for her to-day a million hearts,
Her influence is felt o'er every sea;
With her a noble life of love departs,
A life that toiled to make her subjects free.

But she now occupies a higher place,
Now wears a laurel of a brighter green;
A heavenly mansion she will henceforth grace
To recompense her life as Britain's queen.

FLORENCE M. MCEACHREN (age 16).
Cotswold P. O., Ontario.

CLASS III.

Queen Victoria.

Ye hills of Scotia mourn, ye shores of Albion's land;
Mourn, Erin's happy bowers beside the sparkling foam;
Canada, don your sable robes, Alas! each sorrowing band,
Your Queen has fallen asleep, revered in every home.

O'er three-score years she ruled us well and loyal were our hearts,
And the "soldiers of the Queen" fought well on land and sea;
Her poet's sang of battles won, but all our joy departs,
For with winter's winds comes sorrow to our people free.

O never, never more, alas! shall she fair Osborne Place
With all its towering turrets and velvet lawns of green
With her stately, queenly beauty that fair castle grace,
For beneath the snowy marble lies Victoria our queen.

Bryanston, Ont. VERNE ROWELL.

GOSSIP.

ATTRACTIVE HORSE SALE.

See the advertisement in this issue announcing the auction sale at Galt, Ont., on May 17th and 18th, of 25 head of high-class road horses, property of Mr. J. C. Dietrich, at his Maple Leaf Farm, commencing each day at 10 o'clock. The offering comprises matched pairs and single drivers of fine breeding, superior conformation, good heights, and splendid action. The outlook for the horse trade is bright, and good ones are none too plentiful. This sale will afford an unusual opportunity of seeing a lot of good ones together and a chance for selection such as is seldom offered. The sale is on the dates of the Galt Horse Show, which promises to be a very attractive affair, judging from the prize list, catalogue and programme, which includes a fine list of prizes, not only for breeding classes, but also for roadsters, saddlers, hunters and jumpers, and harness horses. Those interested in good horses will do well to take in this event and attend the Dietrich sale.

NOTICES.

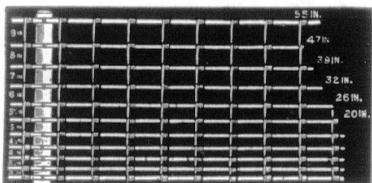
Toronto, April 18, 1901.

Chicago Flexible Shaft Co., cor. La Salle and Ontario Sts., Chicago, Ill.

DEAR SIRS.—The sheep-shearing machine forwarded to my address reached my farm only last week. I had the privilege of seeing it in operation on Saturday last, and I pronounce it an *undoubted success*. My Shropshire yearling rams are woolled from their feet to the point of the nose, and I had some doubt in my mind that your machine could possibly be useful in taking the wool from the legs and belly, where it is always more or less matted on account of the sheep having lain in damp places. I found, to my amazement, that it took it off without a scratch, and very rapidly. As to the body of the sheep, there was no difficulty whatever. Your machine saves wool, saves time, saves labor, and saves the sheep, and I prophesy that it will soon be in general use all over the country.

Yours very truly,
J. N. DRYDEN,
(Minister of Agriculture, Ontario.)

The Anchor Fence.—The day of the wooden fence is gone, never to return, and the wire fence has taken its place. Of the latter, barbed wire is utterly condemned. It is an inhuman fence and has damaged or ruined thousands of horses and other stock in every Province of Canada. Among those rapidly taking its place, we are pleased to call attention to the "Anchor Wire Fence," manufactured at Stratford, Ont., an announcement of which appears in another column. Simplicity, strength and durability are leading features, but perhaps its most unique point is the steel clamp which fastens together the horizontal and cross wires, both of which are made of No. 9 plain galvanized wire, making the fence equally strong throughout. Write Esplen, Frame & Co., Stratford, Ont., for particulars.



HOG, HORSE, CATTLE, DOG,
Sheep, fire and water and snow drift proof.
The fence that fences—Cheap and lasts a lifetime—
AMERICAN
FIELD AND HOG FENCE
If you cannot find our local agent write to
American Steel & Wire Co., Chicago or New York.

KEMP'S

INSTANTANEOUS Sheep Dipping Fluid kills ticks, lice and all parasites or insect life on sheep, hogs, horses and cattle; destroys mange on dogs.
Immediate in action and permanent in effect. It is also a thorough disinfectant for barns, closets, cellars, etc.
One gallon makes one hundred gallons of wash. Sold in half-gallon imperial tins, at 75c.
The cheapest and most effective dip on the market.
If your druggist does not keep it, we will express a tin (prepaid) to any address in the Dominion for \$1.

W. W. STEPHEN & CO.,
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AGENTS FOR THE DOMINION.

ROGERS' "S" PEERLESS MACHINE

NOT AFFECTED BY CLIMATE CHANGES. BEST ADAPTED OIL MADE FOR GENERAL USE OF ONTARIO FARMERS. MORE USED, MORE SOLD. JUST AS CHEAP AS THE OTHER AND SO MUCH BETTER. YOU KNOW HOW IT WAS ABOUT OIL LAST YEAR. YOU WANT PEERLESS THIS TIME. ALL GOOD HARDWARES AND GENERAL STORES SELL IT.



QUEEN CITY OIL CO., Limited, TORONTO.

SAMUEL ROGERS, PRESIDENT.

IMPORTANT AUCTION SALE OF HORSES.

J. C. DIETRICH, GALT, ONTARIO, PROPRIETOR OF MAPLE LEAF STOCK FARM,

Will offer for sale Twenty-five Road Horses, aged two years and upward, among them several very fine animals, three and four years old, on the dates of the Galt Horse Show,

MAY 17th and 18th, 1901.

The sale will take place in Galt, commencing at 10 O'CLOCK IN THE MORNING of each day, and lasting until noon.

Among the horses to be sold is a very fine matched pair of seal browns, "Klondike" and "Dawson," six years old, 16 hands high, which were awarded first-prize at Toronto Exhibition in 1899. "Klondike" has never been beaten in the show-ring, and is the winner of nine first prizes. Also a team of bays, 16 hands high, "May" and "Jack," very fast roadsters. "May" is also a first prize winner; "Jack" has never been shown, but is equal as good as his mate. Also "Lord Chesterfield," 15.01, golden chestnut, and as fine a horse of his size as there is in America. Conformation, style and action unexcelled. All the others offered are extremely high-class, and a splendid opportunity is thus afforded parties desiring to procure most desirable stock.

WHEN CONSIDERING THE

Heating of Your House

It will pay you to write us. We make a specialty of furnace heating, and give you ELEVEN styles and FIFTY-FIVE sizes to choose from.
We make furnaces for EVERY KIND OF FUEL.

Write us for estimates.

CLARE BROS. & CO., PRESTON, ONT. WINNIPEG, MAN.

We beg to call your attention to a new and indispensable article in

Barclay's Patent Attachment

FOR THE CURE OF BALKING AND KICKING HORSES.

Will control any vice known to a horse. Invaluable for breaking in colts. Can be adjusted in two minutes, and used with any harness, vehicle or implement. Sent, charges paid, to any part of Canada, with full directions for use, on receipt of price, \$5. Reliable representatives wanted. For further information, address

THE BARCLAY MFG. CO., Brougham, Ont.



MAPLEWOOD HACKNEY STUD.

PROPERTY OF FREDERICK C. STEVENS, ATTICA, NEW YORK.

Champions of two continents.

The magnificent LANGTON PERFORMER, the peerless CLIFTON 2nd, and the sensational FANDANGO, all in service for the coming season.

Magnificent young Stallions and Mares for Foundation Stock,

sired by the above champions, and out of mares equally famous, now offered for sale. MAPLEWOOD is truly "THE HOME OF THE CHAMPIONS."

FOR FURTHER PARTICULARS, ADDRESS:

E. T. Gay, Manager, Attica, N. Y.

The Horses that made Janesville Famous.

For twenty years past Janesville has been associated with all that was high-class in the line of horses, and the name of "GALBRAITH" is familiar as a household word to every horse breeder of any note on this continent. The undersigned respectfully invites an inspection of his present stock of



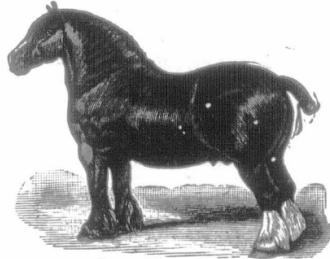
CLYDESDALES.

which are believed to be fully equal to the best ever maintained during the palmy days of the business. Ample size, superior breeding, great individuality, moderate prices, and the best of guarantees, are among the inducements offered buyers. An assortment of Percherons, Shires, Suffolks and Hackneys also on hand. The only place where the best of all the breeds can be compared alongside each other. Prominent prizewinners at the recent International Live Stock Show at Chicago. Send for catalogue.

Branch barn at Woodstock, Ont., in charge of S. P. Thompson, agent. Call and see the horses there.

ALEX. GALBRAITH, JANESVILLE, WISCONSIN.

CLYDESDALE STALLIONS FOR SALE.



A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high-class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St., LONDON, ONT.

GRAHAM BROS., CLAREMONT, ONT.

PIONEER IMPORTERS AND BREEDERS OF

Clydesdales and Hackneys.

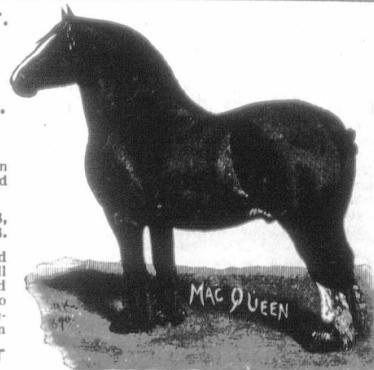
THE HOME AND HEADQUARTERS OF THE WINNERS.

The oldest, largest and most complete collection of Clydesdales in America. Established in 1871, and has been the champion stud ever since.

27 FIRST AND 9 SECOND PREMIUMS, INCLUDING 7 GRAND SWEEPSTAKES.

At the recent leading Canadian show—Toronto and Ottawa—being three times the number won by all competitors. Our animals are of immense size, good quality and action. Prices moderate. Terms to suit customers. Visitors cordially invited. Correspondence solicited.

CLAREMONT IS 25 MILES EAST OF TORONTO, ON THE C. P. R.



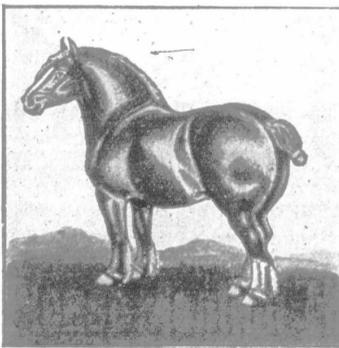
LATELY IMPORTED A FRESH LOT OF

Clydesdale Stallions,

Comprising sons and grandsons of many of the most noted Scotch showyard winners and sires, all in the pink of condition without surplus flesh, and personally selected to meet the best Canadian markets, having, without exception, the best of bone, hair, feet, and action, coupled with true Clyde character. I will make further importations as the times demand. Inspection invited. Prices consistent with quality.

ROBERT GRAHAM, Ringwood P. O., Ont.

Stouffville Station, G. T. R., and telegraph office.



Please Mention The Farmer's Advocate.

NOTICES.

How to Ride Easy.—Good roads or bad roads, the farmer must drive over them with his heavy wagon. For the benefit of himself, his team and his vehicle, he needs a good spring bolster such as the Windsor Spring Bolster Co. supply. See advt.

How to Hatch.—Every farmer or farmer's wife interested in raising poultry should read C. J. Daniels' advertisement about the Cyphers incubator, an honest machine built for business. Write him.

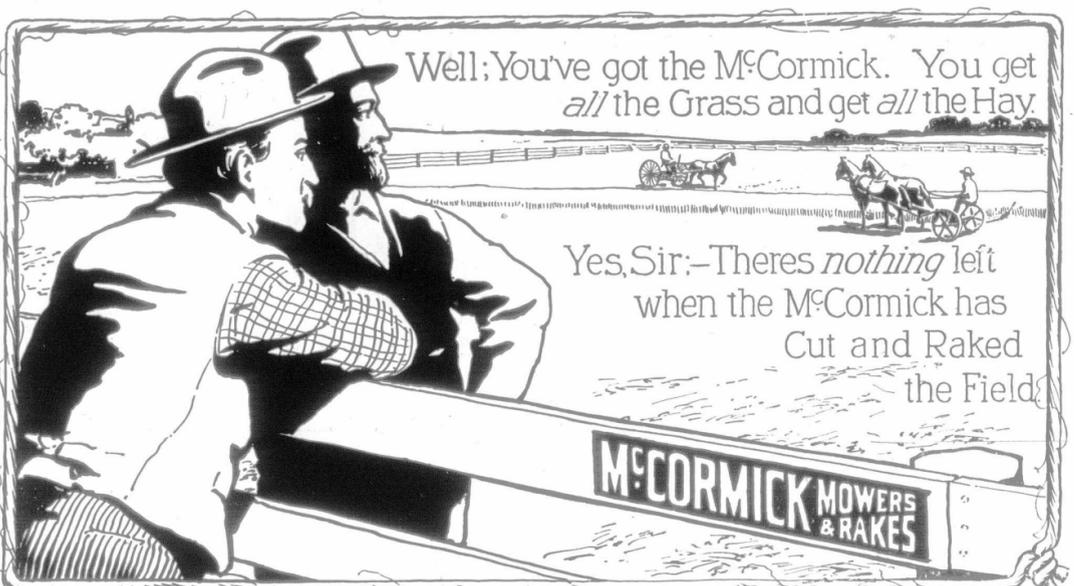
Bells, Bells.—Bevin Bros., of East Hampton, Conn., advertise in this issue fine musical Swiss cow bells and bells for sheep, turkeys, etc. The cow bells are made in sets of three, tuned to accord. Read the advertisement and write Bevin Bros. for further particulars.

Brantford Gas and Gasoline Engines.—During a recent visit to Brantford, we called at the extensive factory of Goid, Shapley & Muir Co., Limited, the well-known manufacturers of steel windmills, and found the Company very cheerful over numerous orders for windmill outfits. We were surprised, however, to be shown a full line of handsome gas and gasoline engines ready for the market, and asked if they were expected to supersede windmills. The answer was emphatically—"No, we do not know of anything cheaper or better for ordinary farm work than a windmill, but for running cream separators, filling silos, or in positions where the wind is obstructed, a gasoline engine is the perfect power." We were greatly pleased with the ease of starting the engine, the steady, almost noiseless motion, and its handsome and businesslike appearance, and were informed that the design is one that has been tested for years, and stands at the head of engines of this type, and that it is strictly high-grade in every way, and consequently not so low in price as some, but when wearing qualities and satisfactory and economical work are considered, is as cheap as any. The firm have invested many thousand dollars in up-to-date machinery and factory equipment, and are employing the best mechanics, with the aim of making the best engines possible, and they state that their efforts are meeting with very gratifying success, for the engines already set up are doing better than expected, and giving great results in the power produced and in the economy of consumption of fuel. The sizes now ready for the market are 2 H. P., 4 H. P., 8 H. P., 15 H. P., and 25 H. P.

Kippen's Milk Aerator.—With the opening of the cheese-making season, interest revives in securing a simple and effective plan of airing milk in order that it may be furnished in a condition to make the most cheese of the finest quality. The complaints repeatedly cropping up regarding bad-flavored cheese show that improvement is imperative. The care of the milk over night on the farm is the first step, and the apparatus devised by Mr. John Kippen, of London, Ont., provides an economical and thorough method of airing or agitating the milk, which is heartily endorsed by as well-known an authority on cheesemaking as Mr. T. B. Millar, manager of the Thames Dairy Co.'s system of factories: "Its use would save much milk from souring and tainting, and consequent loss to the farmer." P. B. Little, of Pond Mills, Ont., made a thorough trial of one of these agitators, and the cheesemaker reports his milk coming in perfect condition, free from bad taints and odors, adding that if every patron used them there would be little trouble with "gassy curds." Duncan McMillan, of Thamesford, says it gave him the best of satisfaction, and he would not be without it. He gets from one-half to one per cent. or more butter-fat at the test, as a result of its use. J. W. Crinklaw, of White Oak, says it keeps the milk stirred till perfectly cold, preventing the cream from rising, so that he recommends it for milk going either to cheese or butter factory. The White Oak cheesemaker reports that patrons using the agitator sent milk in first-class condition, and if all would use it, one or two pounds less milk to make a pound of cheese would be required. Joseph H. Marshall, London Township, used one of them with milk for city use, and by preventing the cream from forming on the top, it had an even richness of quality most desirable, besides being free from bad flavors, and souring prevented. Geo. Kinney, cheesemaker, Pond Mills, made several tests, and found that the milk in which the agitator was used tested about one per cent. higher than previously, and the flavor was all that could be desired. We advise all dairymen to read Mr. Kippen's announcement in another column, and communicate with him at once.

Choice Jerseys
FOR SALE.
Finest Butter Stock yet Offered.
The first bull calf to be dropped this month is already sold, and I have sometimes been obliged to RETURN CHEQUES, as others had been sent in quicker. Recent sales from Manitoba to Maryland, from Atlantic seacoast to Western Canada. om
MRS. E. M. JONES,
Box 324. om - BROCKVILLE, ONT.

Anchor Wire Fence
(PATENTED SEPTEMBER 7, 1894.)
The strongest and best fence yet devised. Simply and easily constructed.
The day of barbed wire has passed, and thousands of maimed and ruined horses and other stock can be found in every community where it is used, as living witnesses of its barbarity.
Anchor Wire Fence is made throughout of No. 9 Plain Galvanized Wire, both horizontal wires and cross wires or uprights. The steel clamp securely fastens the horizontal and cross wire, thus consolidating the strength so that the whole fence resists an attack on any part of it. As the strength of a chain is gauged by the strength of its weakest link, so a fence is only as strong as its weakest part. The Anchor Fence is equally strong throughout, and being constructed wholly of large wires, is much stronger than a fence in which small wires are used.
ESPLEN, FRAME & CO.,
STRATFORD, ONT.



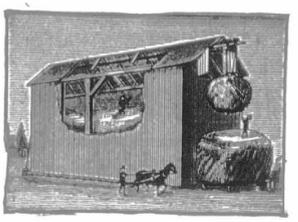
W. A. CAVANAUGH, Gen. Agt., WINNIPEG, MANITOBA.
W. J. CUMMINGS, Gen. Agt., REGINA, N.-W. TERRITORIES.
WRITE FOR CATALOGUE, "PRIDE OF THE NEW CENTURY."
P. W. Stanhope, om - Toronto, Ontario.

HORSEMEN!—THE ONLY GENUINE IS

GOMBAULT'S CAUSTIC BALSAM.
None genuine without the signature of The Saurance, Williams & Co. Sole Importers & Proprietors for the U.S. & CANADA. CLEVELAND, O.

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPERSEDES ALL CAUTERY or FIRING. Impossible to produce scur or blemish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

BUCHANAN'S
(Malleable Improved)
PITCHING MACHINE
For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable Iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter
Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED
Circulars, Prices and Terms on application to **M. T. BUCHANAN & CO., Ingersoll, Can.**

GOSSIP.
A. F. Sherrington, Walkerton, Ont., offers elsewhere in this issue settings of choice Barred Plymouth eggs for hatching, at popular prices. Parties who are on the lookout for a bull of the justly famous old black polled breed, the Aberdeen-Angus, are referred to the new advertisement in this issue of Mr. C. W. Hartman, Clarksburg, Ont., who has several to part with.

GOSSIP.

Colwill Bros., Newcastle, Ont., breeders of Shorthorns and Tamworths, in ordering a change of advertisement, write: "Having sold out all our older stock, we are now offering our early spring litters, which are of an extra fine quality and type, and all out of Toronto prize-winning sows, and most of them are got by Colville's Choice, a boar that won first at Toronto under 6 months, in 1899, and first again in 1900, under 2 years, and he is leaving us even stronger stock than ever, from 10 to 12 pigs in a litter. The heifer we offer is a full sister to the one we sold at Guelph Provincial sale, but one year older, and just as good in every respect, and belongs to the famous Syme strain of Shorthorns."

D. H. Rusnell, Stouffville, Ont., breeder of Shorthorns and Shropshires, writes: "The demand for stock has been good. Since writing you in March, I have sold the following: To Mr. Francis Lehman, Pine Orchard, Ont., one bull; to Mr. Isaac Brunwell, Victoria Square, Ont., one cow with calf; to Mr. E. L. Warner, Hamlet, N. Y., U. S., two heifers with calf; to Mr. Geo. Brodie, Bethesda, Ont., four shearing ewes, Shropshires; to Mr. Jos. B. Snider, Waterloo, Ont., four ewes and one ram. Mr. Snyder has a good eye to business, and is to be congratulated on his selection of five high-priced sheep to add to his well-established flock." To Mr. Geo. White, Brooke, Ont., one Shorthorn cow and one 2-year-old heifer; to Mr. Jacob Meyer, Altona, Ont., one bull and one cow."

This is the season of the year when farmers begin looking around for a reliable preparation for the destruction of vermin on their sheep, cattle, colts, and poultry. We would direct the attention of all such to the advertisement of W. W. Stephen & Co., wholesale and retail druggists, of Meaford, Ont. The preparation offered by this Company is manufactured by Kemp & Co., Horncastle, England, of world-wide fame. This preparation has long since passed the experimental stage, having for years been used extensively among the flocks of the largest breeders in the British Isles and the South American colonies, and from numberless testimonials held by this firm, both from across the water and from breeders in this country, it is amply demonstrated that this dip possesses the virtue of being instantly fatal to vermin life. Being non-poisonous, and a powerful antiseptic, it is particularly adapted for cleansing and disinfecting the stables and hennery.

GOVERNMENT AUCTION SALE AT CALGARY.
The first sale under the auspices of the Territorial and Dominion Governments was held at Calgary, Friday, April 12th. The attendance was large, due to the fact of the meeting of the Horse Breeders', Pure-bred Cattle Breeders', and Western Stock Growers' Associations there. About sixty bulls, cows and heifers, all of which were bred or owned in Alberta, were offered, prices ranging from \$35 to \$250. Two auctioneers conducted the sale, Dominion Live Stock Commissioner F. W. Hodson and another gentleman doing the touting for bids among the crowd. The free delivery of stock sold in the Territories was a further inducement to purchase; one cow sold for \$55, and, on again being put up, realized \$75. Stock in good condition sold the best. A number of pretty fair cows in calf, and heifers in fair condition, 19 in all, averaged \$74. The three Thoroughbred stallions, Foam, Superior (imp.), and Sentinel (imp.), intended for the purpose of getting horses suitable for army remounts, were offered at auction. No bids were offered, the consensus of opinion being that the horses were too small for the purpose intended, the mares in the country being now weedy enough in character. More size and bone in stallions used to get horses of the light types is needed. Some of the stallions offered were considered as being unsound, hence the reluctance to bid. A good stout Hackney would be more useful on the range mares of the light type, as they have some Thoroughbred blood. A strong-boned Coach horse would be more benefit than weedy, 15 1/2 Thoroughbreds.

PLEASE MENTION FARMER'S ADVOCATE.

Chicago Sheep Shearing Machine



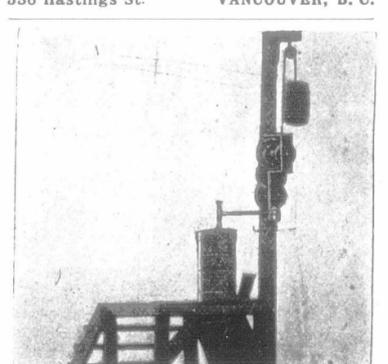
1901 Model Stewart's Pat. Price \$15
Guaranteed to shear any kind of wool that grows. All gears cut from the solid metal and hardened.

BOOK ON SHEARING just published. Finely illustrated, with valuable hints for fast and easy shearing by R. M. Marquis, champion of the world, will be sent Free to any sheep owner on application. Address **CHICAGO FLEXIBLE SHAFT CO.** 158-160 Huron Street, Chicago, Ills.

British Columbia.

Anyone thinking of farming in British Columbia should write for descriptive pamphlet of farms for sale in the Lower Fraser Valley—the garden spot of the Province.
We have compiled the largest and most complete list of farms, orchards, cattle-grazing and garden lands, and fishermen's attoments, in the Province. It has been very carefully selected, and we have a personal knowledge of every property described. Prices range from \$3.00 per acre to \$250.00 per acre, and in extent from 1 acre to 1,000 acres.
In the Lower Fraser Valley, and on the coast lands around Vancouver, we rarely have more than a month of frost and snow at outside, and the thermometer has only sunk to zero twice in ten years.

WRITE **HOPE, GRAVELEY & CO.,** 536 Hastings St. VANCOUVER, B. C.



ALL MILK for cheesemaking, buttermaking, or city or town trade, should be aerated while warm from the cow, and during the cooling process, which it hastens. It allows the escape of animal odors, weed flavors and gas. It prevents the cream from rising in the milk can, and the milk from souring.

KIPPEN'S MILK AGITATOR
is automatic, and keeps the milk in motion from one to twelve hours. It is simple, sure, and clean.
JOHN KIPPEN, Fullarton St., London, Ont.

EGGS.
White Rocks, White Leghorns and Black Minorcas (superior laying strain, perfect in color). Couple of White Leghorn cockerels for sale. Eggs, \$1 for 13.
JAS. A. McEWEN, Melbourne, Ont.

GOSSIP.

Mr. C. A. Zavitz, Experimentalist at the Ontario Agricultural College, Guelph, is leaving for a trip to Europe, to gather information for the direction of his work at the Station.

Mr. David Duncan, of Don, Ont., reports that the demand for Jersey bulls during the past winter has been unusually active, and that his heifers sired by the richly-bred bull, Costa Rica's Son, are proving exceptionally good milkers, showing the value of good breeding, or a combination of individual merit with inheritance.

A few weeks ago the Illinois Electric Vehicle Co., of Chicago, registered a failure, and now the New England Automobile Co., of Boston, has gone the same way, a statement of its affairs showing that in a stated period its income had been \$33,000, while its expenses had been upwards of \$211,000. Even city people are finding out that it is safer to put their trust in horses than in horseless carriages which are liable at times to leave them in the lurch under rather awkward circumstances.

John Campbell, Fairview Farm, Woodville, Ont., writes that the Shropshire rams offered on page 320, for immediate or later delivery, are a lot which can scarcely fail to prove profitable to the purchasers. They have been carefully bred, from superior sires and dams, with the aim of producing high-class rams for heading pure-bred flocks. In twenty years' breeding Shropshires not a dozen home-bred rams have been sold for ranching purposes. That indicates what class of sires has been constantly bred at Fairview, so that purchasers can rely on securing sires to maintain and improve the quality of their flocks.

H. Bollert, breeder of Holstein cattle, Cassel, Ont., writes that about a week ago he had a representative from the O. A. College to test a cow and a two-year-old heifer, the only ones that are fresh at this time. The cow, Tidy Princess Lady, made 15 lbs. 3 ozs. butter in 7 days, and the two-year-old, Belle De Kol, made 14 lbs. 8 ozs. in 7 days. The result is very satisfactory, as the test was made under very unfavorable circumstances, and I am satisfied that under fair conditions both can far exceed this excellent record. Among the bulls I offer is a full brother to the heifer above referred to. He should make a great and valuable sire of dairy stock, and individually is fit to head any herd. I intend to have every cow in the herd tested as soon as time permits.

Messrs. M. Richardson & Son, proprietors of the Riverside Stock Farm, Caledonia, Ont., write: "Our herd of Holstein-Friesian cattle have come through the winter well. Our new crop of calves are strong and vigorous. We have made the following sales and shipments recently: To A. W. Van Patten, Aylmer, Ont., one yearling bull and heifer; to Ferdinand Pagnette, Montreal, two very fine young cows; to A. St. Laberge, Bulwer, Que., one bull and three heifers; to F. Reinkie, Ancaster, Ont., one bull; to Messrs. Smith and Calder, Grimsby, Ont., one bull; to Reuben Gleason, Medina, Ont., one bull, and one to Walter M. Lea, Victoria, Prince Edward Island. We have recently purchased from Messrs. Gillett & Son, Springvale Stock Farm, Rosendale, Wis., a young bull, Johanna Rue 7th's Lad, to assist our well-bred imported stock bull, Victor DeKol Pietertje."

At the Royal Dublin Society's Spring Show, April 9th to 12th, the Chaloner plate, for best Shorthorn bull three years old and over, went to the roan Inspector (7215), just coming 4 years old the 23rd of April; bred by Mr. Alex. Crombie, Woodend, Aberdeen; exhibited by Mr. Sydney, P. C. Vesey, Bagnalstown, Ireland. He was sired by Granite City (70570), dam Roan Lady, by Standard Bearer (55086). He is a bull of great substance, with excellent fore end and middle, but a little short in his quarters, and hardly deep enough. He was purchased by Mr. Geo. Harrison, Gainford. The second to him in his class was the Countess of Caledon's home-bred Caledon Chief, by Laureate, and his dam by Sign of Riches. Third prize went to Mr. Smiley's Candahar, bred at Pierriessmill, and sired by Prince of Fashion. The Shorthorn Society's prize for best yearling bull, in a class of 88, went to Prince Fortinbras, shown by Mr. Wm. Armstrong, Enniscorthy; sired by Prince Rufus. The reserve was Mr. Barton's Castor, by Royal Standard.

ANOTHER GOOD SALE OF SHORTHORNS.

The auction sale of Shorthorns at Mount Forest, Ont., property of R. & A. Hermiston on April 11th, was a very successful one, notwithstanding that it was only advertised in one issue of the FARMER'S ADVOCATE, but Messrs. Hermiston write that it was through the ADVOCATE that so many buyers came from a distance, and that Mr. Thos. Ingram, of Guelph, as auctioneer, did splendid work in disposing of the stock. We give below a list of the animals sold, with prices, and the address of purchasers:

Cows and Heifers.

- Cow, six years: W. Burnet, Salem.....\$190
- Lady and calf: R. Wilkin, Harriston..... 170
- Betsy and calf: P. Coutts, Egerton..... 185
- Flossie: Alex. McLean, Harriston..... 180
- Violet: John Coutts, Egerton..... 170
- Ethel May: Geo. Wilkin, Harriston..... 160
- Daisy: M. Heffernan, Damascus..... 150
- Jessie 2nd: H. Hiscock, Holstein..... 140
- Sarah: R. Wilkin, Harriston..... 155
- Lily: John Long, Mount Forest..... 140
- Pena: Geo. Lodge, Gordonville..... 175
- Belle: Peter Storey, Conn..... 135
- Betsy 2nd: R. Segsworth, Monck..... 170
- Pearl: W. J. Wallace, Mount Forest..... 150
- Nancy: James Miller, Alma..... 75
- Bella, 2 years: P. Storey, Conn..... 150
- Ella, 2 years: W. Storey, Conn..... 80
- Betsy 3rd, 1 year: J. Miller, Alma..... 90
- Sarah 2nd, 1 year: M. Manion, Egerton..... 85
- Daisy 2nd, 1 year: Alf. Caulfield, Mount Forest..... 55
- Jessie 3rd, 1 year: J. Groff, Alma..... 85
- Ethel 2nd, 1 year: W. Reeves, Mount Forest..... 70
- Mabel 2nd, 1 year: W. A. Burnet, Salem..... 60
- Ella 2nd, 1 year: A. Lennox, Gordonville..... 55

Bulls.

- Royal Bruce, 3 years: G. Wilkin, Harriston 130
- Scottish Chief, 1 year: Nicholson Bros., Mount Forest..... 135
- Ingram, 15 months: J. Moore, Conn..... 105
- Sir Colin, 14 months: A. McEwen, Mount Forest..... 105
- Bruce, 13 months: A. McLean, Mount Forest..... 120

PLEASE MENTION FARMER'S ADVOCATE



No crop can be grown without Potash. Supply enough Potash and your profits will be large; without Potash your crop will be "scrubby."

Our books, telling about composition of fertilizers best adapted for all crops, are free to all farmers. GERMAN KALI WORKS, 93 Nassau St., New York.

IT PAYS TO CARE FOR YOUR HORSE.



NATIONAL GALL CURE

Is the only speedy and sure cure for GALLS, SORE BACK AND SHOULDERS, CORNS, SCRATCHES, MUD SCALDS, ETC.

National Gall Cure is wonderful in its effect, no other preparation in the world can equal it, and it does its work while the horse is working.

For sore teats on cows it gives immediate and certain cure.

OUR SPECIAL OFFER.

On receipt of 50 cents we will send two full sized boxes of National Gall Cure, which are sold at 25 cents each, and a full nickel plated bit as shown in above illustration for 50 cents.

Money refunded if not found satisfactory. National Gall Cure is for sale by all dealers.

When ordering from us, please write name and address plainly and enclose this advt.

ENGLISH EMBROCATION CO'Y.

337 D. ST. PAUL ST., MONTREAL.

Shire Horses.

The subscribers offer for sale a number of choice-bred

BROOD MARES, FILLIES AND STALLIONS.

Distance about four miles from either Welland or Fenwick. Will meet parties wishing to inspect the stock at either of these places.

Morris, Stone & Wellington
FONTHILL P. O., ONT. om

4 Imp. Clydesdale Stallions

From such well-known sires as Sir Everard (5353), Prince Roberts 7135, Prince Alexander 8899.

2 Imp. Shorthorn Bulls

4 Bulls Imp. in Dams. 2 Canadian-bred Bulls.

21 Imp. Cows and Heifers

7 Canadian-bred Cows and Heifers. GEO. ISAAC & BROS., BOMANTON, ONT. COBBOURG STATION, G. T. R.

NOTICE.

Nitrate of Soda.—Quality counts for more than quantity, although both are extremely desirable in farm crops. Earliness, too, is of first-rate importance, as it is the competitor that gets in ahead that wins the prize and the profit. Nitrate of soda hustles the plants, because it feeds them direct with the food that causes them to grow rapidly. Bulletins from various experiment stations show, from experiments, that it pays to apply nitrate of soda to all garden, root and fruit crops, especially in districts where early summer droughts occur. Its action is to push crops ahead. John A. Myers, 12 John street, New York City, who advertises nitrate of soda in this issue, will, if applied to, furnish pamphlets giving accurate information upon food for plants, notes on the use of nitrate of soda, and the effects of nitrate of soda upon vegetation.

"For raising calves on separated or skimmed milk,

Bibby's Cream Equivalent

Is the most popular food on the market, and probably rears more calves than all other manufactured calf foods put together." Try it. Price: 100-lb. Bag, \$3.50; 50-lb. Bag, \$2.00. Freight paid to nearest railroad station.

MANUFACTURED BY **J. BIBBY & SONS,** 10 BAY STREET, TORONTO.

Hogate & Co'y, TORONTO, ONTARIO.

1 landed from Scotland, March 25, with a fine importation of

STALLIONS.

All of a breeding age. We handle no second-handed horses from the United States, but buy direct and sell to all parts. Write now and where you can buy the cheapest. Horses on hand from 3 to 7 years old, weighing from 1,600 to 2,100 lbs. For particulars write:—



E. R. HOGATE, Sarnia, Ontario.

FOR SALE.

CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—including the great sweepstakes winner, The Marquis (1182), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

THOS. GOOD,

Richmond P. O., Ont. om R. R. Station, Stittsville, C.P.R.

FOR SALE:

Clydesdales and Shorthorns.

Young stallions and fillies bred from imported sires and dams. Also a choice bunch of Shorthorns, of both sexes and all ages, including a few extra choice young red and roan heifers and bulls. om

JOHN BRIGHT,

Myrtle, Ontario. om

Clydesdales and Ayrshires

Imported and home-bred. Also Dorset Horned sheep, and the leading varieties of poultry. om

ROBERT NESS & SONS, Howick, Que.

90 HEAD

High-quality, Early-maturing



Herefords

Prizewinners.

Young bulls, cows, heifers.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue. om

H. D. SMITH, COMPTON, QUE.

HEREFORD BULL FOR SALE.

Thoroughbred 3-year-old. om

W. R. COLEMAN, Cookstown, Ont.

FOR Hereford Bull, Santiago,

Register 956, 3 years old; very lengthy, low-set fellow—a fine sire; very gentle. Apply to om

J. BERGIN, Cornwall, Ont.

R. Mitchell & Son,

Burlington Jet. Station, Nelson, Ontario.

Large herd of Scotch and Scotch-topped Shorthorns of the most popular Aberdeenshire tribes, including 4 imp. bulls, 12 imp. cows and heifers. Also a number of home-bred yearling and two-year-old heifers, and 7 good, thrifty home-bred bulls, from twelve to fifteen months old. Write for catalogue. om

CENTRE WELLINGTON SHORTHORNS

Herd consists of Scotch and Scotch-topped females, with Lord Stanley 4th - 22678 - at the head. Stock all ages for sale. Farm adjoins the town. om

Box 66. H. B. WEBSTER, Fergus, Ont.

IN WEBSTER

PLEASE MENTION FARMER'S ADVOCATE.

FOR SALE: 7 choicely-bred Scotch Shorthorn Bulls, 10 to 18 months; big, sappy, smooth fellows—no better, none cheaper. Also females of various ages. om

DAVID MILNE, Ethel, Ont.

ARTHUR JOHNSTON

Greenwood, Ontario, Canada.

HIGH-CLASS

SCOTCH SHORTHORNS

(First Importation Made in 1874.)

(My recent importation of 30 head has just arrived home from quarantine. Herd now numbers over 120 head.)

OFFERS FOR SALE

40 Imported Cows and Heifers,

40 Home-bred Cows and Heifers,

11 Imported Bulls and Bull Calves,

13 Home-bred Bulls and Bull Calves.

Railway stations—Pickering, on main line of Grand Trunk Railway, 22 miles east of Toronto, and Claremont, 23 miles east of Toronto, on the C. P. Railway. Catalogues on application. om

Standard Sheep Dip

(OIL OF TAR.)

Non-poisonous, cheap and effective. Destroys Scab, Lice, Ticks, Foot Rot, etc.

Write for Testimonials and Circulars.

Manufacturers: **The West Chemical Company,** TORONTO, ONT.

For Contagious Abortion use West's Fluid.

For Sale: 3 Shorthorn bulls of first-class

breeding, sired by such noted bulls as Scotland's Fame (imp.) and Bold Britain, bred by John Isaac, Markham. Also some choice cows and heifers. **F. A. GARDNER, Britannia, Ont.** P.EEL COUNTY. om

SHORTHORN BULLS AND HEIFERS

FOR SALE.

Choice quality and best Scotch breeding. Imported and home bred. Imported Knuckle Duster (72793) and imp. Royal Prince head the herd, which has furnished the Provincial Fat Stock Show champion three out of the last five years. Catalogues on application.

H. SMITH, HAY, ONT.

Exeter Station on G. T. R., half a mile from farm. om

6 Shorthorn Bulls 6

Also cows in calf and yearling heifers. All of straight Scotch breeding. om

SHORE BROS., WHITE OAK, ONT.

Shorthorns FOR SALE:

12 young bulls.

10 yearling heifers and heifer calves.

16 2-year-old heifers and young cows,

several well advanced in calf to Precious Stone (imp.). Prices moderate. Write for particulars. om

G. A. BRODIE,

Stouffville Station, Bethesda, Ont.

SHORTHORNS

SCOTCH IMPORTED.

Young imported cows with calves at foot for sale. A number of the calves are imported in dam.

Some of the families represented in the herd are as follows :

160
Head

AUGUSTAS
CLARAS
NECTARS
GOLDIES
JENNY LINDS
VICTORIAS
MATILDAS
BESSIES
CROCUSSES

ROSEBUDS
BRAWITH BUDS
LANCASTERS
MAYFLOWERS
AMARANTHS
BUTTERFLYS
CLIPPERS
EMMAS
BROADHOOKS

MEDORAS
MINAS
VILLAGE MAIDS
BEAUTYS
MISS RAMSDENS
FLORAS
RAGLANS
LUSTRES
GEMS OF THE VALE

160
Head

Herd headed by the Imported Bulls, **GOLDEN DROP VICTOR** and **PRINCE BOSQUET**.

IF INTERESTED, COME AND SEE US, OR WRITE

H. CARGILL & SON,

CATALOGUE FREE.

CARGILL, ONTARIO, CANADA.

TROUT CREEK HERD OF SHORTHORNS.

Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced, also, that a bull of the right sort is even more than half the herd, we have decided to keep the following choice ones :

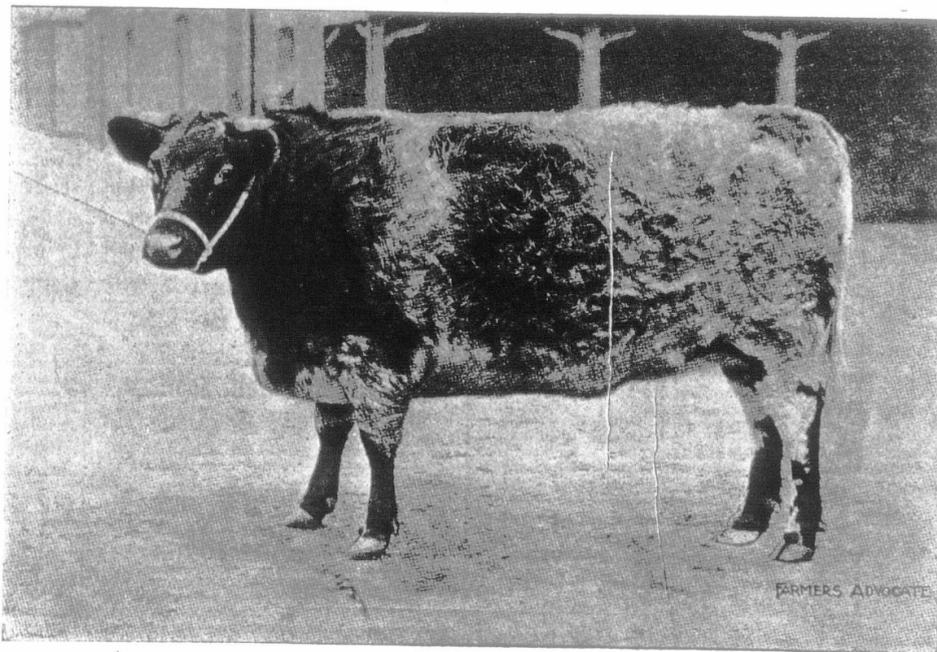
Imp. Lord Banff,

Bred by A. Watson; of the Campbell Bessie family.

Imp. Consul,

Bred by J. D. Fletcher; of the Campbell Claret family. Consul was awarded first at Edinburgh, first and champion at Provincial Union, first and champion at Creiff, and second at the Highland. His sire, Watchword, bred by Wm. Duthie, was first at the Highland in 1895 and 1896, and got by Scottish Archer. Watchfire, by Watchword, was first at the Highland, 1897. Consul is the highest-priced bull imported to Canada.

Hamilton is a city of over 50,000 inhabitants, located on main line of Grand Trunk Railway, between Chicago and Buffalo; also connected by Canadian Pacific Railway and Michigan Central Railway—branch lines.



CICELY.

Bred by Her late Majesty the Queen; undefeated in her class and many times champion; imported by W. D. Flatt.

Imp. Silver Mist,

Bred by Wm. Duthie; of the famous Missie family. He had many friends for first choice at Messrs. Marr and Duthie's sale. Mr. Beck, representing the Prince of Wales, made next to last bid.

Imp. Wanderer's Last,

Bred by W. S. Marr; also of the Missie family. Is the last calf got by that renowned Cruickshank bull, Wanderer. Mr. Marr considers this youngster very promising.

We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

W. D. FLATT,

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.

GOSSIP.

Massey-Harris Co., Ltd., are again offering to the agricultural and horticultural community, through the Toronto, London and Ottawa fairs, \$1,000 in special cash prizes, to be competed for next fall. Full particulars regarding the several competitions appear in the prize lists of the several Exhibition Associations, and can be obtained on application to the secretaries, or by addressing a post card to Massey-Harris Co., Toronto. The competitions are open to the farmers, their wives, sons and daughters, and even the small school children are not overlooked.

The Royal Show for 1902 will be held at Carlisle. So the Council of the Society decided at a special meeting last month.

Robt. Miller, Stouffville, Ont., reports the sale, to the Michigan Agricultural College at Lansing, of the imported Shorthorn bull, Princely Victor, 1 year and 11 months old, and red in color. He was bred by W. S. Marr, Uppermill; sired by Golden Victor, half-brother to the Royal winners, Cicely and Royal Duke, and his dam was by William of Orange.

An English exchange says: The new Chicago sheep-shearing machine was recently given a test at Shelyns, the estate of Mr. R. P. Cooper, of William Cooper and Nephews. Several Shropshires were shorn, and the work of the machine was highly commended by those present. The sheep were large, with heavy fleeces, and they were shorn smoothly and well, with no second cuts in the wool, and a marked absence of cutting of the sheep. They were shorn in about half the time required for hand shearing, and presented a much better appearance than if shorn by hand.

Oscar Chase, Port William, N. S., writes: "I may say that I am well pleased with your paper, and wish you success. I have the water in my stable now, which I like very much. I am raising seven nice Shorthorn calves this winter, five of which are sired by Bright Stamp, purchased from W. B. Watt, Salem, Ont. I have made a small amount of beef this winter; the demand is not very good this spring. Apple sales have been quite satisfactory on the whole, one variety, Fallwater, selling in London for 30 shillings per barrel. With good wishes for further success, I remain, yours truly."

MOWERS AND RAKES.

We refer our readers to the advertisement of the McCormick Harvesting Machine Co. which will be found elsewhere in this issue. This Company manufactures a complete line of mowers and hay rakes, which are carried in stock by McCormick agents in almost every city and town in the United States and Canada. These machines are constructed with a view of enabling the farmer to save his hay crop with the least possible work and in the least possible time. Though light, they are strong and durable, and do clean work. The McCormick mower runs smoothly, is of light draft, has no side draft nor neck weight; with the tongue removed from the neckyoke, one can, without any difficulty, cut a full swath the entire length of the field. The machine cuts so easily that it can be started in heavy grass without backing. It leaves the stubble as smooth as a newly-mown lawn. The McCormick rake gets all the hay and dumps it in even windrows; does not roll or tangle the grass; neither does it get out of order. Both the machines will work equally well on rough or smooth ground, and the repair bill for the whole season will amount to practically nothing.

FOUR GOOD IOWA SHORTHORN SALES.

On April 9th, F. A. Edwards, Webster City, Iowa, sold 51 Shorthorn cattle at auction, 36 females and 15 bulls, for an average of \$275.80. The highest price for a female was \$110, for Scarlet, a roan three-year-old by Royal Victor, bought by C. C. Bigler & Son, Hartwick, Iowa. The highest price for a bull was \$710. On April 10th, N. A. Lind, Rolfe, Iowa, sold 50 head for an average of \$544. The 24 Scotch cattle made an average of \$720, and the Bates cattle, free of Scotch, averaged \$523, one selling for \$550. The highest price for a cow was \$1,485, for Imp. Turquoise, a roan two-year-old. Six females brought from \$1,000 up to the top price named. On April 11th, Karnis & Lee, Victor, Iowa, sold 43 head, when an average of \$317 was made, three cows selling at \$1,000, and \$1,010, and \$1,060, and a Bates bull for \$1,000. On April 12th, C. C. Bigler & Sons sold 51 head at Hartwick, Iowa, at an average of \$536.65, the highest price, \$1,775, being paid by A. Alexander, Morning Sun, Iowa, for Mary of Bluff View, a red four-year-old cow. Three bulls sold for \$500 each. Thirteen Scotch females averaged \$1,028.

AYRSHIRES AT CASTLE DOUGLAS.

At the Castle Douglas Spring Show, April 4th, the awards were made by Messrs. Matthew Templeton, Sandyknowe, Kelso, and Thomas Barr, Monkland, Kilmarnock. The female classes were said to have been the finest ever seen at Castle Douglas. For cows in milk, four years old and upwards, the first prize went to A. & W. Kerr, Old Graitney, Grelna, for a grand level cow with good teats, by Lord Bute, sire of all the stock shown by Messrs. Kerr at this show. Thos. Kerr, Kirkchrist, was second, and Andrew Mitchell, Barcheskie, third, with a gay cow of right dairy stamp. In the class for cows in calf, J. Lindsay, Barwhillanry, was first, with a great dairy cow, Daisy of B, by McTaggart; followed by Wm. Murray's entry, Red Rose, from Burrowsmoss, which won first at Wigtown last year. Three-year-olds in milk were led by a good one, owned by Mr. Murray, and Mr. Stroyan was second, with Marjory Kennedy. In three-year-olds in calf, Andrew Mitchell was first with Mary of Burnhouses, lately bought from Wm. Howie for £100, a heifer of wonderful style and gaiety. She was by Prince Bismarck, a Knockdon bull. A. & W. Kerr were second, with Dewdrop, by Lord Bute. The two-year-old heifers were very fine, and the first, second and third prizes went to the entries of Sir Mark J. McTaggart Stewart. The first was a heifer bought from Jas. Howie, Hillhouse, which was first at Glasgow last year, and was got by Traveller's Heir. The second, bred by the exhibitor, was first at Castle Douglas, Ayr and Kilmarnock last year. Bulls were not a strong lot. In aged class, Andrew Mitchell was first, with Enterprise of Orchardton, that was first at Ayr as a two-year-old. He was shown in great bloom. The Crichton Royal Institution had the first two-year-old. Yearlings were a stronger class, and Mr. Thos. Lindsay was first, and Andrew Slater second and third.

REMARKABLE SUCCESS

Of a New Catarrh Cure.

A large and constantly increasing majority of the American people are catarrh sufferers. This is not entirely the result of our changeable climate, but because modern investigation has clearly proven that many diseases known by other names are really catarrh. Formerly the name catarrh was applied almost exclusively to the common nasal catarrh, but the throat, stomach, liver, bladder, kidneys and intestines are subject to catarrhal diseases, as well as the nasal passages.

In fact, wherever there is mucous membrane there is a feeding ground for catarrh.

The usual remedies, inhalers, sprays, douches or powders, have been practically failures, as far as anything more than temporary relief was concerned, because they simply dry up the mucous secretions, without having the remotest effect upon the blood and liver, which are the real sources of catarrhal diseases.

It has been known for some years that the radical cure of catarrh could never come from local applications, but from an internal remedy, acting on the blood and expelling the catarrhal poison from the system.

A new internal preparation, which has been on the market only a short time, has met with remarkable success as a genuine, radical cure for catarrh.

It may be found in any drug store, sold under the name of Stuart's Catarrh Tablets, large, pleasant-tasting lozenges, composed principally of antiseptic ingredients, Eucalyptol, Guaiacol, Sanguinaria, Hydrastin and similar catarrh specifics.

Dr. Ainales, in speaking of the new catarrh cure, says: "I have tried the new catarrh remedy, Stuart's Catarrh Tablets, upon thirty or forty patients with remarkably satisfactory results. They clear the head and throat more effectually and lastingly than any douche or inhaler that I have ever seen, and although they are what is called a patent medicine and sold by druggists, I do not hesitate to recommend them, as I know them to be free from cocaine and opiates, and that even a little child may use them with entire safety."

Any sufferer from nasal catarrh, throat or bronchial trouble, catarrh of the stomach, liver or bladder, will find Stuart's Catarrh Tablets remarkably effective, pleasant and convenient, and your druggist will tell you they are absolutely free from any injurious drug. —Advt.

FOR SALE:

SHORTHORN BULLS AND HEIFERS from such sires as Mariner (imp.), Royal Judd 17499, Sultan Selam (imp.), Grenadier 26251, and Roseville Abott 30874, on a Victoria foundation. Also one extra Kinellar Stamp 10-mos. red bull. Come or write. **HURON COUNTY. THOS. CUDMORE & SON,** EXETER STATION, Hurondale, Ontario, and Telegraph Office.

WOODSLEE STOCK FARM.

FOR SALE: 3 Shorthorn bulls, 15 months old, two reds and one roan. Well developed, healthy, and thick fleshed.

S. G. LITTLE, Hagerman, Ont.
W. PATTON, Manager.

Unionville Station, G. T. R. —om

SHORTHORNS, COTSWOLDS, BERKSHIRES AND BARRED PLYMOUTH ROCK FOWLS

FOR SALE.—One yearling bull and 5 bull calves, a few cows and heifers, 7 shearing rams. Barred Rock eggs at 75c. per 13, \$2 for 50, \$3.50 per hundred. No other variety of fowls kept. —om

F. BONNYCASTLE & SONS, Campbellford P. O., Ont.

SHORTHORNS FOR SALE

Cows and heifers, also a few young bulls. I have employed sons of Lord Lovel, Royal Member, Perfection, Indian Chief, and Clan Campbell, on Lord Lovel and Abbotsburn females. —om

WM. HAY, TARA, ONT.

SHORTHORN BULLS FOR SALE.

We have Cruickshank Lovely, Fashions and Stamford females, and Matchless females bred by J. & W. B. Watt, Salem, Ont., with Lovely Victor 22170 at the head. **T. MERCIER, MARKDALE, ONT.**

SHEEP BREEDERS' ASSOCIATIONS

American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana. —om

SHORTHORNS FOR SALE.

of the Crimson Flower, Clarissa, Missie and Lustris tribes, with Indian Chief (imp.) and Clan Campbell (imp.) prominent in their pedigrees. Young bulls and heifers for sale. **ARTHUR JOHNSTON,** GREY COUNTY, Vandeleur, Ont.

Shorthorns and Leicesters.

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859, and Duncan Stanley = 16364 =. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS, CALEDONIA, ONT.

YOUNG SHORTHORNS FOR SALE

Our present offering includes several choice young bulls fit for service, sired by "Scotland Yet," and out of Warfare (imp.) dams; also bull calves, from Blue Ribbon (imp.), and out of Royal George cows. Inspection and correspondence solicited.

A. & D. BROWN,

M. O. RAILWAY. —om IONA, ONTARIO.

Hillhurst Shorthorns.

Three Collynie-bred Bulls in service: Scottish Hero, by Scottish Archer; Joy of Morning, by Pride of Morning; Scottish Beau, by Silver Plate.

SPECIAL OFFER:

Three young bulls (registered), red, roan and white, 12 to 14 months old, bred from Cumberland, Gloucestershire and Canadian dairy strains, at farmers' prices and for farmers' purposes, to produce big-framed, deep-milking cows, and early-maturing beef steers. Write at once for prices and particulars.

Hackney Stallion, Rattling Shot 351 A. H. S. B., 6 years, 16 hands, 1,300 lbs., dark roan, black points, broken to harness, grand actor, and successful sire of promising carriage horses, mostly bays. Dam imported, 15-mile-an-hour roadster. Come and see him, or write for low price and particulars.

M. H. COCHRANE,

G. T. R., 117 miles east of Montreal. —om— **HILLHURST STATION, COMPTON CO., P. Q.**

Queenston Cement.

The demand for our cement in 1900 justified us in adding largely to the capacity of our cement works. The indications are that this year's business will be still greater. We start the new century with an equipment which for the manufacture of natural rock cement is not excelled in America.

We shall be glad to assist you in making plans for new farm buildings or for remodelling old ones. Our experience should be of value to you. It will pay you to investigate our system of ventilation.

Write us for prices or for estimate of cost of any kind of concrete work.

Queenston Heights Stock Farm.

Shorthorn Cattle: Eight young bulls for sale; any age, any color. Also cows and heifers—straight Scotch crosses.

ISAAC USHER & SON, QUEENSTON, ONT.

J. & W. B. Watt, SALEM, ONT., BREEDERS OF Clydesdale horses, Scotch Shorthorn cattle, Leicester and Oxford sheep, Berkshire pigs.

Our **SHORTHORN** herd was founded over 30 years ago, and contains such tribes as the **Village Buds, Matchless, Missies, Mildreds, Stamfords and English Lady**, upon which we have employed such bulls as **Barmpton Hero 324, Young Abbotsburn 6286, Challenge 2983, Perfection 9100, Lord Lansdowne (imp.) 2712, Clan Stuart 14381, Canada 19536, Sittytton Chief 17000, Royal Sailor (imp.) 18959, Royal George 28513, Clipper King 16298 and Judge 23419**, all of which have been first-prize winners wherever shown. **Royal Victor 34681 and Royal Wonder 34682**, by **Royal Sailor (imp.)**, and out of English Lady and Mildred dams, now head the herd, assisted by **Roman Cloud 31317**, by **Lord Gloster 26985**, and out of **Melody 21992**, a descendant of the Buckingham family. We are now offering young bulls, cows and heifers for sale, of Scotch type.

Farm 2 miles from Elora Station, G. T. R. and C. P. R., 15 miles north of Guelph.

W. G. Pettit & Son, FREEMAN, ONT. IMPORTERS AND BREEDERS OF Scotch Shorthorns and Shropshire Sheep.

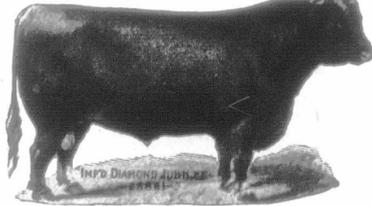
OFFER FOR SALE:
12 Imported bulls, 12 mos. to 2 yrs. old.
5 " " 9 to 12 mos. old.
20 " " cows, 3 to 6 yrs. old.
15 " " heifers, 2 yrs. old.
5 " " 1 yr. old.
6 Home-bred bulls, 9 to 18 mos. old.
20 " " heifers, 1, 2, and 3 yrs.

Our imported bulls are now getting in good shape. All our heifers of suitable age are bred to Pure Gold (imp.), by Cyprus, and Scotland's Pride (imp.), a Cruickshank Clipper, by Star of Morning.

Catalogues on application. All our imp. cattle were registered in the American Herd Book before the \$100.00 fee for recording was put on.

Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm. —om

T. DOUGLAS & SONS, STRATHROY, ONT. BREEDERS OF... **Scotch Shorthorns** 100 HEAD TO SELECT FROM. Offer for sale 14 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee = 28861 =, at head of herd. Farm one mile north of town, om



Rapids Farm Ayrshires.

REINFORCED BY A RECENT IMPORTATION OF 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at—

Toronto, London, and Ottawa, in 1900.

Come and see or write for prices. Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager

for W. W. Ogilvie Co., Lachine Rapids, Quebec.

PLEASE MENTION FARMER'S ADVOCATE.

NEWCASTLE HERD OF Shorthorns and Tamworths.
One choice 2-year-old heifer. About a dozen boars, ranging from 2 to 4 months old; also a few nice young sows—all from Toronto prize stock. Be sure to write for prices. o COLWILL BROS., Newcastle, Ont.

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

Shorthorns for Sale.
Two excellent bulls, sixteen months old; roan in color; well bred and well grown; at reasonable prices. o D. ALEXANDER, - BRIGDEN, ONT.

J. R. McCallum, Iona Station, Ont.
Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices. Iona Stn. on M.C.R., half a mile from farm.

11 SHORTHORN BULLS 11
5 reds, 3 roans, and 3 whites, for sale, from 3 to 13 months old, sired by imported British Statesmar; also some cows and heifers. FITZGERALD BROS., Simcoe Co. -o Mount St. Louis.

JOHN DRYDEN, BROOKLIN, ONTARIO,
OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine. -om

GOOD QUALITY AND CHOICE BREEDING.
SHORTHORN CATTLE AND LINCOLN SHEEP.
Imp. Prime Minister at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON, DENFIELD, ONT.

FOR SALE: SHORTHORNS AND YORKSHIRES
4 SUPERIOR Scotch-bred Shorthorn bulls, 12 to 14 months; 4 two-year-old heifers of the best strains; and cows with calves at foot. Also a superior lot of Yorkshire boars and sows from 3.5 to 7 months old. Orders booked for spring pigs. Pairs and trios supplied not akin. H. J. DAVIS, BOX 290. -om WOODSTOCK, ONT.

Maple Lodge Stock Farm ESTABLISHED 1854.
SHORTHORNS—Grand young bulls and heifers for sale. We have the first-prize milking strains. Imported Knuckle Duster and Imported Sir Wilfred in service.
LEICESTERS—First-prize stock of Canada for past six years. Imported and home-bred for sale. ALEX. W. SMITH, -om MAPLE LODGE P. O., ONT.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.
We are offering 8 young bulls for sale, of first-class quality, and AI breeding. -om Wm. Grainger & Son, - Londonboro, Ont.

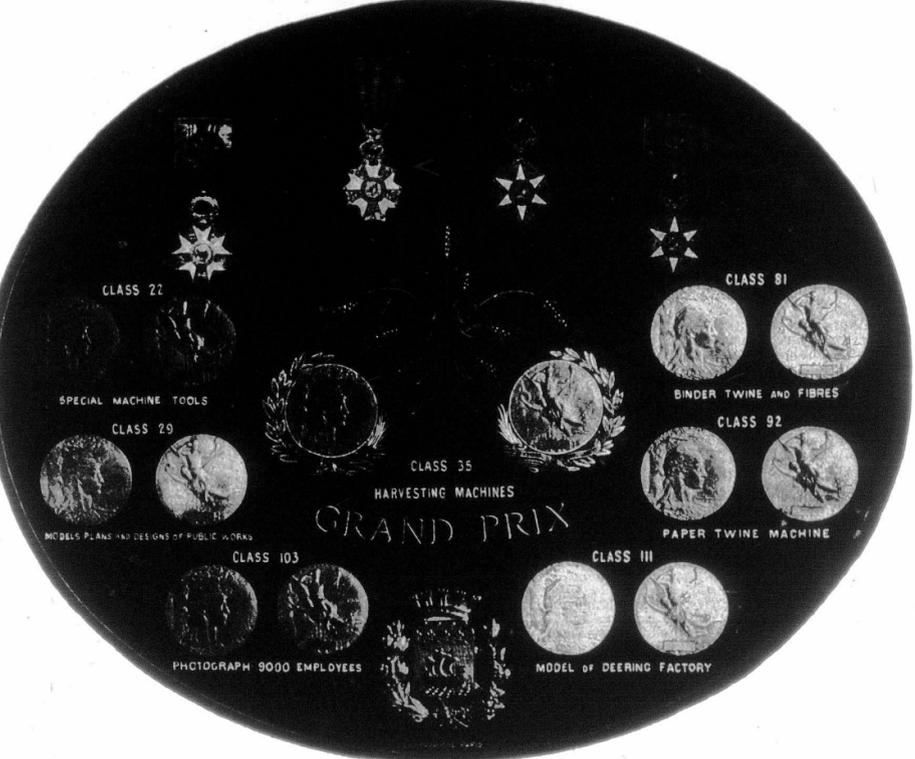
SPRING GROVE STOCK FARM
Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topman =17847=, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply om T. E. ROBSON, Ilderton, Ont.

High-class Shorthorns and Yorkshire Pigs.
Just now three 10-month bulls, got by Imp. Sirius 15281, great big massive fellows with lots of flesh and quality—away above the average. Also a few superior young cows in calf, and 5 or 6 heifers. We are looking orders now for the spring trade. Can ship some in six weeks. om JAS. McARTHUR, GOBLE'S, ONT. Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met. -om

SHORTHORNS.
6 choice young heifers, 4 imported cows. Also 16-months-old home-bred bull. A. P. ALTON & SON, Burlington Junction Station. Appleby P. O.

HONORS ENOUGH FOR A NATION

More and Greater Honors than were Ever Accorded an Exhibitor at any International Exposition. Consisting of 29 MEDALS.



DEERING HARVESTER COMPANY.

MAIN OFFICE AND FACTORY: CHICAGO, U. S. A. CANADIAN BRANCH HOUSES: TORONTO, LONDON, MONTREAL, WINNIPEG.

SPRINGFIELD FARM
HERD OF Shorthorns, Oxfords, and Berkshires.
Young bulls and Heifers on hand. Also a few choice Berkshires. CHAS. RANKIN, Wyebridge, Ont. SIMCOE CO. -o



BROOKBANK
Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred. GEO. RICE, Currie's Crossing, Ont. Oxford Co. -o

GUERNSEYS.
This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared. Address— SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.

W. R. Bowman, Mt. Forest, Ont.
OFFERS FOR SALE
5 Choice Angus Bulls.
2 Shorthorn Bulls.
25 Suffolk and Shropshire Down Ewes. -o
Aberdeen - Angus Cattle.
Several thoroughbred bulls for sale. Apply to the MANAGER, Grape Grange Farm, or to om C. W. HARTMAN, Clarksburg, Ont.

3 Holstein-Friesian YEARLING BULLS for sale. Apply to om Wm. Suhring, Sebringville P. O., Ont.

4 HOLSTEIN BULLS 4
FOR SALE: From 1 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aggie, and Tritonia Prince, and out of imported females that have proven their worth at the fair. THOS. B. CARLAW & SON, Warkworth.

MAPLE GROVE OFFERS a few Holstein bulls of the very richest butter breeding. They are grand individuals, of the true dairy type, and will be sold at right prices. For breeding and prices, address—o H. BOLLERT, CASSEL, ONT.

HOLSTEINS FOR SALE.
I am now offering Holstein calves of both sexes, out of such cows as Panarista Pauline, Inka Darkness 3rd's Jessie DeKol, DeBickert's DeKol, Belle Burke Mechthilde, Pietertje Hartog DeKol, and others, all closely related to DeKol 2nd and Netherland Hengerveld, the greatest of Holstein cows. J. A. CASKEY, Madoc, Ont. -om

Maple Hill Holstein-Friesians
SPECIAL OFFERING:
Three very fine bull calves, 2 to 11 months old. Also several extra good young cows and heifers. Prices moderate. Visitors welcome. om HARRISBURG STN., G.T.R. G. W. CLEMONS, ST. GEORGE P. O., ONT.

Maple Glen Stock Farm.
The home of officially tested, Advanced Registry, dairy test and showing-winning herd of SYLVA HOLSTEINS, of Carmen Sylva now for sale. Price is in keeping with breeding and performance. om C. J. GILROY & SON, Brookville, on C.P.R. or G.T.R. Glen Buell, Ont.

WHERE ARE THE BEST HOLSTEINS?
Have you read of Lilith Pauline DeKol's wonderful record? Her sire was bred here. Have you read of Susie DeKol's record? She was sired by a son of our great cow, DeKol 2nd. We can give our customers more of the blood of the greatest producers than can be found in any other herd. Look over official reports and see where the sires of the great producers were bred. We have over 30 young bulls for sale, and a large number of females. Animals shipped to Canada are accompanied by certificate of health, and are subject to no duties or quarantine. If you want the best, write or visit— om BROOKSIDE HERD, H. Stevens & Sons, Lacona, Oswego Co., N. Y.

Live Stock Labels
Send for circular and price list. R. W. James, Bowmanville, Ont.

SPRING BROOK Holsteins, Tamworths & B. P. Rocks.
2 choice De Kol bull calves, 1 cow, 2 heifer calves—all De Kols. Tamworths: One boar, 9 months; a few sows. Orders booked for spring litters. A. C. HALLMAN, Waterloo Co. New Dundee, Ont.

Riverside Holsteins.

2 BULLS 7 months old, sired by Victor DeKol Pietertje, imp. Dams: Woodland Molly DeKol (imp.) and Gemina Wayne. M. RICHARDSON & SON, Haldimand Co. o Caledonia, Ont.

JERSEYS.
Registered Jersey yearlings and calves from heavy-milking cows, and sired by the pure St. Lambert bull, John Bull of Grovesend 45774, by Nell's John Bull, dam a 20 lbs. 12 ozs. cow, Nettie of St. Lambert 43675, by King of St. Lambert. Write for prices. om P. H. LAWSON, Nilsetown, Ont.

FOR SALE:
Bull calf, A. J. C. C., dropped Mar. 6th, 1901; sired by a son of Two Hundred Per Cent; dam by Perfect Combination; solid color, black points. om E. B. HINMAN & SONS, BRAMPTON, ONT.

BRAMPTON JERSEY HERD.
For sale: 2 yearling bulls; 8 bull calves, sired by Brampton's Monarch (imp.), and out of first-class cows. A number of cows and heifers in calf. Also some unregistered cows and heifers, fresh-calved and springers—grand family cows. om B. H. BULL & SON, BRAMPTON, ONT.

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

Ayrshires, Guernseys, Shropshires AND Yorkshires
For immediate sale. A few fine Ayrshire bull calves, from 4 to 12 mos. om Isaleigh Grange Farm, Danville, Que. J. N. GREENSHIELDS, Proprietor.

AYRSHIRES AND LEICESTERS
We breed for milk and quality, and employ only the best sires. Are now offering young Ayrshires of both sexes. DONALD CUMMING & SONS, Lancaster, Ont.

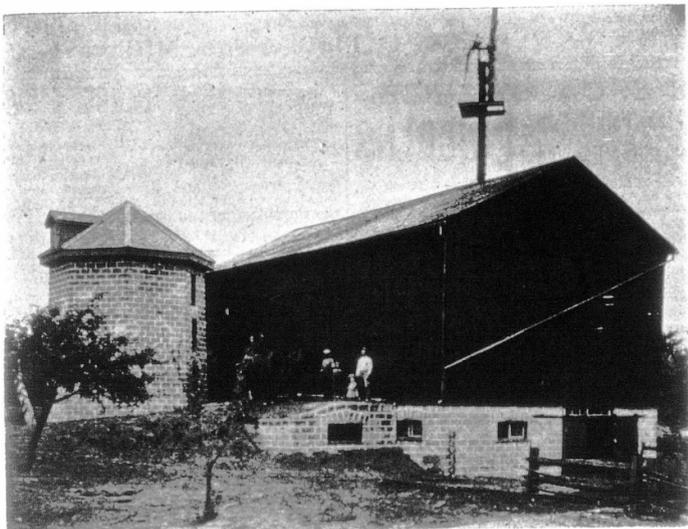
PLEASE MENTION FARMER'S ADVOCATE.

A Splendid Silo, Root House, and Barn Walls

THE PROPERTY OF MR. THOS. N. DUNN, MANAGER OF THE STRATHROY CANNING CO., OF STRATHROY, ONT.

ALL BUILT WITH THOROLD CEMENT IN JULY, 1899,

UNDER THE SUPERINTENDENCE OF JOSEPH W. HARRIS, OF KERWOOD, ONT., OUR SALES AGENT FOR STRATHROY, KERWOOD AND WATFORD.



Size of barn basement walls 1 foot thick, 52 x 30 x 8 1/2, on an 18 x 18 inch footing. Used 65 bbls. CEMENT, and labor—2 men for 16 1/2 days. Size of root house 26 x 11 x 5 1/2, inside measure. Walls 1 foot thick; arch 10 inches thick. Is giving complete satisfaction. Size of silo 16 feet 8 inches inside diameter by 27 feet high. 18-inch walls at bottom, 11-inch at top. It has been filled to the top with corn cobs and husks from the canning factory, and has kept in good shape.

ESTATE OF JOHN BATTLE, THOROLD, ONT.
MANUFACTURERS OF THOROLD CEMENT.

The National Cream Separator



THE MANUFACTURED BY
Raymond Mfg. Co. of Guelph, Can.

ALSO MAKERS OF THE CELEBRATED
"Raymond Sewing Machine."

REPORT FROM WATERLOO COUNTY.

TO THE RAYMOND MFG. CO., GUELPH, ONT.:

GENTLEMEN,—I wish to make a statement that should be of some encouragement to your firm just at this time when your Company is investing a large amount of capital in shops and machinery for the purpose of manufacturing the "National" Cream Separators. I bought a "National" in December, 1898, and received some practical instructions at the O. A. College, Guelph, in the way of making good butter and putting it in neat form for market. The first year I had nine cows and sold \$45.00 worth of butter from each cow, besides keeping the house in butter and having the skim milk fresh, sweet and warm for the calves. In 1900 I received higher prices for the butter, and made \$52.00 per cow from 12 cows, or a total of \$626.73. I market my butter in Toronto and Woodstock, and can find ready sale for more than I can make. Although I am a farmer, I have sold 93 "National" Cream Separators since I got my own, two years ago. The "National" is profitable to a farmer, whether he makes the butter at home or sends the cream to the creamery. I use a Babcock tester, and find the "National" cannot be beat at close skimming. Wishing you success, and hoping you will be able to supply your agents with machines as fast as we need them, I am,

Respectfully yours,
Tavistock, March 20, 1901. CHAS. I. ZEHR.

"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 350 lbs. per hour.
THE Creamery Supply Co.
GUELPH, ONT.
General Agents for Ontario.

Ayrshire Bulls fit for service, out of big, rugged cows, having good udders and teats, and by sires from deep-milking strains.
F. W. TAYLOR,
Wellman's Corners, Ont.

DAVID A. McFARLANE,
Breeder of high-class KELS0, P. Q.
AYRSHIRES.
Young stock for sale from imported and home-bred foundation. Prices reasonable.

GOSSIP.

Mr. Robert McEwen, Byron, Ont., writes that he has made a most valuable addition to his flock of Southdown sheep, by the purchase, from D. H. Dale, Glendale, of 30 ewes in lamb and 2 shearing ewes, which are an exceedingly good lot individually, while their breeding is of the very best, being bred direct from high-class importations from some of the leading English flocks.

Jas. Henderson, Belton, Ont., has recently sold the imported 5-year-old Clydesdale stallion, Goldfinder (10199), to A. Cowan, Whitewood, Assiniboia, to head an extensive horse ranch he owns there. Goldfinder is a high-class horse, as his prize record shows. He was first at the Canadian Horse Show, Toronto, as a 2-year-old; second at Toronto Industrial as a 3-year-old; first and sweepstakes at Western Fair, London, as a 2-year-old and as a 3-year-old. His progeny also rank as high-class. Mr. Henderson has also sold his aged horse, Gay Prince, to Mr. Mossop, Prospect Hill, Ont.

Mr. Levi S. Bowles, Springville, near Peterboro, Ont., advertises a number of imported Clydesdale stallions from 3 to 8 years old, bred from noted prizewinning and champion stock of the most approved class and breeding, including the excellent horse, Montrave Matchless 9939, bred by Sir John Gilmour, sired by Prince of Albion, and out of Moss Rose by Prince Charlie. Montrave Matchless, a big, strong, active horse weighing over a ton, won first prizes at Ayr, Glasgow and Edinburgh, and is full brother to Queen of the Roses, which sold as a yearling for £1,000 (\$5,000). Moss Rose, the champion mare of Scotland, was sold when four years old for £800 (\$4,000). She won the championship at the Highland Society Show at Aberdeen, and was first at the Royal Show at York. Another very handsome and typical bay horse is McQuhae 8827, by the famous McGregor champion stallion at Warwick, owned by Her late Majesty the Queen, and was stock horse at the Prince Consort's Shaw farm at Windsor. Stanley, brown, white face, one white foot, a blocky seven-year-old horse by Stanley Prince, dam Ballig, by McGregor, is another of the string. Still another, Attraction 10073, is a brown three-year-old colt, with white face and two white feet, bred by Andrew Mitchell, Barcheskie, sired by Prince Attraction, by Darnley, a colt with grand legs and feet, and smooth top, and the material of a grand horse. Yet another is Lord Tinto, Vol. XXIII., a beautiful bay with white face and feet, got by Prince Alexander, dam a Brooklyn mare. He is one that will make a mark, and will be heard of in future. Moss Rose, the dam of Montrave Matchless, is illustrated on another page in this issue, and is made after a proper pattern.

CLYDESDALES AT CASTLE DOUGLAS.

Brood mares were a small class, the first award going to Maid of Honor, shown by Leonard Pilkington, Cavens. She was got by The Royal Standard. James Carson, Newfield, was second, with Robina, by Prince Robert. Yearling colts were a strong class, and first, second and fourth honors went to Messrs. Montgomery, for sons of Baron's Pride, who won the family group prize hands down. The get of this grand breeding horse won a large share of the prizes in the sections for mares and fillies.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS REPORTED DURING THE FIRST TWO WEEKS OF APRIL, 1901.

The size of the records and the number received during these two weeks are very remarkable. The number is thirty-two, eight of which average 20 lbs. 1.9 ozs. equivalent butter of 80 per cent. fat. The full-age cows, seven in number, average 18 lbs. 10.8 ozs.; and the average of the eight four-year-olds is 17 lbs. 12.6 ozs. Of the three-year-old class, only three reports were received, the average product of which is 14 lbs. 12 ozs. Of the two-year-old class, fourteen were received, of which the average product is 12 lbs. 9.4 ozs. The average of the seven highest of this class is 14 lbs. 15.2 ozs. The detail of a few of these records is as follows:

Jessie Fobes 4th 35692, age 6 years 9 months 28 days, 14 days after calving: Milk 514.8 lbs., butter-fat 18.036 lbs., equivalent butter 80 per cent. fat 22 lbs. 8.7 ozs., equivalent 85.7 per cent. fat 21 lbs. 0.7 ozs.

Wild Rose Jones 2nd 37839, age 6 years 8 months 26 days, 21 days after calving: Milk 465.6 lbs., butter-fat 17.691 lbs., equivalent butter 80 per cent. fat 22 lbs. 1.8 ozs., equivalent 85.7 per cent. fat 20 lbs. 10.2 ozs.

Rixa Silva 3rd's Pieterje 37258, age 6 years 11 months 27 days, 6 days after calving: Milk 390.2 lbs., butter-fat 15.206 lbs., equivalent butter 80 per cent. fat 19 lbs. 0.1 ozs., equivalent 85.7 per cent. fat 17 lbs. 11.8 ozs.

Duchess Ormsby 2nd 35439, age 7 years 9 months 16 days, 6 days after calving: Milk 412.6 lbs., butter-fat 14.435 lbs., equivalent butter 80 per cent. fat 18 lbs. 0.6 ozs., equivalent 85.7 per cent. fat 16 lbs. 13.4 ozs.

Piebe Laura 27248, age 9 years 8 months 27 days, 12 days after calving: Milk 369.6 lbs., butter-fat 14.093 lbs., equivalent butter 80 per cent. fat 17 lbs. 9.9 ozs., equivalent 85.7 per cent. fat 16 lbs. 7.1 ozs.

Nicolo DeKol 42475, age 3 years 10 months 23 days, 7 days after calving: Milk 343.1 lbs., butter-fat 12.894 lbs., equivalent butter 80 per cent. fat 16 lbs. 1.9 ozs., equivalent 85.7 per cent. fat 15 lbs. 0.7 ozs.

Duplex Artis Clothilde 2nd 54061, age 3 years 11 months 17 days, 17 days after calving: Milk 378.9 lbs., butter-fat 11.216 lbs., equivalent butter 80 per cent. fat 14 lbs. 0.3 ozs., equivalent 85.7 per cent. fat 13 lbs. 1.4 ozs.

Jessie Fobes 2nd's Myrtle 49192, age 3 years 3 months 16 days, 11 days after calving: Milk 380.1 lbs., butter-fat 10.983 lbs., equivalent butter 80 per cent. fat 13 lbs. 11.7 ozs., equivalent 85.7 per cent. fat 12 lbs. 13 ozs.

Almeda Luecke 2nd 49520, age 2 years 4 months 21 days, 29 days after calving: Milk 384.7 lbs., butter-fat 14.906 lbs., equivalent butter 80 per cent. fat 18 lbs. 10.1 ozs., equivalent 85.7 per cent. fat 17 lbs. 6.2 ozs.

Glen Rose DeKol 48906, age 2 years 8 months, 15 days after calving: Milk 403.1 lbs., butter-fat 13.846 lbs., equivalent butter 80 per cent. fat 17 lbs. 4.9 ozs., equivalent 85.7 per cent. fat 16 lbs. 2.5 ozs.

Homestead Girl DeKol 48423, age 2 years 1 month 12 days, 26 days after calving: Milk 360 lbs., butter-fat 12.628 lbs., equivalent butter 80 per cent. fat 15 lbs. 12.6 ozs., equivalent 85.7 per cent. fat 14 lbs. 11.7 ozs.

S. HOXIE,
Superintendent of Advanced Registry.

BRAIN FOOD

Is of Little Benefit Unless it is Digested

Nearly everyone will admit that as a nation we eat too much meat and too little of vegetables and the grains.

For business men, office men and clerks, and in fact everyone engaged in sedentary or indoor occupations, grains, milk and vegetables are much more healthful.

Only men engaged in a severe outdoor manual labor can live on a heavy meat diet and continue in health. As a general rule, meat once a day is sufficient for all classes of men, women and children, and grains, fruit and vegetables should constitute the bulk of food eaten.

But many of the most nutritious foods are difficult of digestion, and it is of no use to advise brain-workers to eat largely of grains and vegetables where the digestion is too weak to assimilate them properly.

It is always best, to get the best results from our food, that some simple and harmless digestive should be taken after meals to assist the relaxed digestive organs, and several years' experience have proven Stuart's Dyspepsia Tablets to be a very safe, pleasant and effective digestive, and a remedy which may be taken daily with the best results.

Stuart's Dyspepsia Tablets can hardly be called a patent medicine, as they do not act on the bowels nor any particular organ, but only on the food eaten. They supply what weak stomachs lack, pepsin diastase, and by stimulating the gastric glands increase the natural secretion of hydrochloric acid.

People who make a daily practice of taking one or two of Stuart's Dyspepsia Tablets after each meal are sure to have perfect digestion, which means perfect health.

There is no danger of forming an injurious habit, as the tablets contain absolutely nothing but natural digestives: cocaine, morphine and similar drugs have no place in a stomach medicine, and Stuart's Dyspepsia Tablets are certainly the best known and most popular of all stomach remedies.

Ask your druggist for a fifty-cent package of Stuart's Dyspepsia Tablets, and after a week's use note the improvement in health, appetite and nervous energy.—Adv't.

STRAWBERRY GROWERS

frequently complain of small yields and poor fruit. This can be corrected by proper use of fertilizers. 100 pounds of

Nitrate of Soda,
200 pounds of acid phosphate and 100 pounds of muriate of potash, per acre, applied to the beds early in the spring, works wonders. Pamphlets on Nitrate of Soda sent free on application to **John A. Myers, 12-R, John St., New York City, N. Y.**

Hersee's Reliable Stock Food

makes horses, cattle, sheep and calves grow, and that's what you want.

Hersee's Reliable Poultry Food

produces eggs, and saves you little chicks and turkeys.

Hersee's Reliable Insect Killer

kills lice on cattle, hogs, poultry; sheep ticks, potato bugs, cabbage worms, etc.

Your neighbors are using them. Sold everywhere. Ask for them. Stock book free.

EDWIN HERSEE, MFR., WOODSTOCK, ONT.

FOR SALE: Choice Ayrshires, AND BARED ROCK EGGS.

3 BULLS, from 7 to 17 months old; also a few

COWS AND HEIFERS.

Eggs for hatching, from choice matings, at \$2.00 per 15. Incubator eggs \$4.00 per 100.

JAS. McCORMACK & SON,
-OM- ROCKTON, ONTARIO.

AYRSHIRE FEMALES FOR SALE

Carrying the same breeding as our prize-winners, including such offspring as Floss and Tom Brown, the World's Fair winners. We breed for constitution, quality, and production.

DAVID BENNING & SON,
Williamstown, Ont.

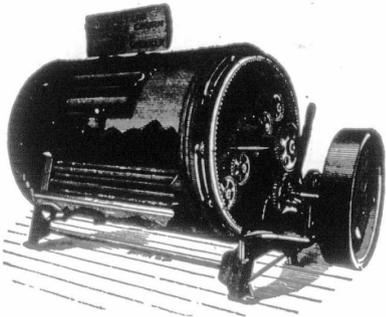
FOR SALE: HIGH-CLASS IMPORTED AND HOME-BRED AYRSHIRES,

including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write.

WM. WYLIE, - H- WICK, QUEBEC.

LIVE STOCK AUCTIONEER.

The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Holson and Alfred Stone, Guelph; Jas Hunter, Alma; and Mossom Boyd, Bobcaygeon. THOS. INGRAM, care Mercury Office, Guelph, Ont.



THE VICTOR COMBINED CHURN AND BUTTER WORKER TAKES THE LEAD!

If you are still using the old square box churn and open worker, you are behind the times. THE VICTOR will save you time and money. It will increase your yield of butter. It will improve the quality of your butter. Write us at once for full information with quotations.

GENERAL AGENTS FOR THE ALPHA-DE LAVAL SEPARATORS.

Boilers and Engines. Australian Boxes. Refrigerating Machines. Elgin Style White Ash Tubs. Hanson's Butter and Cheese Color. Rennet Extracts. Wells, Richardson & Co.'s Improved Butter Color. Spruce Tubs. Genesee Butter Salt. Stearns' Style Spruce Tubs. Lusted Printers. Climax Heaters. Farrington Ripeners. Potts Pasteurizers. Parchment Paper, Etc.

Creamery Package Manufacturing Co., Cowansville, Quebec.

Freeman's Fertilizers Free.

A GENEROUS INTRODUCTORY OFFER.

I am simply making this wonderful offer to induce the Maritime farmers to give the Highest Grade Fertilizers a trial, knowing that a customer this year will be a customer ever after. Don't fail to write for particulars to

CHAS. A. McDONALD, Poplar Grove, Gen. Agt., Maritime Provinces. MABOU, C. B.

SWEET CORN. A quantity of first-class Hicox Improved Sweet Corn for seed purposes, at special prices, in 2, 4 or 10 bushel lots. Address—
Wm. H. Bunting, St. Catharines, Ont. Carleton Fruit Farm.

SEED POTATOES.

PEARL OF SAVOY AND GREAT DIVIDE.

Mr. C. A. Zavitz, of O.A.C., says: "Pearl of Savoy is one of the very best varieties tested for general use." Great Divide is of fine quality, almost "rot-proof," good to grow in localities where potatoes are apt to grow too large and coarse. Price per bag, 90 lbs., 50c.; 1 1/2-bush, sacks, 7c. each. Barred Plymouth Rock eggs for setting: 2 settings for \$1.

JAS. BOWMAN, Elm Park, Guelph.

EWING'S SELECTED AND GARDEN SEEDS

are thoroughly reliable, and better cannot be found. We mail FREE our Illustrated Seed Catalogue for 1901, to all sending us their addresses. Our assortment is complete, and includes full lines of Plants, Flowering Bulbs, Shrubs, Tools, etc., besides all varieties of seeds for farm or garden, and Seed Grain.

William Ewing & Co'y,
SEED MERCHANTS,

142 MCGILL ST., MONTREAL.



Government Approval of the Spramotor.

The following extracts will show how the Spramotor is regarded by some of the leading Government officials. They have purchased the Spramotor only after making elaborate and exhaustive tests. These facts should mean something to you. Profit by the experience of others:—

ONTARIO. This is to certify that at the con-
sultation held at Ottawa, under the auspices of the Board of Control of the Fruit Experimental Station of Ontario, in which there were eleven contestants, the Spramotor Co., of London, Ont., was AWARDED FIRST PLACE.
H. L. HUITT & M. PETTIT, Judges.
Dept. of Agriculture, Toronto.

I have great pleasure in stating that the Spramotor ordered from your Company has given entire satisfaction.

JOHN DRYDEN, Minister of Agriculture.

The London Spramotor combination is the only reliable pump I know for applying mechanical mixtures.

GEORGE E. FISHER,
Chief Inspector, San Jose Scale Investigation.

DOMINION OF CANADA. Dept. of Agriculture, Ottawa.
I used your Spramotor in my apple orchard of 1600 trees. It is easy to handle and perfect in action. I never had my orchard looking cleaner than at the end of last season.

GEORGE JOHNSON.

Cattle Quarantine Station, Quebec.
I have much pleasure to inform you that the outfit bought from you for disinfecting is giving us the greatest satisfaction.

J. A. COUTURE, D.V.S., Inspector.

RUSSIA. I have the honor to apply to you for five Spramotor machines of the same size, No. F-3, and one Spramotor Knapsack. I remain, gentlemen, Your obedient servant,
NICKOLAS KRUKOFF
Representative of the Ministry of Agriculture, Russia.

Write a postal card with your address to
THE SPRAMOTOR CO.,
LONDON, ONT.

And they will send you a complete treatise on Spraying and full particulars regarding their Spraying Machines.

GOOD SEEDS

"Canada's Greatest Seed House"

GOOD CROPS

By Nature's law—like produces like. This law applies to the re-production from seed. Improved strains mean increased product and perfection in growth. Imperfectly selected and cheaply grown seed cannot but produce a like crop. Is it not reasonable that seed which has had intelligent care given in its growth is of increased worth to the planter? Care in selection means added cost in growing, it also means increased profit to the planter using it. The loss attending the use of poorly grown seed is many times greater than the total first cost for "good seed." The natural desire is to buy in the cheapest market. This is an unwise policy; either for the dealer, as he does not consider the planter, or for the planter, as he overlooks the risk attending cheap seed. The following varieties of Field Root Seeds have been produced from the finest strains known, which will commend them to the most careful buyers. Steele, Briggs' Seeds are used by the most successful growers. They prove their worth as is attested by their yearly increasing demand.

CARROT

Steele, Briggs'

"Imported Short White"

The World's Champion Prize Winner. It is the heaviest cropper, easiest harvested, handsomest roots, and the very best Field Carrot in cultivation. Secure it early.

Very short supply from crop failure.
Price per lb. 65 cents, postpaid

SUGAR BEET

Steele, Briggs' "Royal Giant"

This new Sugar Beet has proved a perfect wonder to growers. As a crop producer, labor-saver in harvesting, and a profitable feeding variety, it is without an equal. Try "Royal Giant."

Supplied in 1 lb. sealed packages only.
Price per lb. 45 cents; 10 lb. lots or more, per lb. 35 cents (carriage paid).



MANGLE WURTZEL

Steele, Briggs'

Challenge Varieties

By repeated selections of Seed Roots from year to year only can perfection be acquired.

Our Mangel Seed proves the care bestowed upon its growing, and produces most perfectly formed, large, handsome roots. Next to Sugar Beet it is the favorite root crop for dairy farmers, produces the greatest amount of food per acre. For a good crop use

Steele, Briggs'

"Prize Mammoth Long Red"

"Giant Yellow Oval" and

"Giant Yellow Globe"

See our catalogue for full description.

Price each (carriage paid) per lb. 25 cents; 10 lb. lots or more, per lb. 23 cents.

SWEDE TURNIPS

The value of a good Turnip Crop is always appreciated. The following varieties are of superior excellence and in demand with every grower who has once used them.

Steele, Briggs' "Jumbo"

Pre-eminently the largest oval shaped Swede known. The genuine "Jumbo" is supplied in sealed packages only. Supply very limited.

Price (carriage paid) half lb. for 25 cents, per lb. 50 cents.

Steele, Briggs' "Selected"

A leading favorite everywhere. One of the most extensively grown varieties in Canada. Supply limited. Sealed packages only.

Price (carriage paid) half lb. for 25 cents, per lb. 44 cents.

Steele, Briggs' "Highland Prize"

A large, oval-shaped variety, a favorite with many leading growers.

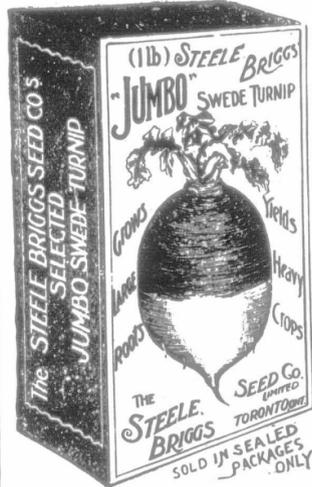
Price (carriage paid) per lb. 29 cents.

Steele, Briggs' "Selected Westbury"

A grand shipping variety, large, round, uniform; flesh yellow and sweet.

Price (carriage paid) per lb. 29 cents.

A complete list of staple and leading varieties described in our catalogue. If you have not got a copy, send your name.



HOW TO GET STEELE, BRIGGS' SEEDS

Leading merchants, who sell good seeds, can supply Steele, Briggs' Field, Garden and Flower Seeds. They are seeds that meet the want of buyers who plant to grow a crop. Ask your dealer for Steele, Briggs' Seeds. If he cannot supply you, refuse to accept those said to be "just as good." Go elsewhere and procure them, or send your order direct to us. You can select from our catalogue, and get just what you want and just what you order. We carry the most complete list in Seeds, Bulbs, Plants, Small Fruits, etc., to be found in any list, and only varieties that are suited to Canada. Prepare for planting time by ordering at once.

The STEELE, BRIGGS SEED CO., Limited, Toronto

Improved Yorkshires



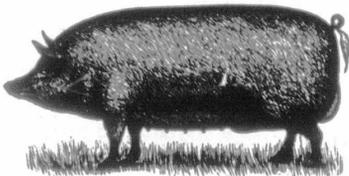
FOR SALE,
of the most popular families. All ages and both sexes now ready for immediate shipment. Write for what you want. Prices reasonable—consistent with quality.
E. DOOL,
Hartington, Ont.

YORKSHIRES AND POULTRY.

Eggs for hatching: from extra fine matings of B. P. Rocks, W. Wyandottes, White and Brown Leghorns, and White and Black Minorcas, at \$1.00 per setting, or \$5.00 per hundred. M. B. turkey eggs and Pekin duck eggs in season.
A. B. ARMSTRONG, Codrington, Ont.

Yorkshires and Berkshires

Yorkshire boars and sows, 8 weeks old, from large sows of bacon type. Berkshire sows ready to breed. Barred P. Rock eggs also for sale. Prices reasonable. Write
JAS. A. RUSSELL,
Precious Corners, Ont.



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

Tams. for Sale. Stock boar, Defiance, 2nd prize, Toronto. First-prize boar, six months; boars, sows, 5 months. Prices right.
JOHN HORD & SON,
Parkhill, Ont.

To Poultry Keepers.

WE will send, for \$2.40, one case containing twenty packages, of five pounds each, eight varieties, Poultry Food, including the following: Ideal Egg Food, Anglo-American Food, Green's Chicken Food, Animal Meal, Meat Scraps, Mica Grit, etc. Address:
Ellis Poultry Supply Co.,
CHELSEA, MASS.

Snelgrove Poultry Yards.

Barred Rocks exclusively—Canada's business hens! Eggs for hatching: \$1 per setting; 3 settings, \$2. W. J. CAMPBELL, Snelgrove, Ont. Member Canadian Barred Rock Club.

EGGS, \$1.00 per setting: Buff, Barred and White Rocks, and Buff Leghorns. Bronze turkey eggs, \$2.00. Robt. Steven, Petrolia, Ont.

EGGS

From a pen of 30 choice Barred Plymouth Rock hens, "National strain," selected for their persistent laying qualities and perfect color. Mated with a grand prize-winning cock. Price: \$1 per 13, or 3 settings for \$2. W. C. SHEAFER, Bright, Ont.

Now is the Time EGGS. I place your orders for choice land and water fowl. Eggs only \$1 per setting; 6 settings, \$5; carefully packed so as to carry any distance. Send and get my circular. W. W. REID, Ayr, Ontario, Canada.

EGGS FOR HATCHING. Barred P. Rocks exclusively. Large, strong, vigorous, well-barred birds, from imported stock, bred for utility. One setting of 13, \$1.25; two settings, \$2.00. A. E. SHERRINGTON, Walkerton, Ont.

EGGS. EGGS. EGGS.

From National strain Barred P. Rocks, from choice White Wyandottes, and a few settings of Royal strain White Leghorns, at \$1 per setting of 13 eggs. Toulouse geese eggs, \$2 for 11 eggs, or 20c. each, securely packed. Also a few pairs of Toulouse geese for sale, if taken at once. W. W. EVERITT, DUN-KDIN PARK FARM, Chatham, Ont. Also breeder of Jersey cattle and Berkshire pigs.

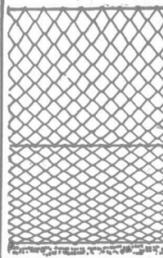
Canada's Winners. EGGS FOR HATCHING.

Silver Gray and colored Dorkings, Indian Games, Houdans, Minorcas, Hamburgs, Leghorns, Poland, Ducks and turkeys. Our birds win at Boston, New York, Toronto, London, Kingston, Ottawa, Montreal. Also Ayrshires (bulls and females). For full particulars, write WM. STEWART & SON, Menie P. O., Ont.

NOTICE.

Vol. II. of the Herdbook of the Large Black Pig Society of England has, through the courtesy of the secretary and editor, Mr. Ernest Prentice, 61 Oxford street, Ipswich, been received at this office. It is a neat and substantial volume, well bound and well printed on first-class paper, and containing the pedigrees of 192 boars and 750 sows.

THE "ACME" Patent Poultry Netting



is the only poultry netting that can be successfully stretched without rails at top and bottom. This is so because we use strong, heavy wires at top, bottom and through the middle. Note the graduated meshes, running from 1 1/4 in. at top to 3 in. at bottom. Keeps the fowls, big and little, and keeps out their enemies. Not flimsy in any particular, but a strong, heavy, desirable netting. We also make Lawns and Farm Fencing, Gates, Staples, etc. Catalogue Free.
The Page Wire Fence Co., Ltd., Walkerville, Ont.

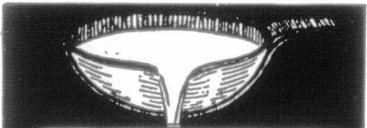
LOW PRICE IN WIRE

Fence Building is attracting farmers and agents' attention. THE CHEAPEST GOOD FENCE. No trouble to answer questions. Write for free Catalogue. McCLOSKEY WIRE FENCE CO. (INC.), Box A, Windsor, Ont., Detroit, Mich., Birmingham, Eng., Paris, France. Agents wanted.



BULL-STRONG!

....PIG-TIGHT.... An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitzelman Woven Wire Colled Spring Fence, and the value would have gone a long way towards paying cost of the fence. With the Duplex Machine any farmer can make it himself and save a great deal of money. C. G. DAVIS & CO., Box C-116, Freeman, Ont.



On Jellies preserves and pickles, spread a thin coating of refined **PARAFFINE WAX**

Will keep them absolutely moisture and acid proof. Paraffine Wax is also useful in a dozen other ways about the house. Full directions in each pound package. **IMPERIAL OIL CO.**



The Finest Spray is produced with RIPPLEY'S

Compressed Air 5 gal. Sprayers. Tested to 60 lbs pressure. Has safety valve—can't burst. Throws a continuous stream 35 feet if desired. Guaranteed the best 5 gal. Comp. Air Sprayer made, or money refunded. Made both in copper and galv. iron. Write for circulars. Nothing else so good for whitewashing poultry houses, stables, etc. We also make Lice Killer, Fly Remover and Feed Cookers. Agents make big money selling these and our other specialties. Write for special terms and prices to dealers and agents. **RIPPLEY HARDWARE COMPANY, Grafton, Illinois. Canada Factory, London, Ontario.**

Built for Business!

That's the idea. There's nothing fancy; nothing foolish about them; just straight, practical, lasting, honest goods. The



CYPHERS . . INCUBATORS

are positively warranted to last TEN YEARS, without repairs, and are guaranteed to **OUT-HATCH**, during three trials, any other make of incubator on the market—bar none. **THIS, OR YOUR MONEY BACK.** Used exclusively at Experimental Farms, Guelph and Ottawa; also six American Experimental Stations. Daniels, the universal provider in the Poultry Supply business, has the sole agency for the Cypthers Incubators and Brooders for Canada. Our list of Poultry Supplies are too numerous to mention here, but just drop us a line and state what you require. We handle nothing but the best. Satisfaction every time, or money refunded. Mention **ADVOCATE**. C. J. Daniels, 221 River St., Toronto, Ont.

BARRED ROCKS.

Eggs from finely-barred hens and mated properly, \$2 per setting; two settings, \$3.50; three settings, \$5. Seven years' experience. **H. GEE & SONS, Fisherville, Ont.**

\$3000 STOCK BOOK
FREE POSTAGE PREPAID

It contains 183 Large Colored Stock Engravings that cost us over \$3000.00. Book is 9 1/2 by 6 1/2 in. Beautiful Cover in 6 Colors. Gives description and engravings of different breeds of Horses, Cattle, Sheep, Hogs and Poultry. It contains a finely illustrated Veterinary Department.

Mailed Free if you answer 4 questions:
1st—Did you ever use "International Stock Food" for Horses, Cattle, Sheep, Hogs, Colts, Calves, Lambs or Pigs? 2nd—Is it for sale in your town in 25 lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. Over 500,000 farmers and 100 "Farm Papers" endorse this Book and "International Stock Food." Answer questions and write to
International Food Co.,
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Cash Capital \$300,000.00

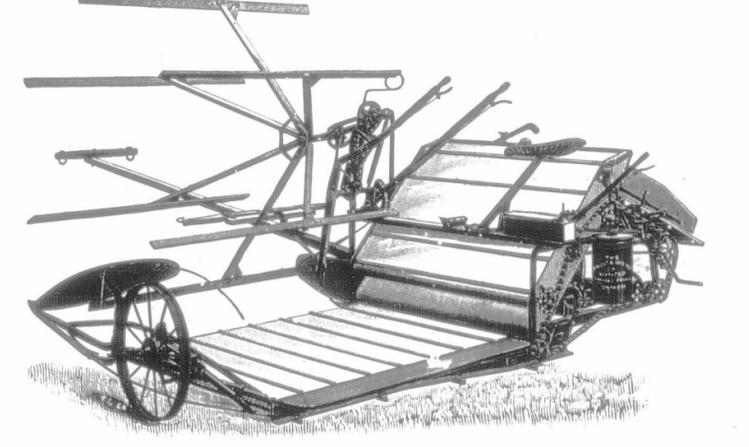
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The LITTLE MACHINE
That Cuts the BIG STUFF

DOES QUALITY COUNT WITH YOU? IF SO WE CAN INTEREST YOU.

No Binder ever was made that will do better work or more of it.

SEND US YOUR ADDRESS ON A CARD TO-DAY.



THE F. & W. NEW NO. 2 BINDER.—5-FT. AND 6-FT. CUT.

Our New 1901 Catalogue now ready, sent free to any address. Tells all about the **QUALITY** of our goods. It will pay you to get one.

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INCREASED CAPACITIES

1901 Improved Alpha-De Laval BABY SEPARATORS.

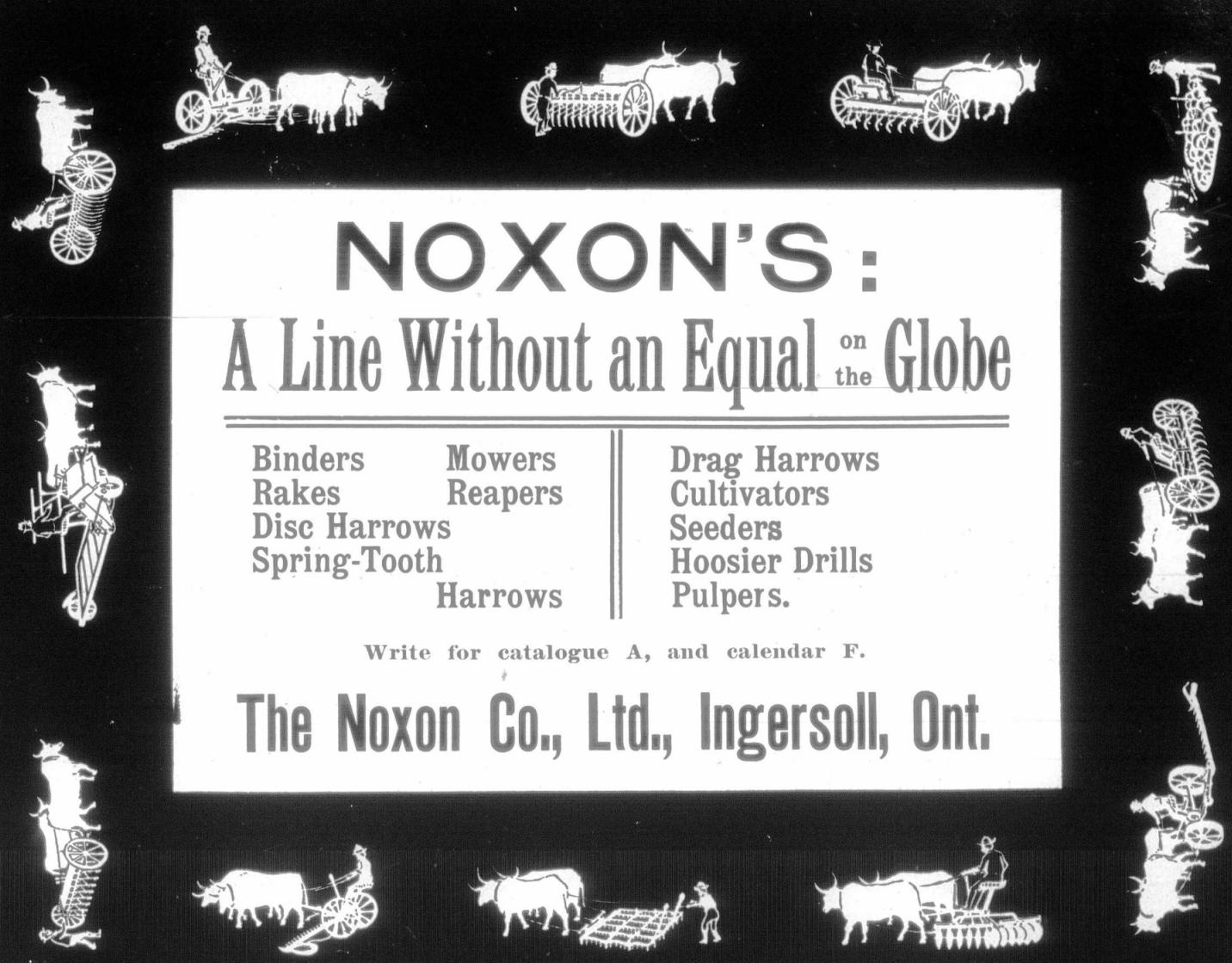
The Baby Separators have now their respective capacities increased as follows:

	per hour.	Price.
Humming Bird, instead of 225, now skims	250.	\$ 65.00
Baby No. 1, " " 325, " "	450	100.00
Baby No. 2, " " 450, " "	600	125.00
Baby No. 3, " " 850, " "	1000	200.00
Dairy Turbine, " " 850, " "	1000	225.00

30 to 35 more capacity. No increase in price.

The same standard of "ALPHA" closest skimming is preserved. Apply to local agents or to
Canadian Dairy Supply Co., 327 COMMISSIONERS ST., MONTREAL.

Please Mention Farmer's Advocate.



NOXON'S:

A Line Without an Equal on the Globe

Binders	Mowers	Drag Harrows
Rakes	Reapers	Cultivators
Disc Harrows		Seeders
Spring-Tooth		Hoosier Drills
	Harrows	Pulpers.

Write for catalogue A, and calendar F.

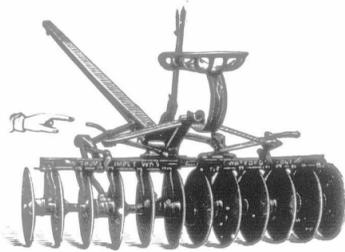
The Noxon Co., Ltd., Ingersoll, Ont.

THE.....

New Century Disc Harrow

RIGHT UP TO DATE.

REVERSIBLE IN OR OUT THROW.
ALL LATEST IMPROVEMENTS.



Buggy Spring Construction for Comfort.

If no agents near you handling our Disc Harrows, write for prices. We are prepared to quote a special price to introduce our goods where not already known. A pleasure to answer correspondence.

Thom's Implement Works

WATFORD, ONTARIO.

Originators and manufacturers of up-to-date farm machinery.

GOSSIP.

Wm. Howe, North Bruce, Ont., writes: "Enclosed find change of ad. My stock is doing fine, and the demand is good; in fact, cannot supply the demand for Yorkshire sows in farrow. Young stock is coming strong and numerous. I sold the Shorthorn heifer advertised, to T. C. Weaver, of Cargill. The young sows that I have sold since last fall, that have farrowed so far, have done finely, producing an average of 10 pigs to the litter, and the stock I have yet on hand is equally as good."

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Large and fast steamers. Electric light. Saloons, amidship.

Fast trains to Portland in connection with sailings of steamers. Superior accommodation for all classes of passengers. Try the Portland route, and view the fine White Mountain scenery.
The second-saloon and third-class accommodation has received the Company's special attention.
Rates of passage same from Portland as Montreal. Passengers supplied with free railway and sleeping-car tickets, Montreal to Portland.
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DAVID TORRANCE & CO.,
GENERAL AGENTS,
17 St. Sacrament St., MONTREAL. 10 Commercial St., PORTLAND.

PLEASE MENTION FARMER'S ADVOCATE.

Binder Twine.

UNTIL further notice, Binder Twine will be sold at the Kingston Penitentiary to farmers, in such quantities as may be desired, for cash on delivery, at the following prices:

Beaver.....	8 1/2 cents per pound.
Sisal.....	7 " "
New Zealand.....	6 1/2 " "
Monarch.....	8 1/2 " "
Pure Manila (650 feet to pound).....	10 " "

Address all communications, with remittances, to J. M. PLATT, Warden Penitentiary, Kingston, Ontario.

Papers inserting this notice without authority from the King's Printer will not be paid therefor.

Kingston, March 20th, 1901.

Coiled Spring

and other fence wire for sale at lowest prices. Also GEM Fence Machines. The GEM holds the record, 120 rods of 10-wire fence woven in 10 hours. Write

McGregor, Banwell & Co., om
WINDSOR, - ONT.

AGENTS WANTED

FOR THE IDEAL STEAM COOKER.
REDUCES FUEL BILLS MORE THAN ONE HALF.

Makes tough meat tender. Prevents steam and odors. Whistle blows when cooker needs more water. Burning or scorching impossible. We pay express. om

EXCLUSIVE TERRITORY.
U. S. SPECIALTY CO., 69 Adelaide St. East, TORONTO, ONT.

\$3 a Day Sure

Send us your address and we will show you how to make \$3 a day absolutely sure, we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once.

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ROCK SALT for horses and cattle, in ton and car lots. Toronto Salt Works, Toronto.

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From Liverpool, Tuesday.	Steamer.	From Montreal, Friday.
April 16.....	Lake Champlain.....	May 3
April 23.....	Lake Megantic.....	May 10
April 30.....	Lake Superior.....	May 17
May 7.....	Lake Simcoe.....	May 24
May 14.....	Lake Ontario.....	May 31
May 21.....	Lake Champlain.....	June 7
May 28.....	Lake Megantic.....	June 14
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First Cabin—Single, \$47.50 and upwards; Round Trip, \$90.00 and upwards. Second cabin—Single, \$35.00; Round Trip, \$68.98 and \$68.88, according to steamer, location, and number of persons in room. Steerage Rates—To Liverpool, London, Londonderry, Glasgow, Belfast, and Queenstown, \$24.50 and \$25.50. Apply to any agent of the line, or to

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MADE TO FIT YOUR AXLES.

EVERY farmer should have a set for drawing hay, grain, corn, etc. Are lighter, stronger, and cheaper than wooden wheels. Write for price list. om

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