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AND HOME MAGAZINE

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

No. 517

EDITORIAL.

The Farmer and the Railway.

The revival of the proposal to establish in Canada a railway commission to stand between the shipper and the transportation companies once more brings into the arena of public discussion the question of rates, transportation facilities, and the respective rights of individuals and corporations. The three producers who have felt, perhaps, most seriously and directly the tax of transportation charges upon their industry have been the cattle feeder, the fruit-grower, and the Western wheat-grower. Once the charges become sufficiently onerous to hamper the progress of these industries, then transportation becomes a menace to the well-being of the country, and a source of discontent.

One of the foremost railway men in America, Mr. Paul Morton, who has charge of the entire freight and passenger traffic of the Atchison, Topeka and Santa Fe Railroad, the third largest in the world, having some 800 miles of track, and employing over 30,000 hands, states in the N. Y. *Independent* that one fifth of all the wealth in the United States is invested in railway securities, and the people owning them should be protected from unrestrained and destructive competition. To do that, and protect the small shipper, he favors legalized pooling under the Interstate Commerce Commission rather than further concentration of ownership, or government ownership or control. But if the owners of securities are to be safeguarded, what about the people? From governments and municipalities, millions of dollars in bonuses, millions of acres of public lands and various other privileges have gone to establish railways, so that we should say the people have a vested interest in these roads. Having very largely helped to build the roads, and then paying for the service the roads render, they should certainly have it upon equitable terms. They are common carries, and Mr. Morton himself admits that all shippers and travellers should be treated alike, just as they are in the purchase of postage stamps or in the payment of customs duties or inland revenues. The FARMER'S ADVOCATE believes that to be sound doctrine, and were it enforced the small shippers would not be crowded to the wall and all would get a fairer return for their products.

Within the past fortnight two organizations have placed upon record their convictions upon the subject—one the Fruit Growers' Association of the Province of Ontario, meeting in Brantford, and the other the large representative gathering of farmers and stockmen assembled at Guelph during the week of the Ontario Winter Fair.

The Fruit Growers resolved, on motion of Mr. D. J. McKinnon, of Grimsby,—

"That, in the opinion of this association, the time has arrived when a railway commission, appointed by the Dominion Government, should be given full power to regulate freight and passenger rates upon an equitable basis."

In support of the foregoing, Mr. A. McNeil, of Windsor, contended that the Ontario grower was being discriminated against, to the advantage of his United States competitor. A basket of grapes, that sold in Ontario for 11 cents, had to be sold in Brandon for 50 cents, because of the freight rates. It cost \$100 to send a carload of grapes to Winnipeg in cars that otherwise would go empty, and it cost \$50 to bring a carload of other produce of no greater value from Winnipeg down here. Instancing the discrimination against them as Canadians, he said an Eastern Ontario canner could buy peaches in Grand Rapids, Mich., and get so much cheaper freight rates than from Essex County as nearly to make up the duty. Freight on apples from Ontario to Liverpool was from 85 cents to \$1.25, and from the United States as far west as the Mississippi from 56 cents to 80 cents. He knew also, he said, that this discrimination was retarding the live-

stock industry in the same way. Corn which the stockman required for feeding could be shipped from Detroit to Quebec for 11 cents, and from Essex County the rate was 18 cents. For the same reason American corn could be laid down at less cost throughout Western Ontario than could Essex County corn.

The Winter Fair meeting at Guelph adopted the following resolution:—

"That this convention of Ontario farmers, representing every county from Essex to Glengarry, is of opinion that the Dominion Government should take immediate action for the purpose of placing Canadian farmers in at least as good a position as their American rivals in the matter of transporting their products of the farm to the European market; and that, to this end, we believe power should be obtained at the forthcoming session of the Dominion Parliament for the appointment of a commission which shall have full power to regulate and control freight rates on Canadian railways and the allotment of space and charges for the same in ships sailing from Canadian ports; and that a copy of this resolution be forwarded to the Dominion Government."

When the freight and other charges on a fat steer from a Western Ontario point to Liverpool amounts to between \$20 and \$30, it becomes a very serious deduction from the returns of the feeder. Mr. Thos. Crawford, M. P. P., who has had an extended experience in the cattle trade, pointed out at the Guelph meeting that a car of cattle from Listowel, in Western Ontario, costs from \$10 to \$20 more in freight to Boston, Mass., than a car from Chicago; while from Toronto, the freight to Portland, Me.; Boston, Mass., or St. John, N. B., equals Chicago rate, the shipper in the latter having also the advantage of rebates. During the past summer it cost at times \$5 to \$8 per head more to ship from Canadian ports to England than from American ports. Herein we find one of the reasons why the beef cattle industry in Ontario in recent years has been decadent and the character of our beeves deteriorating. Farmers concluded that it did not pay them as well as dairying, consequently the use of good beef-type bulls was discontinued, and their places filled by dairy sires; too many immature bulls were used, and in many cases the wretched scrub male animal held sway. It was a long step in the direction of reviving the industry when the Canadian Government put the feeders' raw material—corn—on the free list, but the disability of excessive freight rates still holds the Ontario farmer at a serious disadvantage, compared with the States feeders, who have been able to buy our stockers in thousands, feed them on their cheap corn, and enjoy the advantage of lower and probably better transportation for the finished product.

That there is ample room for a strong railway commission is quite evident from the foregoing considerations. But when the charter rights and the increasing power of these vast concentrated transportation companies are considered, it can readily be seen that a commission will have an arduous task before it, and everything desired will probably not be achieved, which we believe has been the case with the U. S. Interstate Commerce Commission and the commissions appointed in various individual States. But the agitation for redress must be kept up, and the independent railway commission, of which the *Toronto Globe* is the foremost exponent, would seem to be a more likely instrument than the present inefficient Railway Committee of the Dominion Privy Council. One thing the FARMER'S ADVOCATE would insist upon, and that is that one or more of its members be men qualified specially to represent the stockmen and farmers of the country, who are primarily and vitally concerned in the equitable adjustment of transportation questions. Corporations are popularly supposed to have no souls, and however that may be, the executive officers of these organizations are only human, and are more or less engaged in looking

out for themselves by efficiently managing the properties with which they are entrusted, in order to earn dividends for the shareholders. We may therefore assume that they will, in the matter of rates, impose all that the traffic will stand, and if the ruinous competition of a rate war has cut down receipts, there will be an effort to recoup by levying on the traffic from non-competing points, or upon the small shippers. A properly-constituted commission, invested with full powers, should be able to redress many grievances and secure the producer a better return for his labor and investment. The experience of the present Canadian Government in exacting more favorable Western freight rates from the C. P. R., in letting the Crow's Nest Pass R. R. contract, shows the imperative need for force in these matters, and the advantage of having some efficient lever to apply. Consequently it seems to us that the Canadian people should retain and probably extend further westward the connections of the Intercolonial Railway which now unites Montreal and the seaboard. Have we any reason to hope for good from a railway commission? The success of organized effort on the part of the breeders of pure-bred stock in Ontario to obtain better facilities and more favorable rates for the transportation of animals required in different parts of Canada for breeding purposes proves what can be done. In this direction, and in promoting public exhibitions, these associations have demonstrated their usefulness, and in these two directions their efforts will be continued; but if we read aright the signs of the times, the great battle of the future will relate to the efficient and reasonable transportation of animals and food products, and in the conflict—if the term be not too strong—these organizations can prove a valuable ally of a railway commission in conserving the agricultural interests of the country.

Lessons from the Winter Fairs.

The undeniable success attending the live-stock shows held last month at Chicago and Guelph goes to show that, as an educational institution for farmers and dairymen's sons, the winter fair, well managed, may be made a potent power for good in demonstrating the advantage which good breeding brings to the feeder of meat-producing animals. It also affords useful and helpful lessons on methods and means of feeding economically and to good purpose. Millions of money is now wasted in unintelligent and random feeding, feeding irregularly, allowing animals at some periods of their life to run down in condition, requiring double expense to bring them back to their former state of thrift; feeding concentrated foods of high money value, the tendency of which when fed alone or in improper combinations is to produce cheap-selling products; feeding past the point where the most profitable gains are made and the best quality of meat put on. These are all points which, especially when a well-directed slaughter test is associated, are brought clearly before the people and afford useful practical lessons by which all may profit. But the slaughter test will never do its best work until the rules require and the amount of the prize money offered justifies the killing of the prize-winners, so that comparison of the living animal with the dressed carcass of the same may be made. This, we admit, may be too much to expect in the case of young animals which their owners may be desirous of carrying over to compete in an older class the following year, but there is no good reason why the winners that have reached the age limit should not prove their claim to their honors by dying well—if it be in them to do so. By the ruling of the management of the Guelph Show (for what reason is not revealed) there was no inducement to kill the best animals in the cattle classes, since the grades, in which the grand champion was found in life, as is usually the case, were not allowed in the

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sweepstakes dressed-carriage competition. We see no justification for a ruling which denies the right of the best to win in such a class, for whatever virtue may attach to a registered pedigree in breeding animals, all should surely stand on common ground in the slaughter test for championship honors. In order to make the winter fair just what it was originally intended to be, a show of stock prepared or in preparation for the butcher's block, we submit that greater encouragement should be given for the exhibition of that class of stock by the offering of substantial money prizes sufficient to make it an object to prepare for such competition. The best animals that are brought out are certainly creditable, but were more tempting inducements offered there would doubtless be much larger competition, and there may be many diamonds in the rough which, if developed by skilful preparation, might shine as jewels in these shows. The Dominion Shorthorn Breeders' Association could make no better disposition of a liberal share of its surplus than by the offer of big prizes for steers, both in the pure-bred and grade classes, for the progeny of registered sires; and if the breeders of beef cattle of other breeds are ever going to make a display in these shows in Canada worthy of their class, they need to bestir themselves and by some means finance it so as to provide more generous prizes as an incentive. The success of the Blacks and the Whitefaces at Chicago in capturing championship and other high-class honors gives them a claim as beef producers which cannot be gainsaid, and it is not the first time they have come to the top in American shows, while in the Old Country they frequently divide the honors with the Shorthorns in a series of years.

In the sheep and swine departments of the Winter Fair the breeders are doing good work and make a grand showing, but even in these the prizes are too small to make it a sufficient inducement to use the knife freely and to prepare wethers and barrows in larger numbers and of ideal quality. The level-headed business men on the Boards of the Winter Fair and the various Breeders' Associations, it would seem, ought to find ways and means to hang up a better prize list than we have yet had, and the Government grants may well be increased if necessary in promoting an industry such as this, where the competition is open to all on equal terms and the interest is one on which the prosperity of the country so largely depends. We shall be prepared to find that in the near future the new building at Guelph will prove too small for a fat-stock and dairy show combined, and that the result will be the inception of a separate show for dairy cattle at some other date, and that both may prove highly successful in developing the industries they are associated with and which are of paramount importance, since to live stock and its products this country must look for its best returns.

The Late John I. Hobson.

BY C. C. JAMES.

Will you allow me to make a few references to the late John I. Hobson, whose death came as a sudden shock to so many of his old friends. It was fourteen years ago that I first made his acquaintance. For three years in succession we were thrown together intimately in connection with Farmers' Institute work, and, from constant companionship during those days in travelling over all parts of Ontario, I think I got an acquaintance with the man that would not have been possible from simply meeting him in business transactions or in ordinary everyday association. We travelled together, put up together, roughed it together in such a variety of ways, that I believe I saw certain characteristics in him of which otherwise I would have been quite ignorant. His counsel and encouragement to me, a young man just gaining experience in Institute work, have always been appreciated, and ever since it has always been a real pleasure when his fine, well-developed form appeared in the doorway of my office. I was always sure of a half-hour's pleasant chat about agriculture, the country, and the men in whom he was so much interested. These talks were always elevating; he kept away from small talk and gossip; there was a healthfulness about his views and conversation that was always refreshing. At the same time, I always found him a man of great moderation and modesty. Some people I know would think he was or must be conceited, for he had made a success of his work, and he carried himself well. I always thought he did so not because he was conceited, but because he felt a pride in his calling, and carried himself as though he tried to live up to his standard of what the farmer should be. In all the fourteen years of my acquaintance with him I never heard him say an unnecessarily harsh word of any man, especially of one of his own calling. His presence at our Institute meetings was in itself a fine element. Then, he was not somber or morose; he thoroughly enjoyed humor and mirth of a commendable nature. He could have a good laugh at another without the too frequent accompaniment of malice and unnecessary wounding of feelings. He could tell a good joke on himself with keen enjoyment. Envy, I think, was not a part of his being. When out on Institute work, he appeared at his best when we were so fortunate as to be the guests at some rural home where neatness and comfort were noticeable, and the highest ornament of the home was a bright, well-mannered family thoroughly in sympathy with one another. Two places he has often recalled since; one was a neat, clean, plainly-furnished, but comfortable, home in an eastern county in the West, where peace and goodwill were visible everywhere, especially in the face of the venerable father and mother.

Mr. Hobson impressed himself upon my observation particularly in his very high appreciation of good speaking, high-class literary production, and fine scenery. One Sunday evening in St. Thomas we went to hear a preacher who has since passed away. It was truly an eloquent sermon, preached by a man of another denomination than his own. His memory of that magnificent sermon never failed. He went up and thanked the preacher at the close of the service, and since then I have heard him again and again refer to the pleasure that it gave him. He had read many substantial works of English history and literature, and many a time in a quiet country hotel, while waiting, he has revealed his love for the best in letters. As for his love of scenery, he never missed a fine view. Only a few days before his death he dropped in for a half-hour's chat, and the talk was almost entirely made up of an account of the pleasures of the trip taken summer before last with the Legislative party to the Rainy River District. He had travelled

much, west to the Rockies and east across the Atlantic; but his enthusiastic description of that trip showed that his own country, his own Province, had a charm for him greatest of all. Wherever we went, he was interested in the early history of Ontario, and was always pleased to learn about the progress of our own people. Last of all, let me refer to his companionableness; he loved society of the best kind; he could talk, and he could listen. Among men of the right sort he opened up his true nature. His finest qualities were reserved for his own friends, and especially for his own family. It was in his own home that he was most beloved. His love for his own was very strong. When his only son died, a short time ago, I wrote him a letter of sympathy, and in reply I received a proof, if such were needed, that he was a man of the strongest family affection, one of those men whose feeling is not demonstrative, but so deep that others cannot fully appreciate. To those who knew Mr. Hobson intimately he revealed himself as a man of exceptionally fine qualities.

Sugar Beet Experiments.

YIELDS LARGER THAN EXPECTED—PURITY AND PERCENTAGE ENTIRELY SATISFACTORY.

During the past summer sugar-beet experiments have been conducted under the direction of the Ontario Agricultural College, in the following places: Aylmer, Welland, Newmarket, and the Experimental Farm, Guelph. In addition to these, sugar beets have been grown about London, Dunnville, Alvinston, and Warton. From these latter places samples have been forwarded to the Ontario Agricultural College for chemical analysis, through the kindness of Messrs. Green, Parry, Gordon, Yorke, and Forest. From the above places, in all there have been analyzed at the Ontario Agricultural College, during the months of September, October and November, 753 samples of 10 beets each, making in all 7,530 beets. Every sample has been taken by pulling, as they come in average row, 10 beets. These samples have been received upon different dates, for the purpose of tracing the increase in the per cent. of sugar as the season advances. For example, upon September 20th 47 samples were received from Aylmer and 37 from Welland; upon October 4th the same number were again received from each place; upon October 18th the same number again; on November 1st 45 samples from Aylmer and 36 from Welland; and upon November 15th 47 from Aylmer and 33 from Welland. From 34 to 38 samples were also collected from Newmarket upon the following dates: September 25th, October 9th, October 23rd, and November 6th. From the other outlying points, samples were received upon several different dates; but it may be mentioned that these beets were grown largely under local direction, or according to the farmer's idea; while those received from the above places, viz., Aylmer, Welland, and Newmarket, were under special direction of the Ontario Agricultural College.

The value of these experiments as determining the point as to whether our soil and climate are adapted to the production of a quantity and a quality of beets to make the beet industry in Ontario a self-sustaining and profitable one, both to the manufacturer and the farmer, will not be questioned. In connection with this experiment, exact information regarding the cost of production has been collected. There have been received statements, based upon actual experience as to the cost of production, from 85 farmers. There have also been collected figures giving the actual yield, gross and net, of beets per acre from 109 different farmers.

One of the first questions that will arise among farmers in case a sugar factory is to be established, is what yield of beets can our fields produce, and what price will we receive for our beets? This opens the question as to the difference between the actual tons delivered at the factory and the tons of tared beets for which the farmer will receive pay from the factory. These figures as to the yield per acre will give exact information upon this point, beets having been not only weighed in the condition in which they will be delivered at the factory, but also their tared weight determined, exactly as it would be in actual factory conditions. Without going into details of this extensive sugar-beet experiment, it may be stated that very much larger yields have been obtained than were expected, and that the per cent. of sugar and the purity of the beets, where properly cared for, are entirely satisfactory.

"At the dispersal sale, in September, 1875, of the famous herd kept at Aylesby Manor, near Great Grimsby, by Mr. Wm. Torr," writes Mr. John Downing, "Mr. T. C. Booth was a big buyer. He gave the enormous sum of £12,122 for the twelve females purchased by him on that occasion, or an average of £1,000 apiece. The Rev. Thomas Staniforth also figured as one of the principal buyers at the same sale, Highland Flower being secured by him at 1,500 guineas and Heather Flower at 1,000 guineas. The sale proved so successful that the eighty-four lots which changed hands realized within a few pounds of £50,000 or an average of over £510 apiece. It is interesting to learn that of the thirteen bulls disposed of at this sale, two came to Ireland, Sir William Stirling took one to Scotland, Mr. Harrison secured one for California, and Mr. Marshall took another to New Zealand. The rest found new homes in various parts of England."

Farmers, Wake Up!

To the Editor FARMER'S ADVOCATE:

I noticed in one of the Ottawa papers the professions of the different members of the new Dominion Parliament, and I notice that the farmers of this great producing country have only twenty-nine representatives who thoroughly understand their wants, but we will have sixty lawyers in the House to frame and make more complicated laws. I admire the manly stand taken by Colonel Dennison, the Chief Magistrate of Toronto, who sees the law in all its forms dealt out to rich and poor. When he said the law of this country wants to be simplified, and that when the lawyers are through with a suit they have all the money that is in it, he only spoke the truth and voiced the sentiment of the great majority of the people of this country. For example, trouble arises between two parties, a suit is entered, a lawyer on each side engaged, and if the suit is a large one they secure two more lawyers, perhaps in Toronto or elsewhere, and in this way line up to argue the case, quite friendly with one another, while their clients are supplying the hard cash. In this way they lead their clients around the curves of the law, from court to court, until one or both clients and their families are ruined.

I also notice there are eighteen doctors elected. What do those men do in Parliament? Make long speeches and get good positions for their sons and daughters, sons-in-law and friends. Yes, and the doctors do more than that: they prescribe in the mornings for the members that have swelled heads, the atmosphere of the bar-room being too much for them; and often take a dose themselves to straighten themselves up; and for the above treatment, and I am sure for nothing more, when defeated at the polls they have the cheek to ask for a senatorship. Why should the farmers of this country fold their arms and allow such men as these to be appointed to the Senate and many other good Government positions? They were paid more than they were worth, as we never heard of any bill or good measure that any of them ever introduced, but we have heard of them getting positions for their families at good salaries, while the educated farmers' sons and daughters have to content themselves with teaching school at a salary from \$200 to \$300 per year. Farmers should bring this matter up in the Institutes, and see that their sons and daughters share in the good positions given at Ottawa, and which are secured by a much less brainy class of people. Remember this is a young and growing country, and now is the time to assert your rights.

Hoping you will give this letter a place in your journal, I remain,

Yours truly,
A FARMER'S SON.

Ottawa, Dec. 25th, 1900.

STOCK.

"Waldo."

Herewith appears a very excellent half-bone of the Clydesdale stallion, Waldo 8067, the property of John Clark, Jr., Crowfoot, Alta. As will be seen from the engraving, he is a big, thick horse. Mr. Clark gives his weight as 1,950 lbs. in March, 1900. Waldo was second-prize winner at the Ottawa Exhibition of '99. He was bred by N. P. Clark, St. Cloud, Minn.; sired by Energetic (7690), out of Mary Mac by the Macgregor horse "Macmaster." Energetic was by Lord Erskine, out of "Jess of the Earn," by imp. Conqueror.

Strange Doings at the Fat Stock Show.

To the Editor FARMER'S ADVOCATE:

SIR,—Kindly allow me space to review some of the doings at the recent Guelph Show. On page 8 of the prize list, rule 68, a rule specially designed for judges' guidance reads: "All animals, except those exhibiting in the dairy classes, shall be judged from a breeder's or consumer's standpoint. The awards shall be given to the animal most valuable from a breeder's or consumer's point of view." In past years there was considerable complaint from breeders when the rule read "from a consumer's standpoint." We have been told that the executive joined the breeder's and consumer's points of view in framing a new rule for the judges to work by. They assure us that the word "or" is purely a clerical or printer's mistake, and should have been "and," in said rule 68. And yet the gentleman who judged Shropshires, class 13, and is, in my opinion, one of the most upright and honorable of men, seemingly followed the rule as understood all through till class 24 was reached—sweepstake (Shropshire)—when he publicly declared that he would judge that class *wholly from the consumer's standpoint*. On that decision I make no comments. It was when the judging in class 28—grades and crosses—began that the "sport became fast and furious." Two judges were catalogued. Another

was added—how or why I know not. The committee at that stage consisted of two breeders interested in medium-wooled sheep and one in long-wools. But lo! that did not suffice. A leading exhibitor, by special, and it must have been a telling request, managed to get a fourth added, a breeder of Shropshires, and a keen competitor in the showing.

The show commenced, and a straight, tight draw made the first round. A fifth judge was called in and peace restored. The next section, for "wethers 1 year and under 2," was quickly and unanimously decided. The former round had dulled the edge of controversy, and all fell in line. A reaction occurred in the next section, for "3 wethers under 1 year," and another deadlock resulted. A second referee was asked to settle the dispute. He did his work, gave his decision, but was further instructed by the gentleman who held the books. A second examination failed to alter the referee's first decision. Truly, "too many cooks were making hotchpotch of the soup."

But the climax of the farce was reached when the call went forth for "best ewe or wether under 2 years." We placed in competition our yearling wether which the previous week had won at Chicago 2 first prizes and 2 championships: a sheep that had more admirers at Chicago than any other in our exhibit, and was pronounced by leading buyers from the great packing houses to be the best sheep they had ever handled. The yearling grade wether which won second in the former competition again entered the ring, led—but not by the owner. And the judges were cleverly baffled, as two of them there and then declared that never before had they laid hands on the supposed newcomer.

Verily, it "was a sight for the gods to look on with wonder." The second-prize sheep was given

Judging at the Fairs.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—It was with much interest and some amusement that I read in your valuable paper the articles under the above heading, but which, I think, might just as appropriately have been headed "Misjudging the Judges," for in most instances the criticising is done by men who do not even lay a hand on the animals, and pass their judgment and criticism entirely on outside appearance, which often is very deceiving, more especially so in the dairy breeds, and I fully believe that if these same critics were placed in the judge's position they would often be like a captain with his ship on the ocean without a compass. But of all, friend Rice's (in your Nov. 15th issue) "The Way Out" is the most erroneous, when he says there is only one rational way of judging dairy cows, and that is by the scales, Babcock and lactometer test. This reads very nice in theory, but let us look at it from the practical side. For example, we take two cows. No. 1 possesses typical breed characteristics, symmetrical form, with a well-formed and well-placed, capacious udder, giving, say 68 pounds of milk daily; while cow No. 2 is almost the very opposite in conformation, has a very unevenly-balanced udder, but her owner is an expert and skilled feeder, and can make her give 70 pounds daily, and, according to Mr. Rice's theory, she must get first prize, just because the scales show that she gives 2 pounds more milk daily, taking it that the milk be the same quality. Would this lead to the improvement of breed and breed type? And which of the two types would be the most desirable to perpetuate and to breed from? What would the reporters and Mr. Rice say of the judge who awarded the prizes in that way? I swear he would be pronounced an idiot. It is true that handsome is that handsome does, but much more valuable is that which is handsome and does handsome. The scales, Babcock and lactometer have their special place to decide which is the best cow, and this is in the dairy tests; there and only there it is right to rate the cows according to their production. But, in my opinion, the mission of the fall fair is, to a certain extent, a different one: it is to bring before the spectators, as an object lesson, animals possessing in the greatest degree the most desirable and typical points of that breed, combined with the indications of large production. It is true that glaring mistakes are made through the incapability of the judges, but this does not prove the method wrong. Mr. Rice's criticism on my work at London I will, on the whole, pass unnoticed, but will, just for his benefit, tell him that I know it to be a fact that even the owner of the two cows in question does not agree with him in this very case.

H. BOLLERT.

Oxford Co., Ont.

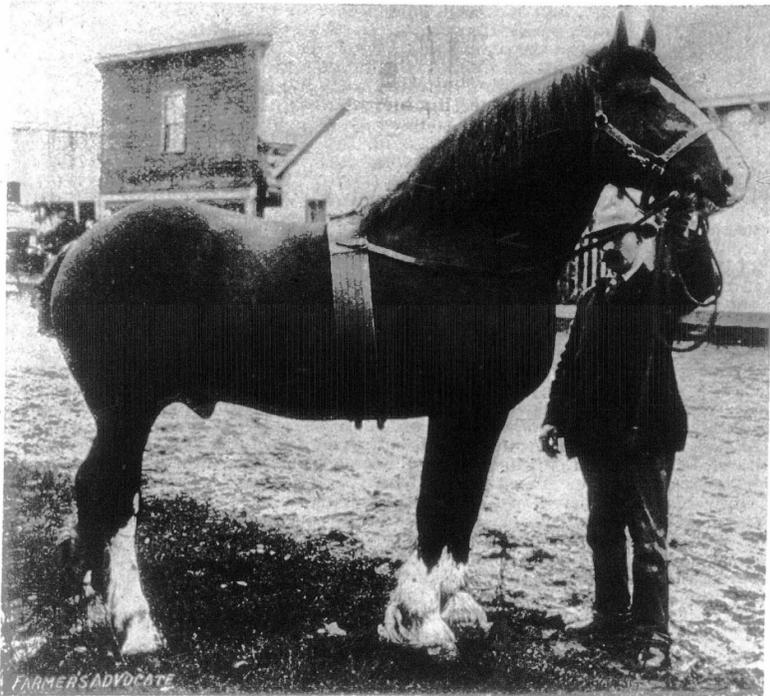
Bacon Pigs from Birth to Block.

I winter my sows on mangels, with a little corn or peas; running in barnyard, with a warm place to sleep. When within a week of farrowing, put them in a warm, dry place, and feed them soaked oats and peas, ground, with what milk I have, and water to make it thin enough. After farrowing, feed the same mixture, only a little more drink, feeding sparingly for a week or ten days; then feed all the sow will take, and have a long, low trough, so the little pigs can feed with the sow, with a box in a corner of the pen filled with earth, wood ashes, salt, a little sulphur and charcoal, so they can take it at will. Generally I have my sows farrow about March 1st and September 1st (as I am breeding pigs for breeding purposes and shows), so they are right ages for showing. When farrowed about March 1st, when fine weather comes in spring they are ready for weaning, and are from 35 pounds to 45 pounds each at 7 weeks old. When weaned, they are fed soaked ground barley with a little shorts, with outdoor exercise. Until within a few weeks of show time they are fed ground peas and a little shorts, with outdoor exercise. By that time they are about six months old, and are from 225 to 275 pounds each, of the true bacon type. The breeds I keep are pure-bred Berkshires and pure-bred Yorkshires, both being of the large, lengthy, smooth, deep-sided type.

J. A. RUSSELL.

GENTLEMEN,—I have been greatly enlightened and have much enjoyed your journal, as it has been a source of valuable information to me. Your Christmas number is just at hand. I consider it one of the finest numbers in my collection of agricultural journals received this year. You have displayed great taste in your selections and groupings. It is full of valuable information, and a friend to both farmer and breeder. Enclosed find draft for \$1.00, and kindly send me four copies of same, as I wish to send them where they will do much good.

JNO. W. SCOTT, Austin, Minn.



CLYDESDALE STALLION, "WALDO."

PROPERTY OF JOHN CLARK, JR., CROWFOOT, ALTA.

the "sweepstake." But the writer's satisfaction came to hand later on. The wronged wether was entered in carcass competition. He won readily in his section, for furnishing the best yearling grade carcass, and followed that victory by winning "grand sweepstake" for "best sheep carcass any breed." The true test of merit—the block—cleared away all suppositions and juggling. In all, he won 4 firsts and 3 championships at Guelph and Chicago, and yet, forsooth, a committee of three, especially and purposely added to to make it four, took upon themselves to place him first, and within an hour so completely lost themselves that they did not know the sheep they had with such laborious precision and judgment awarded premiums to a little while previously. "It was a farce, a screaming farce."

The show was a grand success, and most instructive to the stock breeder from many points of view. In order, however, to have it go on and prosper more and more, surely it will be necessary for the management to exercise more care in appointing judges for the grade classes where different interests get in contact, and not have awarding committees formed to suit any individual or one class of breeders. The breeders of long-wools were not satisfied. No one can deny that their interests had not proper representation in the committee mentioned.

I do hope explanations will be forthcoming which will, in some measure, clear up the mystery surrounding the doings touched upon in this letter. Victoria Co., Ont. JOHN CAMPBELL.

ETTA KELLY, Springvale, Ont.:—"I received the premium watch in good order, and am very much pleased with it."

The Ontario Provincial Fair.

The annual show of cattle, sheep, swine and poultry, and the milking trials of dairy cows, held under the auspices of the Ontario Winter Fair Association, in the City of Guelph, Dec. 11th to 14th, was admittedly a decided success in most particulars. The management on the part of the officers was admirable, considering that the building was yet in an unfinished state, and the judging on the whole was creditable, though in some instances, as usual, there was cause for criticism. The new building erected on the market square, as the permanent home of the show, is a credit to the enterprise of the people of the Royal City. For convenience of location, in the interest of exhibitors and visitors, it is for the present all that could reasonably be desired, the only fear being that, large and commodious as is the new building, if the show continues to grow, as it is likely to do, both in entries of stock and attendance of visitors, more room will yet be required for its accommodation. To our mind, the best way to avoid that necessity will be to gradually make the exhibition what was originally intended, strictly a fat-stock show, eliminating the breeding and old cow classes, and by the offer of tempting prizes for steers, wethers and barrows, to encourage the preparation and exhibition of more high-class specimens of these of ideal type, and thus to secure for the show the reputation of being a model one in which quality rather than quantity shall be the distinguishing feature. While the best animals in nearly every section in the late show were first-class, and such as would do credit to any country, there were, it must be admitted, some in the cattle classes at least which were below the standard and should have no place in a show where uniformity of excellence in type and quality is the aim.

While in respect of numbers, as compared with the Chicago event of the previous week, the Canadian show looks circumscribed, and in that regard calls for a less lavish expenditure of superlative adjectives than has been indulged in by our contemporaries of the Chicago press in the attempted description of their show, it must be satisfactory to Canadian breeders and feeders to know that when it comes to a question of quality and finish of the best individual animals in cattle, sheep and hogs, Canada suffers not one jot in the comparison, but measures fully up to if not beyond the standard of the champions of the great Western show which has been so elaborately eulogized. The great want of this country is more of the same sort as the best we have, and that lack can only be removed by a more general effort on the part of the breeders and the farmers generally to produce and mature by generous feeding and care a better class of stock.

CATTLE.

The number of entries of cattle in the catalogue totalled 120, but some of these being duplicates, owing to being entered in more than one class, and a few being absentees, the actual exhibits probably numbered about one hundred head. The great majority of these were Shorthorns and grade Shorthorns, as has commonly been the case at former shows of the kind in Canada. The few Herefords, Aberdeen-Angus and Galloway cattle shown were of a good sort, and only required more feeding to bring them up to the mark of finished beefs. The judges of cattle were John T. Gibson, Danfield, and Robt. Miller, Stouffville.

Shorthorns.—A separate class was assigned to pure-bred Shorthorns, one-half the prize money being granted by the Dominion Shorthorn Breeders' Association. The entries in steers in this class were limited to very few, and there is room for more competition, which we hope to see greatly enlarged in the coming years.

In the section for steers two years old and under three, J. Fried & Sons, Roseville, supplied the winner in a substantial and well-finished son of Lord Willison, by imp. Indian Chief.

The yearling section furnished the best number in the Shorthorn class, in Israel Groff's white steer, named Crimson Robe, son of Golden Robe = 20300 =, and of Crimson Gem = 20879 =, a youngster of fine character and quality, lengthy, level and well proportioned, with a strong loin, big quarters and thighs, a full twist, smoothly-laid shoulders, a thickly-fleshed back and fine handling quality of skin and hair. He was easily the champion of the Shorthorn class, although there were some other really good entries in it. The second prize in this section went to Hermit, a useful steer shown by Peter Stewart, Everton.

A strong class of five entries of cows three years and over was headed by Matchless of Elmhurst 18th, shown by W. J. Biggins, Clinton, a smooth, level, well-furnished red daughter of imp. Royal Don = 17105 =. Second place was given to Dorothy Fox, exhibited by Daniel Talbot, Everton. She was sired by War Eagle, by imp. Warrior. Third place was assigned to Crimson Maid, by Recruiter, by imp. Hopeful, exhibited by John Campbell, Woodville.

Fried & Sons had the winner in two-year-old heifers in a handsome and smooth red daughter of Lord Willison; and Harry Smith, Hay, supplied a popular winner in the section for heifers under two years, in the white twin, Barmid, by Abbotsford, a thick, blocky heifer of excellent quality. Barmid also won the sweepstakes for best Shorthorn cow or heifer in the show.

Herefords and Polled Angus were grouped together, and the winner for best steer or heifer two and over three years was the Hereford heifer, Duchess of Moreton 22nd, shown by the F. W. Stone Co., Guelph. James Bowman supplied the second winner, an Aberdeen-Angus, named Elm Park Bell 3rd, both being of good quality. The Stone Company had a choice winner in the yearling class in their Graceful 96th, a model of the breed, of fine type and quality. Bowman's tidy polled steer, Elm Park Lad, made an excellent second, and the same exhibitor had a good one for third place in Bessie Blooming.

In the section under a year, Samuel Young, Binkham, had a clear winner in Springside Beauty; the Stone Co. second with Peach 36th; and Bowman third with Kyma 10th. A. McDougall, Guelph, won fourth prize with Rosie Bright.

In the class for cow or heifer three years and over, Bowman's Aberdeen-Angus cow, Kyma 6th, was a popular first, and the same exhibitor had the third winner in Lass of Tweedhill; second going to the Stone Stock Co.'s Hereford, May Day 3rd.

Galloways and Devons were classed together, and the exhibitors were D. McCrae, Guelph, and T. Lloyd-Jones & Son, Burford, with Galloways, and W. J. Rudd, Eden Mills, with Devons, the latter winning second and third with smooth steers in the two-year-old class, not highly fitted; McCrae winning first with Rainee 13th, a typical Galloway heifer of fine quality. The same exhibitor had first and second winners in each of the other three sections of the class, with excellent specimens, the first-prize cow, Semaramis 29th, being especially level and full of quality.

Grades and Crosses.—It was in this class that the real plums of the cattle show were mainly found, several of the chief winners being virtually if not actually pure-bred Shorthorns, though ineligible to the Record, while most of the entries were excellent, and it would be well for Canada if we had many more like them. In the section for grade steers two years and under three, there were thirteen entries, nine of which fled an appearance, and an outstanding winner was found in the red "Clinker," calved in November, 1897; sired by Moneyfuffel Lad, shown by James Leask, Greenbank, and weighing 1,700 lbs. This steer was no stranger to fat-stock shows, having been exhibited annually since he was a calf, and so far as we remember, being unbeaten in his class. He is the model steer from the butcher's standpoint, carrying an extra wealth of meat on his back where the highest-priced cuts are found, his ribs being well sprung from the spine and thickly packed with high-class flesh, as are also his crops, loins and quarters. He is free from any indications of paunchiness, and presents the appearance of one likely to kill out with a low percentage of offal. Taken all in all, we doubt if a better of his age has ever been shown in Canada, and we are by no means persuaded that his equal in completeness of conformation and quality combined was seen at the Chicago Exposition. A capital second was found in Fried's Look Out, by Lord Willison, a red steer of fine character and type. The third ribbon went to a massive, deep-ribbed, fast-feeding farmer's steer, shown by R. J. Robinson, Ailsa Craig, that one could not but admire, though Stewart's red roan, Candidate, by McTurk, a smoother and better-backed beast, placed fourth, might well have stood a notch higher, and would have been in type more in line with the first and second winners. Leask had in his red Rock, by the same sire as Clinker, a clear winner in the yearling class, owing to his being well fitted more than to his having any special advantage in form or quality over his competitors. Andrew Richardson, Peepabun, had in his second-prize steer, Iroquois, by Lord Stanley 5th, a rich roan of fine character; while J. H. Dingle, Hamilton, showed Roger Stanley, sired by Duncan Stanley, that was a worthy third; and General White, a good one shown by John Campbell, Woodville, and sired by a son of Indian Chief, was placed fourth.

Jumbo, a handsome roan shown by A. Hales, Guelph, was the first-prize steer under a year. He has excellent form and quality, and shows good breeding as well as judicious feeding. Richardson's Bobs, by Lord Stanley 5th, a rich roan, made a fine show, and secured second prize; Leask's Cronje, by Royal Banner, being placed third; and Geo. Clayton's Tom, a handsome roan by Gloster, another of the sons of Indian Chief, filled fourth place creditably.

Jas. Bowman's Guelph Lass, a big, smooth, level cross-bred cow from Aberdeen-Angus sire and Shorthorn dam, was a popular winner in the class for cows over three years, though not in high condition, but her smoothness and levelness carried her to the front. Wm. Argo, Eden Mills, with a big fleshy cow, came in second; John Brown, Galt, third; and Jas. Leask fourth. The championship winner of the class was found in the section for heifers two years old and under three, in James Leask's great heifer, Flo, by Moneyfuffel Lad. She was easily first in her class, and was adjudged even a better beast than her stable chum, Clinker, being awarded the grand sweepstakes silver cup donated by Mr. Thos. Holliday, Guelph, for the best animal, any age or breed, in the cattle department of the show. She is certainly a marvellous heifer, combining quality, breed character and perfection of conformation in the highest degree. She is massive without a suspicion of coarseness, wonderful in the width of her crops and depth and spring of ribs, smooth and level in all her parts, standing on short

legs, and weighing close to 1,800 lbs. at a few days under three years of age. She is one among ten thousand, and it is doubtful whether she could have been downed by any female of any age in the breeding classes shown this year in all of America. She is certainly a high tribute to her great sire, Moneyfuffel Lad, three times a champion of Canada's greatest show, and is an evidence that the best bulls are not too good to get feeders for the fat-stock shows, an evidence too that the offspring of a matured sire are liable to prove his best, since though used for four seasons in one herd, and siring winners for years in the Provincial fat-stock shows, his last are clearly the best of the get of this grand bull. Second prize in the two-year-old section went to Leask's Bess, another superior daughter of Moneyfuffel Lad; third to James Scott, Aberfoyle; fourth to Abram Ruddell, Hespeler. In heifers under two years, Fried & Sons won first, Leask second, and R. Dawson, Guelph, third. The silver cup donated by the Bell Organ & Piano Co., of Guelph, for the best pair of fat animals of any age or breed, was won by Mr. Leask's Clinker and Flo. The sweepstakes for best animal, any age or breed, was won by Leask's two-year-old grade Shorthorn heifer, Flo.

Dressed Carcass Competition.—The special prizes for dressed carcasses in the Shorthorn class went first to Fried & Sons' first-prize two-year-old steer, Wild Bill; second to Biggins' Matchless of Elmhurst, first-prize cow; third to Fairbairn's Maid of the Mist. In the Hereford and Polled Angus class, first to James Bowman's Angus. In the Galloway and Devon class, first to McCrae's Galloway cow, Semaramis 28th; second to Rudd's Devon steer. The grand sweepstakes prize for best dressed carcass, any breed, went to J. Fried & Sons, Roseville, for the pure-bred Shorthorn two-year-old steer, Wild Bill, winner of first prize in the two-year-old class alive, where he had no competitors. Grades and cross-breeds were not allowed to compete in the carcass contest for the grand championship, a ruling which seems to be narrow and unfair. In such a class the competition should be open to all, so that the best may have a chance to win.

SWINE.

The classes for swine of the various breeds were in nearly all instances well filled, and generally with hogs of a good stamp, even when judged by a reasonably exacting bacon-type standard. So noticeable, indeed, is this feature that the unprejudiced observer is disposed to congratulate the breeders and exhibitors of hogs that are not considered as generally ranking as baconers on the decided improvement that has been made by judicious selection and intelligent feeding in bringing their hogs steadily nearer to the approved type, and it is not too much to claim that, considering the material they had to work with, quite as much improvement has been made in these classes as in any. Holding this opinion, we have but very limited sympathy with the packers who, by their deliverances, assume the right to boom certain breeds, to boycott others, and to tender advice and instruction upon a subject on which, judging from the numerous discrepancies in their opinions and judgment, it is clear they are themselves considerably at sea. For our own part, we are as strongly as ever of the opinion that the production of hogs conforming to the ideal bacon type is less a question of breeds than of careful selection, judicious mating, and intelligent management and feeding.

Berkshires were shown in fairly good numbers, and of excellent quality and character, by George Green, Fairview; Snell & Lyons, Snelgrove; Durham & Cavan, East Toronto; James A. Russell, Precious Corners; and Robt. Agnew & Son, Acton.

In barrows six and under nine months old, Green had the first and third prize winners, and Durham & Cavan the second. These were a good class, showing fine quality.

In barrows under six months, Green was first and second, and the Snelgrove entry third and fourth, all being typical animals.

For sow under 15 months and over nine, Snell & Lyons had a very captivating first in Lady Shields, a model of the approved type; Green winning second and third with Artful Belle and Golden Drop, of excellent stamp and quality.

In the section for sows six and under nine months, Green was first with Model Queen, a lengthy, well-balanced sow of excellent type. Snell & Lyons had in Miss Prim and The Duchess capital entries of similar stamp, large, lengthy and well fleshed, and which were placed second and third.

In sows under six months, the Snelgrove herd had the first and second winners in Pleasant Maid and Lady Maid, sisters, sired by Col. Brant, and of great length and strength of back and bone, and fine breed type. The third prize went to Russell, for Black Polly, a good sort, sired by Cervera.

For three pigs, the offspring of one sow, bred by the exhibitor, first went to Snell & Lyons, for Morning Lily, the Duchess and Morning Maid, and second to Green, for Model Queen, Black Sam and Black Jack.

In the sweepstakes contest for the best Berkshire any age, the two acting judges, R. H. Harding and Wm. Jones, differed, one voting for Snell & Lyons' Lady Shields, first-prize sow under fifteen months, the other for Green's Model Queen, first-prize sow under nine months, and Major G. B. Hood being called as referee, decided in favor of Mr. Green's entry.

In the contest for two best export bacon hogs, Berkshire, the judges, who were packers, awarded

the first prize to Snell & Lyons' entry, estimating them as under the weight limit of 220 lbs., but on a demand later for scale weights, they were found to be seven pounds over weight, and though of excellent quality, and filling the bill for bacon type admirably, were thrown out, and Green's entry, a capital pair, of much similar stamp, given first place; W. J. Rudd, Eden Mills, winning second, and J. A. Russell third.

Yorkshires were well represented in numbers and quality by Brethour & Saunders, Burford; J.

Tamworths were out in goodly numbers, and of generally good quality and type, and were shown by A. C. Hallman, New Dundee; Norman M. Blain, St. George; A. Elliot & Son, Galt; Andrew Elliot, Pond Mills; H. George & Sons, Crampton; W. M. & J. C. Smith, Fairfield Plains; J. R. Newell & Sons, Crampton, and W. R. McDonald, Ridgetown, each of whom got into the prize list more or less, and it was an honor to get any place in the winning circle among so many good ones. In the section for barrows six and under nine months, Blain scored first with Si, a good sort, and Elliot, of Pond Mills, with Sam, of similar stamp; Douglas & Sons third, Hallman fourth, and George fifth. These were a strong class of typical baconers, carrying an excellent quality of flesh on well-packed backs. Barrows under six months were worthily headed by Hallman's entry, Surprise, by British King; second and fourth going to McDonald, and third to Blain. In the section for sows over nine and under fifteen months, Blain got into first place with his Thrifty Maid, a sow of fine type, that had raised a litter of pigs and was not in high condition, but showed good length of sides and quarters and good constitution. She was also awarded the championship of the breed, second and fourth prizes in the section going to Elliot, of Galt, and third to Smith. For sows over six months and under nine, Elliot, of Galt, got into first place with First Choice, a capital sort, the other Elliot coming in for second, Douglas third, and McDonald fourth. For sows under six months, Blain was first with Rosy O'Grady, and second with Fancy; Newell third, and Elliot, Galt, fourth. For best three offspring of one sow, the prizes went, first to Douglas & Son; second to Elliot, Pond Mills; third to Blain, fourth to Hallman. The prizes for export bacon hogs, Tamworth, went to Blain; Elliot & Son, Galt, and George & Sons, in the order named, all being excellent specimens.

Sweepstakes for best two export bacon hogs, any breed, Brethour & Saunders, Yorkshires, first; G. B. Hood, Yorkshires, second; Featherston & Son, Yorkshires, third; Blain, Tamworths, fourth; Elliot & Son, Galt, Tamworths, fifth.

Dressed Carcasses.—Berkshires—W. J. Rudd, Eden Mills, first; Snell & Lyons, second. Yorkshires—Brethour & Saunders first, G. B. Hood second, Brethour & Saunders third. Tamworths—Newell & Sons first, George & Sons second; Elliot & Son, Galt, third and fourth. Essex—Featherston & Son first and second. Grades and crosses—Rettie Bros. first; Elliot, Galt, second; George & Son third.

Sweepstakes.—Two best carcasses, any breed, Rettie Bros. first, Brethour & Saunders second, Newell & Sons third.

Grand sweepstakes, best pair swine carcasses, any breed, not yet decided. The judges reported first to Rettie Bros., Norwich, but they had not made entry. Brethour & Saunders are next in order.

SHEEP.

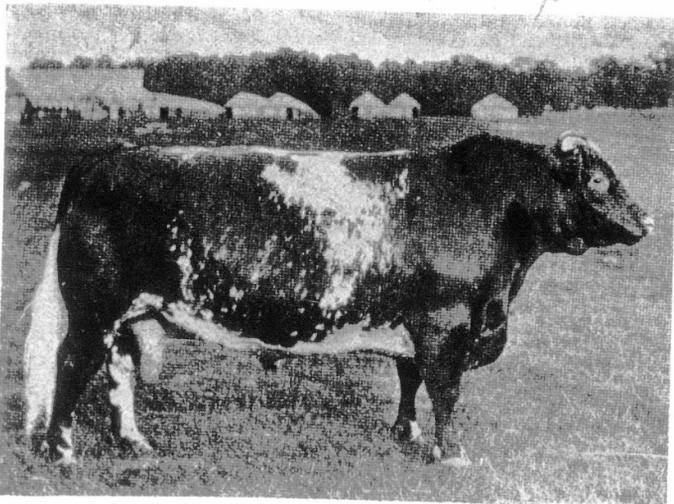
The changes in the sheep exhibit at the Ontario Provincial Fat Stock Show are not strongly marked in character from year to year. The personnel of the exhibitors changes slightly, but, as a rule, the strongest exhibitors appear year after year with their particular class of stock, brought out in the same tiptop condition. This year there were 24 exhibitors, with 346 entries in all, as against 28 exhibitors and 307 entries in 1899. Last year there were four exhibitors that did not come this year, and at the show just past there were ten—mostly new faces—that did not exhibit in 1899. Several other showmen had prepared flocks to bring out, but the Chicago event attracted them and prevented them coming to Guelph.

Cotswolds.—Last year there were five exhibitors of this generally useful and handsome breed—this year only one: Messrs. John Park & Son, Burgessville, Ont., who had forward a dozen choice representatives, brought out in fine form for a vigorous tussle. It must have caused a feeling of disappointment to be deprived of competition under such circumstances.

Lincolns.—The firm name of Gibson & Walker has been annually associated with this show for many years. This year, Mr. J. T. Gibson, Denfield, was out alone, the partnership having been dissolved. The flock does not appear to have suffered, however, as its members seldom, if ever, appeared better than on this occasion. Mr. Gibson's only competitor was Mr. L. Parkinson, Eramosa, who also had a well-fitted, good lot, on which he won 2nd on wether lamb, 2nd on three wether lambs, 2nd and 3rd on three ewe lambs, and 1st on dressed lamb carcass. Mr. Gibson won all the other awards offered for this breed. Mr. Gibson's yearling wether won the sweepstakes award.

Leicesters.—The competition was keen in this class, the exhibitors being Messrs. A. & W. Whitelaw, Guelph; Orr & Lillico, Galt, and John Kelly, Shakespeare. The ewe lamb section was particularly strong, all the exhibitors competing, with eleven beautiful, even entries in all. Messrs. Whitelaw won 1st and 3rd; and John Kelly 2nd. Orr & Lillico won all the 1sts in wethers and in dressed carcasses. The breed sweepstakes was won by Messrs. Whitelaw's ewe lamb.

Oxfords are showing decided improvement, both in numbers and in mutton quality. The exhibitors this year were Messrs. Smith Evans, Gourock; Kenneth Findlayson, Campbellton; J. H. Jull, Mt. Vernon, and Andrew Elliott, Pond Mills. There were fourteen entries of ewe lambs, and a choice lot of nice-handling, well-grown specimens they were.



BRAVE ARCHER (70018).

The \$6,000 Shorthorn bull bred by Mr. Duthie, Collynie, Aberdeenshire.

IMPORTED IN 1900 AND OWNED BY MR. E. S. KELLY, YELLOW SPRINGS, OHIO.

Featherston & Son, Streetsville; J. A. Russell, Precious Corners; and H. Dedles, Breslau.

In barrows, six and under nine months, Brethour & Saunders had first and third prize winners, of approved type, and Dedles a very good second. The Burford herd scored again first and third for barrows under six months, Featherston getting into second place. These were all of a good class. Brethour & Saunders had a very popular first in the section for sows under fifteen and over nine months, in Oak Lodge Julia, a typical Improved Yorkshire of capital character, lengthy, well fleshed, with well-sprung ribs, smooth shoulders and well-filled hams. Featherston had a good strong, well-balanced sow for second, in Whiston Maid; and Dedles a smooth sow of nice character, presenting a fine side view, but wanting in spring of ribs and in packing of flesh on loins and back, which doubtless accounts for her being relegated to third place.

In sows six and under nine months, first went to J. B. McDonald, Muirkirk; second and third to Brethour & Saunders.

For sows under six months, Brethour & Saunders had first and third, and Dedles second and fourth, with excellent entries all; while for three pigs, offspring of one sow, the Burford entries were first and second, and Dedles third.

The sweepstakes prize for best Yorkshire any age was worthily won by Brethour & Saunders' Oak Lodge Julia, first-prize sow under 15 months, a model of the breed and hard to beat in any country. In the competition for best two export bacon hogs, Yorkshire, Brethour & Saunders had the first-prize pair, G. B. Hood second, J. Featherston & Son third. For the best two export bacon hogs, Brethour & Saunders won first, G. B. Hood second, Featherston third.

Chester Whites were shown by W. E. Wright, Glanworth; D. DeCourcy, Bornholm; Bennet & Pardo, Charing Cross; H. George & Sons, Crampton; and John Silverthorn, Scotland, Ont. In type and quality the exhibits in this class were, with very few exceptions, of a high order of merit, showing care and good judgment in breeding and feeding them with a view to conforming to the approved bacon type, in which the breeders have succeeded to a very creditable degree, the Chesters here shown being a very great improvement on those shown at the late Chicago Show.

Bennet & Pardo were successful in winning first and second with barrows six months old and under nine months, DeCourcy having the third winner.

For barrows under six months, the record was reversed, DeCourcy winning first and second, and Bennet & Pardo third and fourth. For sows nine months and under fifteen, George & Son had the first place, with DeCourcy second, and the Charing Cross firm third. In sows six months and under nine, George & Sons were again first, DeCourcy second, Silverthorn third and fourth. In the section for sows under six months, the order was Bennet & Pardo first, George second, and DeCourcy third. For the best three pigs, offspring of one sow, DeCourcy was first, Bennet & Pardo second. And for sweepstakes for best hog in the class, George's first-prize sow under fifteen months was declared the winner. In the competition for best pair export bacon hogs, Chester, Wright scored first; R. H. Harding, Thorndale, second, and DeCourcy third, all being good lots.

Blain was first with Rosy O'Grady, and second with Fancy; Newell third, and Elliot, Galt, fourth. For best three offspring of one sow, the prizes went, first to Douglas & Son; second to Elliot, Pond Mills; third to Blain, fourth to Hallman. The prizes for export bacon hogs, Tamworth, went to Blain; Elliot & Son, Galt, and George & Sons, in the order named, all being excellent specimens.

Duroc Jerseys were exhibited by W. N. Tape, Bentpath, who showed some excellent entries of good length and smoothness, while some others were rather on the short order, with too fat backs, but his entry for export bacon hogs was made up of pigs of good type and not overfat. The prizes in the class were nearly all awarded to Mr. Tape.

Poland-Chinas were entered only by W. M. & J. C. Smith, Fairfield Plains, who had out some of very good stamp, showing fair length and smoothness. They were awarded the bulk of the prizes.

Essex were well shown by J. Featherston & Son, Streetsville, and T. A. McClure, who divided the prizes and showed a good class of pigs of good length and smoothness and conforming well to approved bacon type.

Grades and Crosses.—A strong show was made in each section of this class, the first prize in barrows six and under nine months going to Agnew & Son, Acton. In barrows under six months, to Agnew; Elliot, of Galt, and Blain.



CLINKER.

FLO.

Sweepstakes grade steer, and first-prize grade heifer (the champion over all), Provincial Winter Fair, Guelph, 1900.

BRED AND FED BY JAMES LEASK, GREENBANK, ONT.

nine months, Blain, McDonald, and Elliot. Sows under six months, Snell & Lyons, Agnew, and Elliot. Export bacon hogs, Green, with Berkshire grades, first; Rudd second, Russell third, Snell & Lyons fourth.

Findlayson won 1st on a March lamb; Evans 2nd on one dropped in February, and Elliott 3rd on a March product. Elliott showed alone in shearing wethers, and Evans won all the money prizes in wether lambs except 2nd for three under a year,

Clydesdales at the Chicago International Live Stock Show.

As the Clydesdale class is the one of most interest to our Canadian readers of those included in the above show, we confine our review briefly to that class, which was of a very high order of individual merit, and the animals shown in the pink of condition, without being overdone, the 1st prize in the 4-year-old stallion class going to imp. Laminated Steel 9190, sired by Cedric 929, out of Princess of Craichmore 3rd, and owned by Alex. Galbraith, Janesville, Wis., a magnificent horse, which was favorite with many for championship honors. Second place was given to imp. Benedict 9300, a son of Baron's Pride, the property of Brookside Farm Co., Fort Wayne, Ind.; and 3rd to Palmerston, shown by N. P. Clark, St. Cloud, Min., and sired by Royal Standard. In the 3-year-old class, 1st place was assigned to Prince Goodwin 8931, owned by McLay Bros., and sired by Handsome Prince 5581. This horse was considered by many good judges a strong claimant to the male championship of the class, which was given to the 1st-prize 2-year-old colt, imp. Earl of Bombie 9310, by Baron's Pride, shown by Clark, of St. Cloud. Both are grand specimens, as also is Laminated Steel, and these well represent the best of the breed. Second place in the 3-year-old class was given to Clark's Alpine 9233, by Mains of Aries; and 3rd to Galbraith's Lord Charming 7564. Second prize in the 2-year-old section went to Clark's Cardonald 9254, by Prince Patrick; and 3rd to Brookside Farm for Prince Lyndoch. The 1st prize of \$100 for the best four animals, the get of one sire, was awarded to N. P. Clark for the progeny of Baron's Pride. The female championship was won by McLay's 2-year-old filly, Handsome Darling; and the gold medal for best group of five pure-bred Clydesdales went to N. P. Clark's entry. Canada's contingent to the heavy horse classes was a collection of six splendid Clydes shown by George Moore, of Waterloo, which made a brilliant score in the prize list, winning every first prize in sight in the classes in which they were entered, including the \$100 prize for best pair weighing over 3,400 lbs., to wagon; 1st prize of \$100 for best three horses abreast; 1st prize of \$125 for best four-horse team, wheelers weighing 3,400 lbs.; 1st prize of \$150 for best six-horse team to wagon; gold medal, net value \$100, for best pair Clydesdales shown to wagon; gold medal, net value \$100, for best team of four Clydesdales: making a total of \$675, a remarkable record, and one of which the country as well as the owner may be justly proud. These six horses were sold at the close of the exhibition to Nelson Morris, Chicago, for \$3,000.

To Prevent Horses Cribbing.

To the Editor FARMER'S ADVOCATE:

In your issue of the 15th of November I see some suggestions re cribbing horses. May I give my experience? Horses that are much in the stables acquire the habit quickly, especially if predisposed to indigestion, and they soon follow suit if they see another horse do it. Musty or mouldy hay and grain will manufacture more cribbing horses than can be told of, if they are in the stable much. I had charge of a number of horses of a tram company. They were in the stable most of the day. We found that if the habit was once started, it was difficult to



FIG. 1. FIG. 2. FIG. 3. MUZZLE FOR CRIBBING HORSE.

stop it. The only humane method I found was a muzzle, made of 1-inch half-round iron, riveted on to the halter, and worn always in the stable. It is made in the flat, something like this: The ends are bent at right angles at A (see Fig. 3) and are riveted on to the cheek straps of halter; the round ends, B and C, are curved upwards in such a manner as to come over the nose and under the lower lip of horse, so preventing him from catching hold of anything with his teeth, at the same time allowing him to feed and breathe freely. The hay fed should be cut not less than 1 inch long. The width across the muzzle (Fig. 3) at x is 2½ inches. I am not an artist, but the muzzle in use looks something like the sketches above (Figs. 1 and 2).

Selkirk, Man. SAMUEL F. ROBERTS.

Prof. Reynolds on the Block Tests.

To the Editor FARMER'S ADVOCATE:

SIR,—With regard to the effect of the block test on the breeds of swine, there is on the whole considerable improvement, more especially in those breeds that are capable of improvement along the bacon type. The Yorkshire, for a large class, was exceptionally good—much improved over last year. Of the 12 Yorkshire carcasses shown, 10 have been

graded No. 1 by the Davies Co., of Toronto; 1 No. 2, and 1 unfinished.

The largest class, the Tamworths, have not equally improved. Of the 20 shown, 10 were graded No. 1, 4 medium, 3 No. 2, and 3 unfinished. They appeared to have been less carefully fed.

The grades are pushing themselves rapidly to the fore, both in numbers and quality. Last year 4 grades were shown, and 2 of these were 20 and 40 pounds, respectively, over weight. This year 8 were shown, of which 6 graded No. 1, 1 medium, and 1 No. 2. A pair of grade carcasses also won sweepstakes. Of the smaller classes, the Berkshire and Essex are rapidly conforming to the required type. Two of the Essex carcasses, in particular, presented every appearance of the Tamworth. There were 4 in each of these classes, and all graded No. 1.

The American classes—the Poland-Chinas, Duroc-Jerseys, and Chester Whites—are diminishing in numbers at the test and not improving in quality. The judges awarded no prizes to any of these classes, on the ground of unsuitability. Their decision was pretty well borne out at the packing house. Of the 6 Chester Whites, 4 graded No. 1; of 4 Poland-Chinas, 1 went No. 1; of 4 Duroc-Jerseys, 1 went medium and 3 No. 2. It must be borne in mind that the grading at the packing house was based upon the commercial standard, which is necessarily less strict than that of the showing.

There is greater improvement in the quality of mutton shown. Last year, the general complaint of the judges was that the mutton was too fat. While there is a much larger exhibit this year, only 2 mutton carcasses were decidedly fat. Any errors, however, are still on the same side as last year—a tendency to make yearlings too fat and to leave lambs too thin. This tendency was quite evident in looking at the carcasses, and is plainly brought out by the judges' awards. In nearly every case, the prizes went to the lightest carcasses in the yearling classes, and to the heaviest in the lambs. As in the swine classes, the 1st sweepstakes went to a grade.

The block test is undoubtedly a potent factor in harmonizing the judgments on classes before and after slaughter. There is this year less discrepancy in this respect than last year. The appointment of the same judges for live and dressed classes, and requiring these judges to justify their decisions before the public in the lecture-room, will certainly



THE LATE E. J. LAWRENCE.

lead to a more careful and discriminating study of those indications in the live animal that point to the most desirable quality of meat in the carcass. There is a decided demand for this "harmony of judgment," and at the meetings held last week scant consideration was given to "breeders' ideals" that interfered with the demands of the consumer.

Ontario Agricultural College. J. B. REYNOLDS.

[EDITOR'S NOTE.—Prof. J. B. Reynolds, of the O. A. C. staff, who writes the foregoing letter, has had the general supervision of the block tests at the Ontario Provincial Winter Show since their inception.]

FARM.

The Late E. J. Lawrence, Pioneer of the Peace River District.

To the Editor FARMER'S ADVOCATE:

Many of your readers will, no doubt, learn with regret of the sudden death, on November 8th, of Mr. E. J. Lawrence, pioneer of the Peace River country and for a number of years a contributor to the FARMER'S ADVOCATE. Born in South Stukley, Shefford, Province of Quebec, in 1849, being the youngest of a family of six, he was but two weeks old when his father died, leaving six small children to the care of his wife; the oldest was but six years of age. At the age of 21, Mr. E. J. Lawrence married Lydia M. Kneeland, and for several years taught school in the Province of Quebec. In 1879, while studying for high-school diploma at McGill College, Montreal, he heard the call of Bishop Bompas, of McKenzie River District, for a practical teacher and farmer for Vermilion Post on the Peace River. He immediately responded, leaving Montreal in May, going by Chicago and Winnipeg and thence by way of Old Ft. Carlton, Prince Albert and

Green Lake by cart, and by water to Lake Athabasca, and up the Great Unjaga, or Peace River, in Hudson's Bay Company's longboats to his destination, where he arrived with his family on the 10th of September, after suffering hardships only known to the old-timer.

The first winter was passed in a house so cold that water in a bucket would freeze on one side while it scorched before the chimney fireplace on the other. The food supply was scanty, and they were frequently in danger of starvation.

During the winter lumber was got out on the island half a mile away and hauled to the site chosen for the training school, with one small cayuse, and the following summer—besides breaking eight acres of land with two little horses—the Irene School was built and moved into the following November. In 1882 the school farm produced 240 bushels of barley and 1,500 bushels of vegetables. In 1885, not satisfied with purchasing the necessary flour at \$25.00 per sack—only \$50.00 per head was allowed for the support of the scholars—he undertook to bring in a small portable grist and saw mill with a 12-h. p. Waterous engine, which was an enormous undertaking in those days, having to be drawn across the prairie from Calgary to Athabasca Landing, thence by boat to Lesser Slave Lake and then again overland to the Peace River Crossing, whence it was taken on large rafts down the Peace to Vermilion, 375 miles. Having been transported 900 miles from the railroad without a single mishap, it was landed at its destination, tooting its own welcome, the pioneer engine of Athabasca. In 1891 he left the school and went farming, ranching and milling on his own account, and soon worked up quite a trade in lumber and shingles, oxen for the northern transports, butter which was sent within the arctic circle, as well as cheese which was far noted for its fine quality. Needless to say, he did not ship grain, but he did ship flour through the traders to the far north, and Vermilion was noted as the place where they had flour to eat the year 'round.

Nor was the education of his family neglected. His oldest daughter was sent to the Northwestern University of Evanston, one of Chicago's suburbs, from whence she graduated in two years, having taken the three-years course and graduated with honors in two. She then went to the Women's Medical College of Chicago, and took the four-years course in three, graduating at the head of all the medical students of the State of Illinois for that year, and was appointed resident physician of the Chicago Eye and Ear Hospital for the ensuing year. She has since been in charge, with her husband, of the Wiley Memorial Hospital, Kuchien, South China. Fred, the second child, visited the fair at Chicago in '98, being the only representative of the District of Athabasca. He has since attended college in Indiana, but on account of his health returned in the fall of '98 to the Peace River.

On the death of his wife, which occurred in March, '98, Mr. Lawrence made over his business to his two sons, Fred and Fenwick, and went to Edmonton, returning in the spring of '99 with a thoroughbred stallion for his sons' ranch, and stayed during the summer, leaving again in September, with his youngest daughter—who was the first white child born on the Peace River—for Edmonton, where he could obtain better educational privileges for her.

Mr. Lawrence was given charge of a steam threshing outfit, and it was in the discharge of his duties that he got hurt. He tried to save the life of one of his hands, and succeeded in doing so, only to lose his own. Truly, bravely he lived, and his last act was a noble one.

Peace River. FENWICK N. LAWRENCE.

Tightening Wires on a Fence.

To the Editor FARMER'S ADVOCATE:

I do not know whether this method of stretching wire on fences has ever been described in your paper or not. It is new in this part of the country, but is coming into general acceptance because of its superiority over old methods. The usual way to stretch wire is to put a stretcher on the wire, then to put a stout stick in the ring of the stretcher, brace the stick against a post, and thus tighten the wire by pressing against the stick. This had to be done every seven or eight rods, and unless the post was very firmly planted in the ground it was sure to be moved several inches out of position. The new method is as follows: At one end of the fence place a common farm wagon; by placing a chain through the end of the tongue, anchor it firmly to a stake driven firmly in the ground; jack up one of the hind wheels so that it is clear of the ground, first seeing that it is on a line with the side of the fence where the wire is to be attached; then staple on the wire at the desired position on the extreme post of the fence, place the other end around a spoke of the wheel, close up to the hub, then turn the wheel around until you have the desired tightness. The best way to turn the wheel after the strain of the wire comes on it is to get on the spokes with your feet near the outside, and keep treading up as the wheel goes round. By this method fifty or sixty rods of wire can be tightened at once, and in the most satisfactory manner.

Middlesex Co., Ont.

M. SWART.

Addresses at the Fat Stock and Dairy Show.

The lecture room in the new Winter Fair building at Guelph was kept occupied with audiences eager for information much of the week of the Fat Stock and Dairy Show. The room has seating capacity for from four hundred to five hundred people, and on very many occasions the doors had to be closed, shutting out many who were anxious to hear what was being said by the speakers.

SESSION OF INSTITUTE WORKERS.

Superintendent G. C. Creelman took occasion to have as many as possible of Farmers' Institute workers and members meet here and at the Experimental Union, in order that they may gather the lessons to be learned at the various sessions. It is estimated that about 15,000 Institute men took advantage of the cheap railroad rates and favorable admission arrangement. Institutes that contributed five dollars to the fair were allowed free admission of all their members to the show.

Hon. John Dryden, Dr. Jas. Mills and Mr. Creelman addressed a full meeting of workers at considerable length, giving them much valuable information and sound advice on the conduct of meetings. Hon. Mr. Dryden gave the men encouragement by referring to the great improvement he can see throughout the country in the character of the buildings, the feeding of animals and the care of implements, largely the result of the teaching given by the Institute workers. A few farmers are led to follow the advice given by delegates, and other farmers follow their example. In this way advanced and more profitable methods are extending and widening. The valuable influence of the travelling dairy was referred to, and its good effects will go on through many years. Many useful suggestions were made to speakers going out. They were advised to adapt their addresses to the needs of the localities they were in; to remember that country audiences are sharp critics and possessed of higher intelligence than some who may wear finer clothes; and to talk hard sense instead of attempting to entertain the people. An occasional story may serve a useful purpose, but they cannot take the place of useful information. What is needed is to assist people to devise means of providing more produce of a better quality.

Dr. James Mills urged the men to be practical, pointing out the weaknesses seen to exist in farming methods. The speakers were urged to talk only what they know from experience. After Dr. Mills had concluded, several Institute speakers followed with pithy addresses that gave the occasion something of the nature of an experience meeting.

The presentation was then made to Dr. Mills, of some six hundred dollars contributed by members of Farmers' Institutes and other friends. It was intended that this should have taken place in June, when the Doctor really received the money, to enable himself and Mrs. Mills to take a trip to Europe. Dr. Mills feelingly expressed his gratitude, and told how his vacation and trip were enjoyed.

THE BACON BUSINESS.

One of the championship pair of dressed hogs was presented before a large audience, who took seats to listen to a lecture on swine carcasses. The specimen, owned by Rettie Bros., Norwich, Ont., was from a Tamworth boar and a three-quarter-bred Yorkshire sow. Mr. J. W. Flavelle, Toronto, said that Canada is producing the Wiltshire side, while Americans are supplying Cumberlands. It was explained that the Wiltshire includes the shoulder, side and ham of the hog. It is never carried or held after it is once ready for market, so that hogs for Wiltshire sides must be bought to be sold as bacon six weeks hence. If held it becomes stale, and thus hurts the market and reacts on the trade. Farmers who hold their hogs after they are ripe are guilty of the same sort of folly, because they injure their product by so doing. Mr. Flavelle said it is impossible to tell what the market will pay six months hence, and the only safe way was to furnish a steady stream of supplies for each month in the twelve. Men who do this will get a fair return for their efforts. A special effort should be made to keep up supplies in June and July, when there is frequently a shortage. The speaker assured his audience that there was no understanding amongst the various packing houses as to prices. A previous attempt at this sort of thing proved very unsatisfactory, and was abandoned permanently. It is Mr. Flavelle's opinion that the increased number of packing houses will do good all around. Competition helps to quicken those interested; and to keep them up to the mark. Mr. Flavelle was asked many important questions, which brought out much important information.

Mr. Wilson, of Ingersoll Packing Co., referred to the show as a great instructor and object lesson. When questioned about the grading of hogs, he said their buyers were paid salaries, and instructed to pay prices for hogs according to quality. Regarding the question of breeds, Mr. Wilson said packers did not consider the Duroc-Jersey, Chester White or Poland-China suitable hogs from a bacon standpoint. The Yorkshire sow and Tamworth boar produce the favored type.

Mr. Joseph Brethour assured the audience that even a correct form could be spoiled by improper feeding. Mr. Brethour weans his pigs at two

months old, then feeds barley meal and milk. The chop is soaked one meal ahead. After the age of four or five months, grain was given only twice a day, with vegetables or apples at noon.

Mr. Rettie's sweepstakes winners were fed in the early part of the finishing period on a mixture of corn and shorts in equal proportions, with whey added. For finishing, barley and wheat, half of each, were fed with whey.

Prof. Griddale pointed out that corn was proved to have a tendency to produce soft pork, but this could be modified by the use of milk. Oats, peas or barley, or a mixture of the same, had given good meat every time.

BEEF UP FOR DISCUSSION.

Mr. Thos. Crawford, M. P. P., Toronto, had for a text the champion fat steer exhibited by James Leask, Greenbank. Mr. Crawford went on to show that it was very important for a farmer to be able to judge cattle. In-bred and in-fed quality are both essential. The champion steer is of Shorthorn stock. In form he is very close to perfection. He has good quarters, carried well down to the hock. He has a wide, well-filled loin, is close-ribbed and well rounded. His body is deep and near the ground. Such an animal cannot be gotten from Jersey, Ayrshire or Holstein stock, or even crosses from them.

The in-fed quality of this steer is shown in the even, well-laid-on flesh—fat and lean mixed. That can only be gotten by good feeding. Even with feeding, however, in-bred quality is necessary to start with. For best results in the finished animal, the calf flesh should never be lost. No amount of good feeding can make up for a stunted calfhood. Mr. Crawford deplored the fact that our beef cattle are deteriorating, chiefly on account of the development of the dairy industry and the use of immature bulls.

Mr. Robt. Miller, Stouffville, speaking from a breeder's standpoint, said he did not want an animal narrow at the tail. A beast should have a good breadth across the back in front of the hips and carry weight well down to the hocks. Flesh from these parts furnishes the valuable cuts. A small head and short neck are good features. No animal is good except it possesses plenty of heart room. While a good stomach is essential, excess here is to be avoided.

MUTTON FORM AND CARCASSES DISCUSSED.

With a leggy, inferior specimen of the Oxford breed and a well-formed Shropshire lamb as an object lesson, Mr. James Tolton and Prof. Griddale addressed a large audience on mutton form. Mr. Tolton pointed out the good and bad points of either, showing the importance of the blocky form, which gives the largest amount of cuts that sell for the highest price. This requires a good development across the hips, well down the quarters. A deeply-fleshed loin is very important. A good mutton sheep is well ribbed up and plump just behind the fore legs. This indicates constitution, which is all-important. His neck should be no longer than will allow him to graze comfortably. The front legs should be well apart, and the underline should be well down, straight and parallel with the back.

Prof. Griddale emphasized the point that while fancy or breed points are necessary in developing a breed of sheep, the end of all is the block, and therefore the judging at a fat-stock show should be done from the consumer's standpoint. The sheep that is too fat to sell well dressed should not win in the live classes. Hon. Mr. Dryden referred to this matter, and pointed out that the purpose of this show is to teach breeders what the market needs, and, therefore, what to produce.

Mr. Foulds, a Brantford butcher, and Mr. Tyson, a Guelph butcher, spoke from a butcher's standpoint, with dressed carcasses hung up before the audience. These men, who know from experience, contended that the too-fat sheep cannot be sold. The best selling carcass is a well-developed, thick lamb, not overly fattened. The two carcasses displayed were those of the first and second prize yearling Shropshires. The winner dressed some fifteen pounds less than the other, largely because it was less fat. The third-prize sheep was overdone, and therefore less desirable to the consumer. Frequently a butcher has to trim off a third of the fat from the best cuts and throw it aside for suet before he can supply what consumers want. An over-fed animal is therefore unprofitable to the butcher. A fairly-fattened animal, having lean and fat well distributed, gives a first-rate quality of meat and little waste.

About Wheat.

PAST, PRESENT, AND FUTURE.—THE HESSIAN-FLY PLAGUE.

In the past, Ontario has been a highly favored land as far as fall-wheat growing has been concerned, few enemies troubling it, and when well forward before winter it was as reliable as anything the farmer tried. In many cases, when sown as late as the 20th of October, we have secured good crops when soil and winter conditions favored a weak plant, but some seasons proved disastrous to very late sowing.

At present an enemy has covered the face of the land, like the army of Sennacherib, and unless the Almighty interposes in our behalf, the wheat crop of 1901 is ruined.

The Hessian fly, like the poor, has always been with us, often to the extent of five bushels per acre damage, but in no season, for thirty-five years at least, have we been so threatened as at present. Undoubtedly we have ourselves to blame for this—the writer often recognized this, having ocular proof of their presence and power when few men noticed or cared how this enemy worked. For many years I never sowed before the 20th of September; the 16th of that month generally brought frost to destroy or check them. Lately, however, I followed suit, rather than be looked on as a Hessian crank, and sowed about the 12th of September. This year we commenced on the 16th or 17th, but no frost put in an appearance for long after this. Many fields were a beautiful green days before we sowed, for some have sowed in August, and in previous years the majority before the 12th of September. Our enemy has been steadily working and gaining on us, and a couple of seasons without frost all through September and well into October having assisted them in their development, we now find they have actually covered the face of the land. Many plants have from six to thirteen of those flaxseed forms perfectly secure for the winter and so tightly jammed in the space between the outer and inner blades that they are deformed and undeveloped to some extent by their numbers, not a single plant being without some; and many observing farmers have told me that the growth on barley stubbles was also badly infested. This I cannot vouch for personally, as I do not grow barley, but I have no doubt of the correctness of it. October-sown wheat has escaped very well, but in spring it will doubtless be devoured if numbers will do it. Unless assisted by a strange and particular kind of spring season, every one of us may find our wheat fields next June and July useless. This is the present outlook. The future, who can predict? Sufficient for the day is the evil thereof. At the same time, a general and well-adhered-to line of action will no doubt be successful. What this line of action may be can only be surmised. With open and kindly Septembers, we are at the mercy of the enemy. Two or three good strong frosts before sowing will free us. Without this, I predict we cannot raise our own supplies of wheat. Every wheat-grower should give this matter close attention: it is a mutual affair. One sinner sowing before frost has come, sins against us all, and, if need be, should be compelled to do his duty by his neighbors and for the general welfare.

The Hessian fly came from Europe with the Hessian troops employed by the British in the Revolutionary war. Many districts since then have had to quit fall-wheat growing. We must not give up to them an inch, but do our best to get back our rights, and our climate certainly is in our favor, judging by the past. I have often wondered if spraying next June or late May, or when it could be done to best advantage, say with Paris green, same strength as for apple orchard, would check the pest. Let us hear what others have to say, for this is a more serious matter than most farmers perceive it to be.

Lambton Co., Ont.

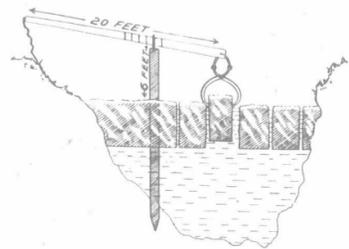
D. ALEXANDER.

[EDITORIAL NOTE.—The fly got its name because it was supposed to have come from Europe in the straw brought with the horses of the Hessian troops; but Prof. Hagen, of Harvard University, who investigated its history very thoroughly, came to the conclusion that the insect was in America long before the Revolution. Late sowing—say the last week in September—is the most generally advised safeguard. If in the spring the wheat sown last autumn seems hopelessly ruined, it had better be plowed down deep and the ground cropped with something other than a cereal, so as to deprive the insects of their food. Dr. Bethune, editor of the *Canadian Entomologist*, in an article written for our columns some time last year, recommends, among other precautions, the burning over of the wheat stubble with any other refuse on the field.]

Contrivance for Lifting and Loading Ice.

To the Editor FARMER'S ADVOCATE:

SIR,—This contrivance consists of two stout poles, one 20 ft. long, the other long enough to be driven in bottom of stream and protrude 6 ft. above surface of ice. The twenty-foot pole pivots on the upright by means of a pin in upper end of upright,



ICE LOADER.

and having several holes, it can be moved to suit the ice-hole. The grips are fastened to butt end, and a rope to small end. Large cakes can be easily lifted and loaded with this. I saw it used in Quebec.

Macdonald Municipality, Man.

L. W. EATON.

Annual Meeting of the Association of Agricultural Chemists.

HELD IN WASHINGTON, D. C., ON FRIDAY AND SATURDAY, NOV. 16TH AND 17TH.
(SPECIAL CORRESPONDENCE).

At the annual meeting of the American Official Agricultural Chemists, held last year in San Francisco, California, it was decided by the Association to divide the work of soil and plant ash analyses, placing each under a separate referee. Heretofore the two subjects have been under one referee. In recognition of the investigation work of Dr. A. E.

composition of plants, errors are likely to result through volatilization and through fusion.

Dr. Shuttleworth claims that he has worked out a method through which absolutely accurate determinations of plant ash can be made, avoiding in its preparation both volatilization of the constituents and fusion of the ash. His report brought out these two points most clearly; and the Association, after the submission of his report, authorized the referee on ash analysis for the coming year to adopt his method in next year's investigation work.

There were present at the above Association some 97 agricultural chemists. During the evening of the first day's meeting, Dr. Wiley, Chief Chemist of the Department of Agriculture (Division of Chemistry), Washington, D. C., gave a lecture in the chemical laboratory of the Columbian University, on The Sugar Beet and the Manufacture of Sugar.

The lecturer described fully the exact form of the sugar beet, position it should have in the ground, causes of deterioration and of improvement in sugar contained, and gave limelight views of every operation through which the sugar beet passes in the factory, to the separation from it of the refined sugar. During Dr. Wiley's lecture, he discussed the consumption and production of sugar in the different countries of the world, gave figures showing the total production of sugar out of the sugar cane and the sugar beet, and dwelt upon the causes which have resulted in a steady increase annually in the amount of sugar manufactured out of the sugar beet. He attributed this increase to the application of a knowledge of agricultural chemistry to the cultivation of the sugar beet. His lecture, which was highly appreciated by the agricultural chemists present, concluded by reference to the proportional increase in population and sugar consumption.

It is not too much to say that this Association of agricultural chemists is doing a great work, and that the chemists of European countries have, during the last few years, recognized its efforts as a most valuable aid in the development of agricultural science.

Storing Ice for Dairy Purposes.

[FROM OUR MANITOBA AND WESTERN EDITION.]

To the Editor FARMER'S ADVOCATE:

As now seems an opportune time, I wish to offer a few suggestions on the storing of ice for use on our dairy farms. But allow me, first, to point to the great necessity that there is, under our creamery system, for so doing.

In the majority of the creameries in Ontario, and many States of the Union, the creaming of the milk is done at the creameries by means of power separators, with the result that the patrons have the care of one-half the milk for twelve to fourteen hours at most, and of the other half only during the time of milking and delivering the milk. When we consider this, along with the additional fact that each patron's milk is delivered in a separate can, we readily see that the buttermaker has things largely under his control, as, besides having to do with the care and ripening of the cream, he has the privilege of examining each patron's milk and advising with him, and of rejecting all milk of inferior quality.

Under our cream-gathering system, however, the patron becomes a much more important factor, and his responsibility is correspondingly increased, as he has not only the care of the milk, but also the creaming of it and the care of the cream for a considerable time afterwards. In short, the quality of the butter depends fully as much or more upon him than upon the buttermaker, for flavor in butter is the first and greatest consideration, and the flavor of the cream determines the flavor of the butter. One patron who is either careless or lacks proper facilities for keeping his cream undoes the good work of a dozen others, since a small amount of poor cream mixed with a large quantity of good leavens the whole lump, and soon all becomes bad.

Many patrons wash and keep their dairy utensils scrupulously clean, practice cleanliness in milking, and keep their milk and cream in a place where the surroundings are clean and the atmosphere pure, and yet their cream arrives at the creamery in a condition unfit for making good butter. Why? Because through lack of facilities for cooling and keeping it sweet, it becomes too sour or overripe. I wish to say, and to say with emphasis, that our cream-gathering system, under which the cream is gathered only twice or, at most, three times a week during summer weather, from its very nature demands of every creamery patron that he provide means for cooling his cream and keeping it sweet until collected. Many of our patrons have done, and are doing, much to improve the quality of their cream, while some have yet to begin.

With ice obtainable in abundance, merely for the putting of it up, and with favorable climatic conditions during the summer, I know of no part of the world in which the natural conditions are more favorable for conducting creameries on the cream-gathering plan, where the country is sparsely populated and the cream cannot be collected daily, than is our Northwest country.

ICE HOUSE OR ROOM.

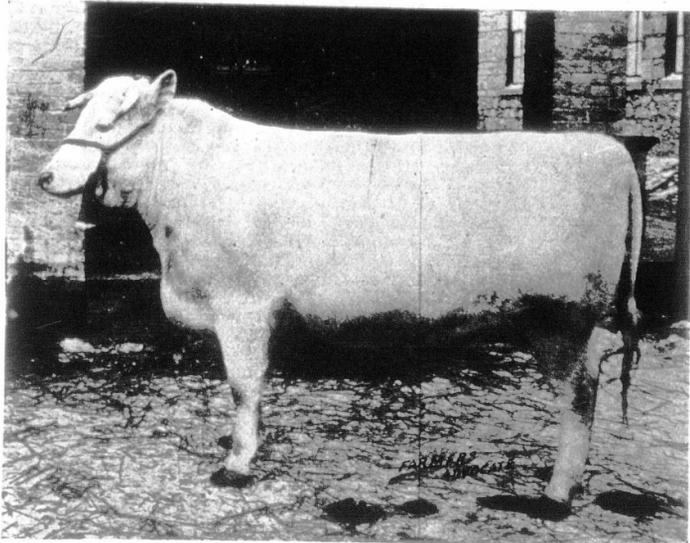
One way of storing ice for summer use is to make a room in the corner of a barn or stable for storing the ice, or, better still, to erect a small building for the purpose. We would not advise storing too small a quantity of ice, not less than eight to ten tons, as a little of it—and a greater proportion of a smaller than of a larger quantity—is sure to melt.

As there is about forty cubic feet of packed ice to the ton, the ice would need to be about eight feet square and six feet high to contain ten tons. This means that the ice-room should be about eleven feet square, inside, and say eight feet high, to allow for space at the sides for straw or other packing material. It is not necessary to build anything elaborate—just one ply of lumber on the outside of building will do nicely, although it is an improvement to sheet it up on the inside with rough lumber. Bank the ice-house all round to prevent air from getting in at the bottom. To make a bed for the ice, one very simple method is to lay small poles on the ground, and over these eight to ten inches of straw. Of course, sawdust is fully better than straw, if you have it.

It is best to begin putting up ice when it is sixteen to eighteen inches thick, cutting the blocks fifteen to sixteen inches wide and thirty to thirty-two inches long, taking care to have the corners as square as possible so that the blocks will pack closely. When packing the ice, place the blocks as close together as possible, and fill all crevices with finely-broken ice and snow. If fine straw and chaff be used as packing material, leave a space for it, between the ice and the wall, of not less than fifteen inches.

Use as dry straw or chaff as you can obtain, and pack it firmly. If sawdust be used, a foot of space between the ice and the wall is quite sufficient. Where sawdust is used it is better to sheet up inside the studding, as the sawdust swells and exerts quite a strain. Put about the same thickness of packing material on the top of the ice as at the sides.

Watch your ice during the summer, and should it begin to melt, tramp the straw down at the sides



CRIMSON ROBE.

Sweepstakes Shorthorn steer, Provincial Winter Fair, Guelph, 1900.

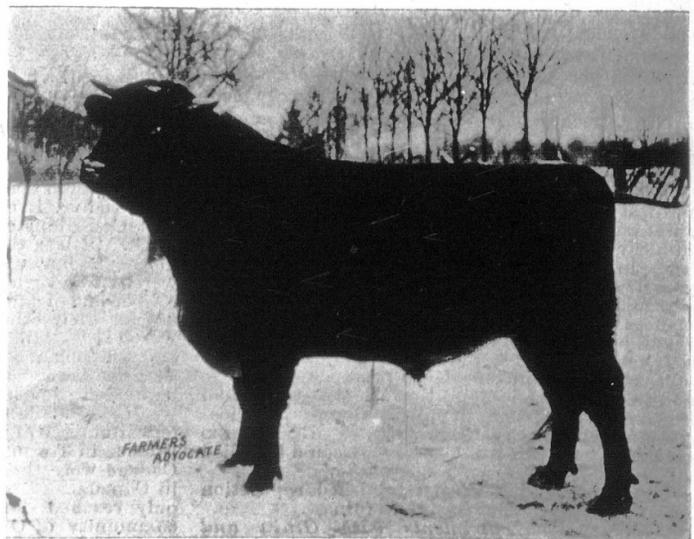
BRED AND OWNED BY ISRAEL GROFF, ALMA, ONT.

Shuttleworth on plant ash analysis, the American Association appointed him referee on ash analysis.

No subject in agricultural chemistry is of greater importance than that of the composition of agricultural products. Without an exact knowledge of the composition of our crops, it cannot be definitely answered as to what constituents the crops remove from the soil; and further, the exact influence of different soil treatment and manures upon the composition of the crop cannot be definitely determined. Our soils, which have been under cultivation for a number of years, do not produce the yield and quality of wheat and certain other crops that they have formerly done. To what extent this tendency to depreciation in quantity and quality of crop is due to climate or to variations in the soil's fertility or condition is a matter worthy of careful study, because, through such information, it may be possible to so modify our soil's fertility that we shall produce crops of increased yield and improved quality. At the very basis of this important study lies the composition of our crops. It is therefore of the highest importance that the determination of the composition of our plants be exact, for without an exact method for the determination of the composition of our crops, we are not in the best position to study variations in composition resulting from differences in conditions of manuring, of soil, of climate, etc.

The annual meeting of the above Association was held this year in Washington, D. C., upon the 16th and 17th of November. There was present at that meeting an eminent agricultural chemist, Dr. Bernard Dyer, of London, England, representing the Rothamsted Experiment Station at this year's meeting of the Association of Agricultural Colleges and Experiment Stations. His remarks upon the importance of sampling soils for chemical analysis, and upon the method now adopted for sampling soils at Rothamsted Experiment Station, were listened to with very great interest and profit by the agricultural chemists in attendance. There were also present several Canadian agricultural chemists: Prof. Shutt and Dr. Macfarlane, of Ottawa, and Dr. Shuttleworth, of the Ontario Agricultural College, Guelph. Two subjects of considerable interest to the Canadian, as well as to the American chemists, that came before the notice of the meeting were: First, methods for the analysis of Thomas Phosphate Meal, and Plant Ash Analysis.

As referee on plant ash analysis, Dr. Shuttleworth presented his report of the year's work, which investigated conditions under which the volatilization of certain important constituents of the ash of plants in its preparation occurs, and the chemical combination of the silica and the ash with certain of the bases through fusion. This report, which is the combined results of work conducted in the chemical laboratory at the O. A. C., the chemical laboratory of the Department of Agriculture (Division of Chemistry), Washington, D. C., and that of the Agricultural College of Raleigh, N. C., upon the above two points, showed clearly that in ash preparation for the purpose of determining the



ROYAL VICTOR -34681-

Yearling Shorthorn bull. (See Gossip, page 26.)

BRED AND OWNED BY J. & W. B. WATT, SALEM, ONT.

and any spaces that may form between the blocks. We have often saved ice in this way. Where sawdust is used little trouble is experienced. It is wise to have a circulation of air through the top of the building to carry off the heated air inside, caused by the sun striking on the roof.

When constructing an ice house or room, it is

important that it be located as convenient as possible to where the ice is to be used. If erecting a separate building for the purpose, it would be wise to build it large enough to allow of having a small room in the end, in which to place the separator, if one be used, and also the tank for holding ice and water for cooling the milk and cream. In fact, this little room might constitute the dairy, in which churning and other work could be done. A building eleven to twelve feet wide and fifteen to sixteen feet long would be quite large enough for both an ice-house and a milk-room or dairy for the average farmer. Those who feel unable to erect a frame building, might find it convenient to build a log one. Consider your conditions, and make an honest effort to do the best you can. "Where there is a will there is a way." If you can't store eight to ten tons of ice this winter, store four or five tons for a trial.

If you use a separator, and have only the cream to cool, and have a good well or spring of cold water, you may be able to get along without storing ice. You know how your cream has kept heretofore. Were you able to keep it perfectly sweet until collected? If not, you should store ice. Don't try to keep your cream merely by setting it in a tank or barrel and changing the water around it occasionally. It entails much work and is a failure every time. If you cream your milk by means of deep-setting cans, you can't afford to do it without ice. Your losses will be heavy. If sending cream to a creamery, don't adopt the shallow-pan system, as the cream ripens considerably in the pans, and even though subsequently cooled, is almost certain to arrive at the creamery in an overripe condition. Under our creamery system, the common practice is to establish cream routes and collect the cream in loads, from twice to three times per week. As a considerable portion of the cream is on the road a good part of the day, it is subjected, in summer, to a more or less severe test. But if perfectly sweet and clean-flavored when collected, it passes through this little ordeal without any very perceptible injury, and arrives at the creamery fit for making a high-class butter.

The kernel of the whole matter, then, is that our creamery system demands that each patron provide means for keeping his cream sweet and clean-flavored until it is collected, and with many this means that they must needs store ice for summer use.

J. W. MITCHELL.

Dairy Superintendent, Assa.

Ontario Experimental Union.

The twenty-second annual meeting of the Ontario Agricultural and Experimental Union was held at the Guelph Agricultural College on Dec. 10th and 11th. The gathering consisted chiefly of students, ex-students, experimenters and Farmers' Institute workers.

President H. R. Ross, Gilead, Ont., opened the first session and conducted the meeting throughout. His address was pithy, thoughtful, and well delivered. It opened with a reference to the improved condition under which the Union convened, and a general welcome, extending particularly to the Farmers' Institute staff. Progressive men would count the past year a good one. The day of dabblers was past, but the prospect for the man who could pull off his coat and direct his own business along right lines was brighter than ever. The Union could report increased membership, experiments, experimenters and attendance, and, above all, an increased percentage of successful results. Their next advance in investigation might fittingly be in forestry, because that was bound to become an issue with farmers, and we now know nothing of value regarding what varieties were best adapted to certain locations, made quickest, densest or hardest growth, or how most profitably to develop a plantation. The Union has solved the seed-grain problem by beginning in time, and could do the same in forest culture. The prevalence of pea weevil was noted and a suggestion thrown out that it would be well to ask for legislation to compel farmers to thresh peas and treat the grain for weevil by some certain method before Sept. 1st of each year.

Next came mention of the presence of College men in South Africa, and the fact that theirs had been a glorious record, though saddened by the loss at Paardeburg of Private Findlay, '95. Ex-students were always in the front rank and could be relied on.

The Union had now an established reputation and an inviting field of future usefulness.

Co-operative Experiments with Grain and Roots.—In the spring of 1900, Mr. C. A. Zavitz, Secretary of the "Union," sent out lots of fine pure seeds to 3,633 experimenters throughout the Province of Ontario. A large proportion of them had reported the results of their work, and from a summary of some 755 reports, correct in every detail, Mr. Zavitz presented the following representative information. It was pointed out that even though the reports from experimenters were incorrect and not used in deciding upon the merits of the varieties grown, their work was not lost, as each experimenter discovered for himself the variety that did best for him, and he also got a start in clean good seed for future years.

OATS.		Crop per acre.	
VARIETY.	Com. value. Per cent.	Straw. Tons.	Grain. Bush.
Siberian	100	1.4	53.4
Joanette	74	1.4	50.8
Daubeny	56	1.2	45.6
BARLEY—6-ROWED.			
Oderbrucker	100	1	37.1
Mandscheuri	87	1	35.3
Success	53	.8	28.7
BARLEY—HULLESS—60 LBS. PER BUSHEL.			
Black	100	1.1	20.2
White Bearded	86	1.2	18.1
White Bald	85	1.1	18
PEAS.		Crop per acre.	
VARIETY.	Com. value. Per cent.	Straw. Tons.	Grain. Bush. Weevily.
Early Britain	100	1	25
Russian Blue	98	1.2	24.8
Golden Vine	86	1.1	23.6
PEAS (WEEVIL TEST).			
Grass peas	100	1.3	22.7
Oddfellow	76	1.3	19.5
PEAS SOWN TWO WEEKS APART.			
		Per cent. Weevily.	Straw. Tons. Grain. Bush.
1st seeding	74	1.7	24.2
2nd seeding	57	1.1	20.1
3rd seeding	47	.7	14.7
4th seeding	35	.6	10.9
JAPANESE OR SOJA BEANS.			
VARIETY.	Com. value. Per cent.	Straw. Tons.	Grain. Bush.
American Coffee Bean	100	1.1	23.3
Medium Green	89	1.9	26.9
Ex. Early Dwarf	63	.7	15
CORN (HUSKING).			
VARIETY.	Com. value. Per cent.	Whole crop. Tons.	Grain. Bush.
North Star Yellow Dent	100	10.4	59.9
Salzer's N. Dakota	73	11.6	49.2
Compton's Early	73	9.7	48.5
CORN (FODDER).			
Mastodon Dent		15	
Wisconsin E. W. Dent		13.8	
N. Star Y. Dent		12.6	
MILLET.			
Japanese Panicle	100	10.7	
Japanese Barnyard	95	10.7	
Hungarian grass	89	8.7	
GRAIN MIXTURES.			
Oats, peas and vetches		9.7	
Oats and vetches		8.4	
Oats and peas		8.1	
LEGUMES (GREEN FODDER).			
Hairy vetch	76	8.6	
Grass peas	100	7.9	
Common vetch	52	7.7	
BEANS.			
Medium or Navy	100	.8	21.8
Marrowfat	81	.9	20.7
White Wonder	76	1.3	18.5
POTATOES.			
		Per cent. Marketable.	Yield. Bush.
Planted when cut		87	175.2
Cut five days		85	157.5
POTATOES CUT FOR PLANTING.			
Coated with plaster		92	181.6
Not coated		88	165.2
MANGELS.			
VARIETY.	Com. value.	Tons per acre.	
Imp. Mam. Saw Log	100	33	
Carter's Cham. G. Intermediate	65	21.6	
Carter's Yellow Globe	65	21.2	
SUGAR BEETS FOR STOCK.			
Danish Imp.		23.8	
White Silesian		23.7	
TURNIPS.			
Sutton's Magnum Bonum		21.6	
Hartley's Bronze Top		20.4	
Kangaroo		17.8	
CARROTS.			
Half-long White		21.2	
Danver's Orange		18.7	
Guarande		18	

The Farmers' Institutes.—Superintendent G. C. Creelman took occasion to address the many Institute lecturers who were present at the Union. Mr. Creelman spoke of the need of all to work in order to live. Everywhere the impression is abroad that Canadians are good workers and willing to work. Of late there had been important changes in the higher education. The practical subjects were taking their place beside the studies of medical science and of law, and were demanding attention, not for their ethical value, but for their practical worth to humanity as a whole in the improvement and uplifting of the race. It was now acknowledged that the best thought and highest culture should be made to develop the industrial arts, and science was being made the handmaid of the soil in this onward march of progress. The School of Practical Science in Toronto and the Ontario Agricultural College were the children of this new dispensation in Canada, and yet, crowded as it was, the O. A. C. only reached one per cent. of the great farming community of Ontario. It was with this in view that the Farmers' Institute work had had its commencement, and had gone forth to preach the gospel of good farming to every creature. Thus the work had started as an educator to the farmer, and last year there were 98 Institutes in the Province, at which 715 meetings were held and 3,328 addresses delivered to 138,982 people, of whom 18,158 were active Institute members. The great aim of Institute work is to get farmers to do business on a business basis. There is this difference between farming and mercantile pursuits: In the latter a certain regularity of gains can be reckoned; in farming the gains are as irregular as the variance of weather and crop conditions can make them.

In conclusion, Mr. Creelman reviewed the rapid growth of agriculture in Canada along certain lines, all of which were fostered and encouraged and in many cases had been originally suggested by Institute work. He spoke of the improved live stock; the more intelligent and less expensive feeding of animals; the growth of the market for Canadian bacon, poultry and fruit; the more intelligent ideas of the soil and its needs; the increased knowledge of the uses and dangers of the weeds, insects, and birds; and the general thirst after agricultural knowledge which was spreading wide the newer and more profitable methods of work. This was the field for the Farmers' Institute as an educator, and in the opinion of the speaker its work had only begun. The practical and timely thoughts contained in this address were the signal for an animated and interesting discussion, taken part in by those present.

Mr. Clendinning thought more good was done in the afternoon meetings than in the evening gatherings.

Mr. Andrew Elliott thought an advance was needed on the part of the Institute workers themselves. He also felt the growing importance of the use of the silo in stock-raising.

Mr. G. C. Gaston made reference to one cause of prejudice against the Institute meetings. Many farmers thought the Institute speaker came to teach them how to farm. This was getting hold of the wrong end of the notion. The Institute was to provoke discussion and work improvements, not to lord it over anyone. It was an agricultural experience meeting.

Mr. T. G. Raynor felt sure that Institute work had placed agriculture on a higher plane. It had caused the subject to be introduced into the schools, and it had very largely contributed to the growth of the O. A. C. He would favor two-day meetings instead of only one day as at present.

J. W. Peart said the Institute was only on the threshold of the good work it was bound to accomplish. There was great need for closer agricultural study and the marketing of products.

Alex. McNeill thought that the Farmers' Institute had really outgrown itself. This was a chance for the younger men with new thoughts and new ideas to take the burden from the shoulders of the old men and carry on the work with renewed vigor.

Mr. Simpson Rennie, of East York, referred to the great increase in the number of questions asked by the audience.

Messrs. C. W. Nash, of Toronto; T. H. Mason; J. G. Orr, of Fruitland, and Major Sheppard, also took part in the discussion.

Hon. John Dryden occupied the chair at the evening session, which was of a popular character. In his opening remarks he said there was no more important agricultural association in existence than the Experimental Union, and then in a few words traced its rapid growth. The experimenters, he continued, were not only in league with one another, but were also in league with science, and yet not science as confined to the four walls of the laboratory. The work of the experimenters was done in God's free air, on God's own earth, and with the divine and blessed sunshine of heaven as a co-partner. Thus it was that the work of the Experimental Union differed from that of the manufacturer. The latter could shut up his workmen in a little square of four walls, label the door "No admittance," and say to the world, "You cannot see our experiments or our work." But the Union work was in the open, it was free for all to benefit by, and its results were as widely published as possible. And in every way it had proved, and would prove, a work of benefit and profit.

Nature Study.—Prof. I. P. Roberts, of Cornell University, entertained, edified and enlightened his attentive audience with a review of Cornell University extension work, his address being enlivened by interesting anecdote and striking illustration. In 1898, New York State granted them \$8,000 with which to reach the farmers in their homes; in 1895, \$16,000 was set apart for this work; in 1897, \$25,000; in 1898, \$35,000; and in 1899, \$45,000 was appropriated. Different methods were adopted, but the one considered most effective, and which is now adopted, is that of preparing and circulating "Nature Study" bulletins to the public schools of the State. The bulletins are carefully and interestingly prepared in simple language and strikingly illustrated. The effort is to educate the younger generation to be able to observe and examine things in agriculture and horticulture that are smaller than an ox or a sheep. The plants, birds, insects, and even the microbes, must be understood before farmers can make the most of their opportunities. Prof. Roberts pointed out that the summer course for teachers conducted for several seasons, although very popular, failed to reach the rural class and was abandoned. Now a four-years reading course is given, the last being a year at Cornell. Prof. Roberts is very enthusiastic over the work of enlightening the boys and girls on the farm about the practical things of nature.

Economic Entomology.—Prof. Wm. Lochhead reported the results of co-operative experiments in combating orchard and garden insects by various prescribed methods. Strips of burlap wound tightly around the trunks of apple trees successfully trapped a large proportion of the second brood of codling moth. It is of great value when used in conjunction with spraying the trees at the proper season. East of Toronto the burlap is of little value, as in that section there is no

second brood of the moth to capture. Various methods were tried to combat the cucumber beetle, cabbage-root maggot and onion maggot, with rather indifferent success. Great stress was laid on the importance of preserving the insectivorous birds, such as meadow larks and woodpeckers.

Soil Physics.—Prof. J. B. Reynolds reported the results of experiments in testing the physical effects on the soil of different methods of cultivation. This was divided into three classes: drilling only, drilling and rolling, and drilling and rolling and harrowing. Four experimenters in different parts of the Province conducted nine experiments, on a total of twenty-seven plots. The reports could not be said to be conclusive, and the Professor was bound to admit that another year, and possibly longer, would be required to reach definite conclusions. In the College tests, the highest temperature was found in the drilled and rolled ground, at one and two inches depth, and the lowest temperature in the drilled, rolled and harrowed ground. The rolled plots led in point of early germination, but the crop results did not fulfill the promise of this early start. The speaker felt that this investigation was of vast importance, and would, when conclusive results were reached, prove of great benefit.

Economic Botany.—The work done was largely confined to the destruction of noxious weeds. Mr. W. Doherty, B. S. A., the assistant biologist, has prepared and sent out during the year a large number of packages of pressed dried specimens of bad weeds, together with samples of seeds, to rural and high schools, in order that the pupils may become conversant with them. There also went with them an outlined method of eradication when the weeds appear on their parents' farms. Another department of the work was that of learning, through correspondence, what were the prevalent weeds in many localities, and in starting a systematic campaign for their extermination. A third branch of the work was that of spraying for mustard. Six pounds of copper sulphate dissolved in forty gallons of water sprayed on an acre when the mustard is just coming into bloom did effective work in killing the mustard plants.

Egg Preservatives.—Mr. W. R. Graham, B. S. A., manager of the poultry department, reported the results of a series of co-operative experiments with water glass, lime solution and common salt. The water glass, or silicate of soda, was by far the most satisfactory. It can be purchased for less than a dollar a pound in any drug store. One part water glass to five parts boiled water is the strongest solution that can be used. Perfectly fresh eggs sink in this, but those that are at all stale will float. A weaker solution (one to eight) will preserve the eggs in good condition for several months. For home packing, Mr. Graham recommended one part water glass to eight of boiled water. When the eggs are removed from this preservative they require to be washed with warm water.

Tests in Fruit.—Co-operative fruit testing has been conducted for several years in connection with the Experimental Union, under the guidance of Prof. H. L. Hutt, B. S. A. The report given showed that in strawberries, Clyde stands 1st, Haverland 2nd, and Woolverton 3rd. In red rasp, Shaffer, a late sort, stands 1st in yield, with Cuthbert, a mid-summer variety, 2nd, and Golden Queen 3rd. In black rasp, Gregg, Palmer, Hilburn and Souhegan stood as named previous to the year 1900, but the reports of the last test showed Hilburn to beat the others, with Gregg 2nd, Souhegan 3rd, and Palmer 4th. Of the four sorts of blackcaps tried, Taylor stood 1st, Gainer 2nd, Kittatiny 3rd, and Snyder last. In currants, Raby Castle led as usual, with White Grape 2nd, Victoria 3rd, and Fay 4th. Whitesmith gooseberry heads the list, with Houghton 2nd, and Industry 3rd.

Improved Methods of Farming.—Prof. I. P. Roberts, in a carefully-prepared and valuable paper, dealt with the question of getting from the soil all the plant food that could be transformed into salable organic matter. Nearly all the plant food in the soil cannot be appropriated by the plant, because it is inert or in an unavailable form. It therefore requires knowledge of nature's laws to farm to the greatest advantage. The first eight inches of good soil contains in one acre 35,600 pounds of nitrogen, phosphoric acid and potash, while a crop of wheat takes only 53 pounds of all these ingredients from an acre. Much of this plant food is tough and lazy, and it is the business of the farmer to transform this into available condition. Soil may be too wet, too dry, or its physical condition may be such that the plants growing in it are not comfortable. As a rule, better than is given is needed. Prof. Roberts was ashamed to say that the average wheat crop of the United States is only about 14 bushels per acre, in a country where there are over half a hundred agricultural colleges and experiment stations. It was pointed out that a good crop does land good, while a poor crop does it harm. It is better to have a crop of weeds growing than have no vegetation covering the ground. Land must be friable so that nature can work and that plants be made comfortable. Begin with the plow and end with a friable mulch. Humus is all-important, hence the value of keeping the land busy growing something to turn under. The sub-soil contains vast stores of food, and these can be secured by sending down the roots of a cover plant after it. Prof. Roberts urged the use of cover crops as far as possible, to be plowed in. If subdrainage and thorough cultivation, the intelligent application of farmyard manure, and the use of cover

crops, failed to bring the highest results, then the farmer should experiment to learn what is lacking in his soil. He considered every farmer should be well acquainted, for his own success in farming, with nature's modes of action, and the best source of this information in our generation is at an agricultural college.

Officers Elected.—President, T. H. Mason, Stratfordville; Vice-President, T. G. Raynor, Rosehall; Secretary, C. A. Zavitz, O. A. C.; Treasurer, Prof. H. L. Hutt, O. A. C.; Directors, Dr. James Mills, Messrs. F. C. Hallman, J. C. McDonald, G. C. Greelman, and Robt. Harcourt; Auditors, Messrs. Price and Pelham, O. A. C.

The Dying Century.

Into the void and vast,
Into the shrouded past,
Crowned with his years at last,
Gazes the century.
Lo, how the shadows fall!
Soon now the solemn call:
Soon hie and hearse and pall—
Hail and farewell to thee!

Last of the pilgrims gray,
Holding their measured way
Into the dim for-aye,
Honored thy passing be,
Age of earth-girdling power,
Age of fair freedom's dower,
Age of life's bloom and flower,
Thou hast reigned graciously.

—James Buckham, in *Lestie's Weekly*.

Maritime Province Visitors at the Winter Fair.

An unusual and interesting feature of the Winter Fair at Guelph was the presence of some forty visitors from the Eastern Provinces, New Brunswick, Nova Scotia, and Prince Edward Island, who, by invitation of Hon. John Dryden and Mr. F. W. Hodson, Dominion Live Stock Commissioner, came through in a special car, arranged for by the Commissioner at a very favorable rate of fare.

Among the number of these "wise men from the east" were Hon. L. P. Farris, Commissioner of Agriculture for New Brunswick; Messrs. E. B. Elderkin, Amherst, N.S., President Maritime Stock Breeders' Association; C. A. Archibald, Col. Campbell and F. L. Hasyard, Vice-presidents M.S.B.A.; R. Robertson, Supt. Experimental Farm, Nappan, N.S.; M. H. Parlee and W. W. Hubbard, Sussex, N.B.; W. W. Black, Amherst; J. Rufus Starr, Starr's Point, and J. E. Baker, Barronsfield, N.S. The visitors, who are enterprising and broad-minded men, were greatly pleased and interested by the exhibition of stock and the addresses at the meetings of farmers and stockmen held during the show week, and made several purchases of breeding stock while in the west. They were heartily welcomed and extended the glad hand by Ontario stockmen, not a few of whom have for years enjoyed the acquaintance of some of their brother breeders down by the sea, and have done satisfactory business with them. Such visits and the business intercourse which is likely to grow out of them are of mutual advantage, and we trust will be repeated from year to year.

Chess and Wheat Again.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—Seeing so frequently, in the ADVOCATE, statements about chess, and not observing any evidence of positive knowledge of the matter, I am induced to make some remarks and ask some questions.

I had supposed chess to be a separate and distinct plant, occurring in wheat as any other weed might do; but a very slight inquiry shows that chess is peculiar and is in some way connected with wheat.

Every farmer, of whom I have inquired if chess is ever found except in wheat, has answered "No." A Missourian explained the matter to me in this manner: "Why, chess is just like a mule. It is a cross between wheat and some other plant. I have sown clean seed wheat and have lots of chess, and have sown seed wheat with lots of chess in it and have no chess in the crop. It is all nonsense cleaning chess out of seed wheat. Chess won't produce anything. You know a mule won't breed. Chess and mules are what they call hybrids" (high breeds he called it). I do not think the Missourian is right in assuming all hybrids are sterile. May not wheat itself be a hybrid, and chess one of its factors, or having in mind the fact that chess is said to be produced by injury to the wheat plant, being usually absent in good vigorous crops, we might reasonably consider the possibility of chess being an ancient progenitor of wheat and that it is produced by atavism.

Will someone who knows please inform the readers of the ADVOCATE if chess will grow. If it will grow, does it produce seed? And if it produces seed, what is it, chess or wheat?

I suppose all this has been investigated by someone. I shall be pleased if some farmer who has chess seed will kindly send me a little by mail.
Lennox Co., Ont. G. C. T. WARD.

An Interesting Competition.

To the Editor FARMER'S ADVOCATE:

The prize list of the Central Canada Exhibition Association at Ottawa for the next exhibition will contain a decided novelty in the form of an agricultural implement contest. Some time ago

the manufacturers of agricultural implements decided to cease exhibiting their products at the fall fairs. The result of this was that one interesting and instructive display was lost to the farmers.

In order to supply a substitute for this deficiency, the Association has determined to secure an agricultural implement exhibit, and recruit the ranks of the display from the machinery of the farmers themselves. Substantial prizes will be offered for the best machines of different classes, which have been owned and used by the farmer who exhibits them for not less than two years, the machines to include everything from a plow to a threshing machine. The merits of the machine will be judged from the age, the amount of work done with it, the care taken of it, and its general appearance.

This competition is bound to have the effect of bringing a very interesting exhibit to the fair, and also of encouraging the farmer to take the best of care of his machinery. The benefits resulting from it are obvious.
E. McMAHON, Sec.
Ottawa, Can.

DAIRY

One Cow.

Mr. William Taylor, Strathroy P. O., owns a common sort of a cow that annually makes an uncommon sort of a record as a profitable milk-producer. We append a few generalities and a brief statement of her year's work. As to breeding, she is of mixed extraction, Ayrshire, Jersey and Shorthorn entering into her make-up. As far as her rearing is concerned, she has been reared much as the average cow—on usual diet, without special attention. She "came in" March 21, 1900, and is now (November 30) just dry. Before coming in, she was dry about six weeks, milking from January 1 to early in February. She is in calf, and due about February 1, 1901. Her food cost for the twelve months, commencing January 1, 1900, is as follows:

Winter Period—January 1 to May 15, and November 25 to December 31.	
Marsh hay, straw, cornstalks, 15 lbs. daily: whole period, 14 tons, at \$2.50 per ton	\$ 3 12
Roots (when milking), 50 bushels, at 5 cents per bushel	2 50
Grain (oats), January, February, March, 1 lb. daily: 90 lbs., at 25 cents per bushel	67
Grain (oats), April 1 to May 15, 2 lbs. daily: 90 lbs., at 25 cents per bushel	67
Summer Period—May 15 to November 25.	
Pasture	9 00
Extra food on pasture, chiefly oats and green corn	2 00
Total food cost for the year	\$17 96

No house slops, peelings, etc., were given, this being fed to the poultry. Her gross revenue stands as follows:

Milk—January 1 to 31	\$ 3 00
April 1 to November 10	37 25
Total	\$40 25

This milk was delivered to the Strathroy Creamery, and totalled a little more than 6,000 pounds for the season.

Milk used in the house (265 pints)	\$ 6 55
Milk sold privately	3 00
Total	\$ 9 55
Total	\$ 49 80

Her calf was sold at six months of age for \$12. Both cow and calf were exhibited at the West Middlesex Agricultural Society's show in Strathroy, the cow taking second prize in her class and the calf first, the total money value being \$3.50.

The total gross revenue from all sources now stands at \$65 30. Total food cost \$17 96.

Net returns for the year 1900 \$47.34

This cow, for the year 1900, gave a net return of \$50.

ADDENDA.

"Betty" is six years of age, dehorned, compactly built, an easy feeder, and weighs to-day 1,050 pounds. She is always in good condition. She experiences nothing but kind usage, and is milked with strict regularity. In conformation, a head short, with large nostrils and a full, kindly eye, a neck thick and somewhat short (a direct contradiction to that looked for in a profitable dairy animal), deep through the heart, good-sized barrel, ribs flat, wide and wide apart, loin long and wide on top, and thighs thin, with room enough for the udder. These can all be taken in at a glance. Her udder, however, is worthy of note. It hangs in full, loose folds from a well-developed escutcheon, shows no surplus fat, is carried well forward, and has four fair-sized teats set in four corners. It is an udder calculated to hold milk. The milk veins are prominent and more than usually tortuous, and are lost in the body through goodly-sized orifices. It is noticeable that one of the two milk veins divides shortly after leaving the udder, continues in two prominent sections, and enters the body through two separate orifices.

The record of this cow shows nothing wonderful, as she gave in all only about 6,800 pounds of milk in twelve months, and this milk never tested more than 3.5 per cent. fat, and as low as 3.0. This milk represented about 270 pounds of butter. And yet this is an unusual record when compared with the majority, seeing that it shows at least twice the milk and butter production, and more than twice

the net profit of the average cow; and the great majority of our cows are average, or less. The secret of success lies first in the man and secondly in the cow. Without skilled management, good cows rapidly deteriorate; without good cows, good management is worse than wasted. F. J. S.
Middlesex Co., Ont.

How to Improve the Keeping Quality of Butter.

BY C. MARKER, DAIRY SUPT., CALGARY, ALTA.

The keeping quality of butter is a relative term. No butter, however well made and cared for, will keep for an indefinite period. There is a gradual deterioration of quality going on in proportion as the conditions under which it is kept be favorable or otherwise.

In ordinary creamery practice, the conditions chiefly affecting the keeping-quality of butter are: *Firstly*, its quality as to flavor, texture, and composition. The ideal type of a good keeping quality of butter should have a pure, clean flavor, a clear, transparent texture, a uniform color, containing about 13 or 14 per cent. of moisture. *Secondly*, the keeping quality of butter will depend on the temperature and condition of the storage room in which it is to be held until shipped to the consumer. The temperature should be low, as near freezing point as possible, and the atmosphere should be dry and pure.

Taking for granted, then, that the quality of the butter is the first and most important consideration, it will be clear to all that the buttermaker should be a judge of the butter, cream or milk which he has to handle in his daily work; in fact, I shall go a step further and say that the buttermaker who does not examine carefully the material which he is expected to manufacture into a first-class quality of butter does not know what he is doing. He does not know how his butter will turn out of cold storage at the end of a month, two months or more, as the case may be, no matter how good the cold-storage facilities be. A buttermaker's work should be, to him, a daily series of observations of the various conditions and their effects on his work; in short, observations of cause and effect. In that way only can he become a scientific worker. We should study not only our own work, but also that of others, through the medium of the agricultural press and publications, which are within easy reach of all students.

Our field of observation should extend beyond our own limited district or prejudice, when we can have the benefit of the experience of scientific workers in all lands, if we desire, through the medium which I have already mentioned.

Yes, the buttermaker should be a student, in the widest sense of the word; all the successful ones are. He has problems to deal with almost every day which can be solved only in the light of experience and research, armed with a full knowledge of his work, obtained by daily observations during the creamery season, and by attending a good dairy school. Here information of the most practical and direct nature can be had from the superintendent in charge and his staff of instructors. Augmenting these with the study of dairy literature, the buttermaker should, with the confidence and co-operation of his patrons, be able to overcome most difficulties and produce a quality of butter which will command a ready sale, at a good price, whether it be sold immediately or held in a good storage for some little time. I shall now endeavor to point out some of the characteristics peculiar to butter of an inferior keeping quality, as compared with those of a good keeper:

If we go into a warehouse and examine a number of packages of butter which have been stored there for some time, we shall find some packages which have kept well, and others which have not. The butter in the former, we find, perhaps, has a slightly "stored" flavor, yet it is sweet and pleasant to the palate. The texture is clear and firm, and we find on the back of the butter trier a few small drops of clear moisture, or brine. Bearing this in mind, examine the butter which has not kept well, though it may not be older than the first lot examined, and, in fact, it may have been made in the same creamery. On close examination of this, we find the flavor quite "off," perhaps strong and cheesy, and possibly the worst defect of all—BITTER and OILY. The texture is coarse; color "dull" and "thick," and the moisture as a rule "milky."

In a comparison such as this, the cold-storage facilities could not be the cause of this difference in the keeping quality of the two packages, so, in pursuing our investigation, we must trace it back to the creamery where the butter was made. The maker would be of the opinion that all his butter was made exactly alike, so far as such a thing be possible in a creamery, where there are so many varying conditions to deal with, and might not be able to account for such a vast difference in the character of the two lots.

In this connection, I might mention that some time ago I had occasion to examine a large lot of butter which had been held in an ordinary warehouse, not a cold storage in any sense of the word, during a whole summer and the greater part of the following winter. I was asked to examine the lot and advise as to what could be done with it. A number of packages were picked out as being usable for cooking purposes, but some 75% of the whole lot was absolutely unfit for food. The two different lots of butter showed the character-

istics already referred to. That portion which was declared useless was absolutely "dead." I find on my memorandum the following remarks on the butter which could be used for cooking purposes: Flavor "off," but not disagreeable. Butter must have been well made. Texture: solid, fine, clear grain and moisture, good workmanship. Color: clear, and to some extent transparent or sparkling. As to the "dead" portion, it had lost all the characteristics of butter as to flavor and texture. The color was dull and white.

In summarizing my remarks on the characteristics influencing the keeping qualities of butter, I would make the broad statement that BUTTER WHICH IS DULL OR OPAQUE IN COLOR, OF A SLIGHTLY BITTER FLAVOR AND COARSE TEXTURE, WILL NOT "KEEP," no matter how favorable the storage facilities may be, and on the other hand, that IN ORDER TO KEEP, BUTTER MUST BE PURE IN FLAVOR, OF A CLEAR, UNIFORM COLOR AND TEXTURE AND CLEAR MOISTURE.

We have found that there is a distinct difference in the keeping quality of butter, even though the conditions as to time and temperature of storage be identical in both cases. We have also failed to get any explanation from the buttermaker as to the source of the trouble, all the butter being made on the same principles and after the same method in the creamery; but we have noticed certain characteristics peculiar to the butter which was of an inferior quality, whatever others it may have as well, and may safely assume that if these characteristics are not wholly responsible for the trouble, they have at least a great deal to do with it.

The question of the keeping quality of butter has been discussed by buttermakers for years, but, so far as I know, no information of a scientific nature bearing directly on the point has been offered towards solving the problem until the celebrated scientist, Professor V. Storch, of Copenhagen, published the results of his investigations in connection with the "Continuous Butter Exhibitions" held in Copenhagen, under the auspices of the Danish Government. This is a work which has been carried on since 1889, and has done a great deal towards obtaining for Danish butter the position which it now holds on the British market, and is of a distinctly national character. From this work, extending over a number of years, a great mass of chemical, microscopical and bacteriological data have been accumulated as to the composition, physical properties and structure of various qualities of butter. Prof. Storch found in the course of his investigations that, while the chemical composition of "clear" and "thick" butters might be almost identical, there is a great difference in their structure when seen under a microscope. The thick or opaque appearance of butter is due to its serum, a very great number of minute drops of moisture, which is composed of water, albuminous matter, mill sugar, and ash. Samples taken of the best quality, or "clear," butter received at the Exhibition from time to time contained on the average about three and three-quarter millions of serum drops per cubic millimeter. A cubic millimeter is about the same size as the head of an ordinary small paper pin. The poorest samples, or "thick" butter, contained upwards of thirteen millions of drops in each cubic millimeter, or more than three times as many as the "clear" sample.

Bacteriological examinations, carried on at the same time, revealed the fact that this phenomena was associated with a large number of bacteria forms, which had developed bitter flavors in nearly every sample of "thick" butter examined.

Some of the conclusions which we can draw from the very extensive investigations reported upon by Prof. Storch are that the inferior keeping qualities of some butter may be attributed to certain forms of BITTER FERMENTATIONS IN THE CREAM. This is an abnormal condition of some milk or its products, and is due to several causes. The most important for our consideration are:

1st. Improper feeding of the milk cows. It is a well-known fact that excessive feeding of turnips, turnip leaves, and other strongly-flavored foods, will impart to the milk a bitter taste, which clings tenaciously to the cream and butter made from it.

2nd. The period of lactation has a marked effect on the quality and flavor of milk. When the cows have been milking upwards of nine or twelve months, a bitter taste can generally be observed in the milk and its products.

3rd. The trouble may also be of bacterial origin, and becomes more prominent as the age of the milk increases. Under this head we may include lack of cleanliness as one of the causes.

Now then, considering the causes which I have mentioned in the light of our knowledge of conditions existing in Manitoba or the Northwest Territories, I do not think excessive feeding of turnips, or even an advanced period of lactation, can in any way be blamed for causing bitter fermentation of our milk or cream and an inferior quality of butter. Turnips are not grown to any great extent as yet, nor can it be said that the average milking period of our cows is very long; I doubt very much if it be more than six or seven months each year. We shall then have to draw the inference that the bitter fermentation is due almost entirely to the handling, or the "mis"-handling, of the milk and cream from the time the milk is drawn until the butter is manufactured. We know for a fact the lack of cleanliness is to a great extent responsible for bitter flavors. A bitter flavor may also develop in cream which has been allowed to become too

sour or, in other words, overripe, either before or after its arrival at the creamery.

The patrons furnishing milk or cream to the creamery are, or should be, as much concerned in effecting improvements in the average quality of our creamery butter as the buttermaker himself. This should be a work of co-operation. If they send their cream to the creamery in the right condition, the buttermaker should be able to manufacture from it a choice quality of butter, with the knowledge which he has of the various processes effecting his work, and in a properly constructed and equipped creamery.

It is not sufficient for them to know that he has these essential qualifications and facilities; their responsibilities do not end there. The success of our dairying industry depends largely upon the appreciation of individual responsibility and co-operation of all concerned. With it, the industry will stand; without it, failure is inevitable sooner or later.

I imagine I hear someone say: "We patrons went to considerable trouble and expense in building and equipping our creamery. We engaged a buttermaker with years of experience, who has attended a dairy school. We pay him a good salary for making our cream into butter. Besides, we have a board of directors, appointed to look after the business part of the work. What more could you ask us to do? Of course, if the buttermaker does not succeed in making a first-class quality of butter, which will bring the highest market price, we shall have to look elsewhere for one who can." I claim that the patrons' responsibility does not cease as long as the creamery runs. The principal duties of the buttermaker are perfectly clear to every one of his patrons, and their own duties should, in turn, be equally clear to them. It is their privilege to contribute towards the general good results of the common work by supplying their cream in good condition to the creamery, and by taking the buttermaker's advice in the matter of handling it, for he has made a special study of this subject. Their moral support is also highly appreciated by the maker when compelled to reject any cream which may not be suitable for making fine butter. This, I know, is a sore spot; but I think the maker should certainly have the support of the directors or those in authority. His responsibility should carry with it a certain amount of authority and right to discriminate. Thus backed up, he can do a great deal of wholesome educational work among the creamery patrons, to their mutual advantage.

To the buttermakers I would say: Endeavor to secure the confidence of your patrons by showing them that you are interested in your work and the success of their business. Show them your willingness to give them all the advice and assistance in your power, to that end. Let your watchword be, QUALITY, CO-OPERATION, and an INDIVIDUAL SENSE OF RESPONSIBILITY for the results of the work.

As to the work in the creamery, be on your guard against bad flavors, especially the "BITTER" fermentation, which is the cause of so much inferior butter and correspondingly inferior prices.

Mold in Butter.

Prof. G. L. McKay, of the Iowa Dairy School, who judged the dairy products at the Winnipeg Industrial last July, in a recent interview regarding mold in butter, said: "In the first place, we do not know what moldy butter is at the College creamery. We have never had any of it here. Our butter has gone to several of the large markets in this country, and across the water, and there has never been a complaint of mold. I attribute a good deal of the trouble to parchment paper. This is because it is improperly cared for. Many creameries keep the paper in a damp place and the germ that produces mold is started there; then when it comes in contact with the moist butter it grows rapidly. If the paper was taken out only as wanted, and the balance kept in a clean, dry place, there would probably be less trouble with mold."

Condition in Testing Cows.

To the Editor FARMER'S ADVOCATE:

SIR,—I have read with interest your report, in Nov. 15th issue, of the milking trials of two great dairy cows in England, when the cow, Cherry, gave at first trial over 4 lbs. of butter in the day, and at the 2nd trial, 104 days after calving, although giving nearly the same amount of milk, she only made about half the amount of butter. You ask, how is this difference accounted for? The writer is of the opinion that during the first trial the cow was in good flesh and used that surplus fat in filling the pail with good rich milk, and at the second trial, 104 days after calving, she had long since reached her normal weight and had no surplus fat stored up in her body to draw from. Now, everyone who has had much experience testing cows for large milk and butter production has soon learned that one of the secrets of success is to have the cow in good condition, or, if you please, fat, at the time of test; very soon after calving is the proper time. If she is the right kind of a dairy cow she will, in some way we do not pretend to understand, use that extra flesh in putting fat into the milk; she will gradually reduce herself in weight, no matter how generous the feed, until she reaches her normal

condition. Before she loses her surplus fat is the time for best results with test. The dairy cow is certainly a very mysterious creature. It is difficult to know why she will persist in varying the fat-content of her milk without any apparent cause whatever. The writer has in mind two heifers he was having officially tested for butter production for seven days. They were milked three times a day, same hour each day. Yet both of them gave, the entire week, about 2% less fat in the morning's milk than at noon or night. One would naturally expect them to give the richest milk in the morning, after a night of rest and quiet.

Southern Minnesota. W. J. YOUNG.

POULTRY.

On Hens Eating Their Eggs.

I frequently notice among the poultry articles in the ADVOCATE inquiries for "patent nests" to stop the hens eating their eggs. Many years ago I made the same inquiry, but I think I solved the problem when I began to save every eggshell I could from the time the spring sets in, and I allow my hens their liberty until frost comes, and they are confined again. By this time I have two or three boxes of nicely-dried and broken-up shells, which I begin to feed to them then, two or three handfuls a day scattered well among their straw. It is the rarest thing to find one of the hens touch an egg unless I accidentally break one in the house.

TRIX.

Ontario Poultry Show.

It was generally agreed by the exhibitors of poultry at the show just held in the new Winter Fair building at Guelph that it was the most successful in the history of the Association. The quarters were good, the exhibits were numerous and high-class throughout, and the local Association did all in their power to help the affair along. There was some dissatisfaction on some points, but the matters complained of will be attended to before another show. For instance, it has occurred again and again that game birds cooped together at shows get badly used up by fighting. This year a number of fine fowls of this sort were painfully disfigured. It is hoped that single coops will be provided before another annual show. Another complaint made was regarding unjust decisions in judging. Perhaps the time will never come when all are satisfied, but the complaint this year was much more general than usual, chiefly on account of judges rushing through their work in too great haste, and in some cases leaving unfinished classes for exhibitors to conclude. It would seem a wise plan for the poultrymen to adopt the system employed by the Fat Stock Show, of having the judges remain through the entire show and publicly telling why certain birds defeated others. Much useful educational work would be accomplished in this way, judges would be more cautious, and much less complaining would be indulged in. The show, however, was a truly representative one, and the worthy breeds of poultry and pet stock being well represented by a very large number of expert breeders.

Geese on the German Market.

The domestic goose holds about the same honored place in the nutritive economy of Germany that the more delicately flavored and patrician turkey does in that of the United States, according to Consul-General Frank Mason, at Berlin, in a recent communication to the Department of State. It is the standard luxury of the German people, he says, and during nine months of the year forms the principal feature of the table at festive as well as everyday entertainments. Notwithstanding the fact that great numbers of the birds are bred and fattened on German farms, and that every German village has its flock of geese, the home-grown supply falls far short of the constant demand, and leaves a large deficit to be filled by importations, mainly from Russia. The season for that traffic is now at its height, and a special goose train of from fifteen to forty cars brings an average of 15,000 birds from the Russian frontier each day and drops them at Rummelsburg station, Berlin. Immediately after their arrival, the whole trainload undergoes an exceedingly rigid inspection. If a single goose has died en route, or is found with a contagious ailment, the whole carload is placed under quarantine for eight days. Another death or discovery of disease during that period means eight days more of detention, at a cost of about \$476. The obvious object and effect of this system is to render the introduction of diseased birds such a costly venture as to make it absolutely ruinous to the perpetrators. The aggregate wholesale traffic in geese at Berlin is placed at \$2,000,000 annually.

"To the ordinary observer," says Consul-General Mason, "all geese are very much alike, but the expert dealers here divide the Russian birds, which now command the Berlin market, into twenty-one different breeds and categories, according to species, age, size and condition, wholesale prices varying from forty-three to sixty cents each, though these prices advance with those of other poultry as the season lengthens from autumn into winter, the grand climax of the trade being just before and during the Christmas holidays, when geese in every form, from plain 'gansbraten' of the laboring classes to the pate de foie gras of the epicure, dominates the tables of the festive season."—Washington Star.

Expressions of Appreciation for the "Farmer's Advocate."

IMPROVING CONTINUOUSLY.

J. WILLIAMS, Bloomington, Ont.:—We like your paper; it gets better with each issue. We have taken it for over 20 years, and have almost every paper yet, and prize them very highly.

MOST INSTRUCTIVE PAPER PUBLISHED.

GEO. S. SHAW, Sand Point, Ont.:—Please find enclosed two dollars for the FARMER'S ADVOCATE for two years. I cannot do without it, as there is not such another instructive paper published in America.

LIKENED UNTO GOOD CHEESE.

T. B. MILLAR, cheese exporter, London, Ont.:—Your Christmas number to hand. It is a beauty; I am delighted with it. Your paper is like good cheese, it improves with age. Wishing you a Merry Christmas and Happy New Year.

FAMILY NEEDS IT.

W. W. RYAN, Ayton, Ont.:—I send \$1 renewal subscription to the FARMER'S ADVOCATE for 1901. I quit farming six years since, but my family do not wish me to quit taking the ADVOCATE, as it contains so much good, nice and instructive reading.

GOOD FARM PAPER.

R. H. SMITHRIM, Cairngorm:—We received the Christmas number to-day. There are some very fine cuts and instructive reading in it. The ADVOCATE is a good farm paper; I am well pleased with it. Kind wishes and compliments of the season.

THE BEST FARMER'S PERIODICAL.

JOS. BENHAM, Everton, Ont.:—The Xmas number to hand, and am much pleased with it. I have been a reader of the ADVOCATE ever since I could read. No farmer can afford to be without it—the best farmer's periodical I know of. I got two new subscribers in five minutes.

MAGNIFICENT SPECIMEN OF JOURNALISM.

JOHN Y. ORMSBY, Woodstock, Ont.:—Your Christmas number came to hand all right. I cannot congratulate you too much upon it. It is a magnificent specimen of agricultural journalism. Will you please send me two extra copies, and I will settle up whatever the charges are when settling for my ad.

QUOTED AS AN AUTHORITY.

J. G. GOBLE, Woodstock:—Looking around among farmers in this section of the country, I am surprised, and pleased as well, to find so many taking your excellent paper. I believe it is read with interest, as I hear it so often quoted as authority. The FARMER'S ADVOCATE is doing much to elevate the standard of agriculture and refine the home tastes.

A PRACTICAL HELP.

CHAS. PALMER, Charlottetown, P. E. I.:—I think very highly of your valuable paper; so does my head farmer, for whose use I take it. The plain way you put matters makes it intelligible to all who read it, although they do not understand scientific farming. It is worth much to any practical, intelligent man. It ought to have a larger circulation on this Island. Enclosed is my subscription.

ANY TWO ISSUES WORTH ONE DOLLAR.

NEIL PHODEN, Sunderland, Ont.:—I take the FARMER'S ADVOCATE, and am well satisfied with it. I have no hesitation in saying that every up-to-date farmer should be a subscriber. Any two issues of the FARMER'S ADVOCATE properly read and well considered are worth the full subscription for one year. I do not know whether I can send you enough subscribers to get a collie pup or not, but I will do my best. In any case, every farmer I can get to take the ADVOCATE I will be doing him a good turn.

SUPERIOR TO ALL PREVIOUS ISSUES.

W. D. FLATT, Hamilton, Ont.:—I consider your 1900 Xmas number superior to all previous issues. It is in keeping with the advance of our great agricultural country. We must all be on the alert as true British subjects. Let us bear, each and every one of us, the responsibility, and not forget that our greatness as a nation depends upon agriculture. The FARMER'S ADVOCATE should be in every home. We must keep posted if we are to compete successfully with other countries in the markets of the world.

Wishing you and your valuable assistants a Merry Christmas and a very Happy and Prosperous New Year.

A TREASURE IN EVERY HOUSEHOLD.

WALTER HAY, Delaware:—It gives me great pleasure to acknowledge the fine Christmas present—the Christmas number of the FARMER'S ADVOCATE AND HOME MAGAZINE. Your editorial and business staff deserves great credit for the able and efficient manner in which the Christmas number is executed. I can assure you it is a treasure in every household it enters. The ADVOCATE is the best agricultural paper I ever had, and I would not be without it for twice the price. You are breaking the sod of the 20th century: may you reap a good harvest in return. Wishing you all the compliments of the season, I remain, sirs, your obedient servant.

THE CHRISTMAS FARMER'S ADVOCATE.

THE GLOBE, Toronto, December 28th:—A colored picture, showing a sturdy Canadian farmer driving a fine pair of Canadian horses attached to a plow, "Breaking the 20th Century Sod," is the striking, effective and appropriate title cover of the Christmas number of the FARMER'S ADVOCATE, of London, Ont. Inside, on the first page, is an original poem, entitled "Turn the Furrow True," written by Robert Elliott, to accompany the picture. This end-of-the-century issue of the ADVOCATE contains a number of very valuable articles, written by prominent agriculturists, reviewing the progress of the several branches of agriculture during the nineteenth century, while others deal with the prospect and possibilities of the twentieth century. All show that the farmers of Canada have every reason to be proud of the grand achievements of the early pioneers, and of the no less notable triumphs of their equally energetic, enterprising and more scientific successors. Mr. J. W. Bengough, in an illustrated poem, turns the double X-rays of his humor upon the twentieth century farmer, and the work of the camera and pencil embellishes every page of this number of the FARMER'S ADVOCATE, which is Canadian throughout, and an artistic triumph.

VETERINARY.

The Anti-Tuberculin Test Meeting.

The most sensational event of the Provincial Winter Show week at Guelph, Ont., was the large and representative special meeting of the Dominion Cattle Breeders' Association, with Mr. Richard Gibson, president, in the chair. During its progress a resolution was unanimously adopted asking for a discontinuance of the tuberculin test in case of imported cattle. Dr. McEachran, the Dominion Live Stock Inspector, received a severe dressing down, and the Ontario Minister of Agriculture, Hon. John Dryden, and the Dominion Minister of Agriculture, Hon. Sydney Fisher, locked horns over the test, the former championing the cause of the breeders. Attention was called to the fact that progressive and intelligent breeders go to the Old Country and at large expense make purchases of the best breeding animals to be found. Though to all appearances in the pink of health and condition, they are subjected to an injection of tuberculin before leaving Britain and then get another dose at the Canadian quarantine station if they do not look right or the British test chart is not satisfactory to the veterinary official. If the animal shows a rise in temperature—which is not to be wondered at—it is condemned, while at the same time a breeding or a dairy animal on a Canadian farm may react under the test, but yet the law does not require its slaughter; nor is it considered necessary to put any restraint upon the trade in breeding cattle within the country. Men naturally ask, why this exasperating anomaly? Then, when cattle are sold to go to the U.S. they get another dose. The chairman called attention to the fact that the leading live-stock associations of the States had passed resolutions at Chicago asking the government there to abolish the test, as reported in the last issue of the FARMER'S ADVOCATE.

Mr. Arthur Johnston, of Greenwood, Ont., then moved, seconded by Mr. Alex. Smith, of Maple Lodge:

"That, in the opinion of the cattle breeders of Canada here assembled, the present regulations relating to the importation of pure-bred animals, which require the injection of tuberculin as a sure indication of the presence of tuberculosis, are unsatisfactory and likely to bring serious injury to the cattle-breeding industry of Canada.

"That, while the test may be used as an aid in the detection of the disease, it is not sufficiently exact to be relied upon.

"That the disease may exist in such parts of the animals which makes it impossible to be transmitted by contagion or otherwise, and that no real service to the country is being rendered by its use in that connection.

"Therefore, we earnestly request the Honorable the Minister of Agriculture to take such steps as may seem desirable in order to discontinue its use in that connection."

Mr. Robt. Miller, of Stouffville, Ont., a heavy sufferer by reason of the test, charged Dr. McEachran, the Chief Live Stock Inspector, with incompetence and vindictive treatment towards himself, and with being a foe of the breeding interests. He appealed to the Dominion Minister of Agriculture for a searching enquiry, and charged one Moore, Dr. McEachran's assistant, with injecting double doses of tuberculin into some of his cattle.

Mr. Arthur Johnston, though not a coward, confessed himself in absolute terror of Dr. McEachran and his assistants, and said in a few years breeders would look back amazed that they had so long patiently endured the treatment to which these officials had subjected them. He had had cattle tested by official experts in Scotland and declared free from disease, but in the Canadian quarantine they were pronounced tubercular!

Hon. John Dryden declared indignantly that the breeders were the victims of a fraud and a humbug, and they had reached a pass where the present tuberculin test regulation must be changed or they would have to quit the business of live-stock improvement. For one, he declined to have his business run by a veterinary with a few hundred

dollars' worth of drugs and a squirt gun, destroying more in a few months than all the breeders of the country could build up in ten years. An animal in an advanced stage of the disease would not react, while another containing a germ where it would not be dangerous would. He had known an animal react up to 5 or 6 degrees, but when killed absolutely no trace of the disease could be found by an ordinary microscope. The test as now used should be abolished, and a policy of education in dealing with the disease inaugurated.

Mr. Wilson, of Glengarry (dairyman), reported that a Montreal veterinary had ordered six of his herd killed, but would not let them be buried, so they were left bleaching in the bush.

A voice—"That's not the law; the man must have been a fool."

Mr. Wilson—"There are a good many fools like him and they should be fired. A neighbor had a heifer pronounced sound, but when butchered, three months after, was found full of the disease."

Mr. W. E. H. Massey reported a similar case, and quoted a Boston expert physician, who told him that "it had yet to be proved where one case of human tuberculosis had arisen from bovine tuberculosis." The test system was not the proper one to stamp out the disease in cattle.

Prof. Harrison described the system in vogue in Denmark of dealing with tuberculous animals.

Hon. Thos. Greenway, of Manitoba, said his experience was that the test was not reliable, and he favored a campaign of education. The late appointment of one officer at Buffalo to test all breeding cattle going out of Canada would simply kill the Northwest business.

Hon. Sydney Fisher said the only compulsory testing was in case of imported cattle. All other testing was done at the written request of owners of herds, and there was no law requiring slaughter in such cases. He denied that his officers had issued such orders. The test for imported cattle was in accordance with the advantageous arrangement entered into with the United States Government for the abolition of the old 90-day quarantine, and the new U. S. order was a direct contravention of that agreement. He argued that public and municipal opinion, demanding protection from diseased meat and milk, was the groundwork on which the imposition of the test rested. He desired to consider the interests both of the public and the breeders. The public would not sustain a government admitting diseased cattle. The results of experiments at Ottawa with calves and guinea pigs, in regard to the possibility of contagion, were thus far so complicated that no definite conclusions could be drawn.

Hon. Mr. Dryden took up the gauntlet, regretting the intimation that the law was there and could not be changed. He said it must be altered if it had to resolve itself into a fight. Breeders were being tyrannized over, and disease could never be corrected by an inaccurate test.

The resolution was then carried, without a dissenting voice, as was also another one by Mr. D. McCrae, seconded by Mr. Tolton, that the Association appoint a delegation to ask the Government to take steps to secure the free entry of Canadian cattle into England, just as Irish cattle are admitted.

Ontario Veterinary Association.

The annual meeting of the Ontario Veterinary Association was held in Toronto on Dec. 21st, 1900. It was opened by Mr. W. J. Wilson, V. S., the President, who gave a short address, the substance of which was as follows:

"The assembling of our members to-day in annual convention is an occasion worthy of more than a passing notice. It marks the closing of the 19th century, which has been one of wonderful advancement in veterinary science. At the beginning of the century, veterinary surgeons were almost unheard of, and our literature was very limited, whereas to-day we hold an honorable position among the professions of the world, and our literature is almost unlimited. This Association was organized in the year 1874. It has continued to meet periodically ever since its organization, and its original objects have been constantly kept in view, namely, the mutual improvement of its members in those branches of knowledge specially pertaining to their profession, and the advancement of the position and interests of the veterinary profession in the Province of Ontario."

The usual routine of business was then called for. Some new members were elected. The failure to secure better legislative measures for the protection of the profession was reported. An animated discussion took place on some alleged violations of professional ethics, in which many members participated, and the Committee on Revision of the By-laws presented the following report, which was adopted: "That our present By-laws be amended by inserting a clause to prevent members of this Association engaging in the preparation of any proprietary medicines and placing the same upon the market, and also that any member engaged in preparing secret formulae, and selling, handling and disposing of the same, shall, by the provisions of this By-law, be disqualified from holding any office in the gifts of this Association."

Cases of marked interest were described and discussed, also the pathology and therapeutics of some well-known diseases on which different views may be held.

The sum of \$25 was appropriated for a medal to be competed for by the graduating class of the Ontario Veterinary College at the coming spring examinations.

The following is the list of officers for the ensuing year:

President, H. S. Wende; 1st Vice-President, J. H. Tennent; 2nd Vice-President, W. Steele; Secretary-Treasurer, C. H. Sweetapple.

Directors—F. G. Hutton, J. H. George, J. Wagner, W. Shillinglaw, F. G. Gallanough, W. Lawson, D. McMurtry and S. E. Boulton.

Auditors—C. Elliott and J. H. Reed.

APIARY.

Do Bees and Fruit Go Well Together.

This is a question that has often been debated, and sometimes answered in the negative. We do not claim that fruit could not be raised at all without the aid of insects to carry the pollen, but do claim that bees especially are a great help and often prevent a complete failure. On account of their wintering in colonies, they are so much more numerous than are other kinds of insects during fruit bloom. We well remember an instance some years ago. During the time when pears were in bloom it was rainy and cold, but one day the sun came out for an hour or so. We had a young pear tree in bloom that stood near our house and was somewhat protected from the wind blowing at the time. We noticed the bees at work on the blooms of this tree, and this tree was the only one we know of or heard of that had any pears on in our whole neighborhood that season.

It has been demonstrated in many cases of the great importance of bees in growing fruit. Messrs. W. W. Ralston & Bros., of Boston, Mass., who grow cucumbers in the winter months under glass, keep bees for no other purpose than to fertilize the bloom. Mr. Henderson, the great gardener, now dead, in his book, "Gardening for Profit," acknowledges the great help of bees in that business. This should suffice as proof of the value of bees in growing fruit.

Ontario Beekeepers' Association Annual Meeting.

The Ontario Beekeepers' Association met in twenty-first annual convention in the Town Hall, Niagara Falls, Ont., December 4th, 5th and 6th. President C. W. Post occupied the chair. In his address, the President referred to the partial failure of the honey harvest in 1900, and mentioned the successful exhibit of Ontario honey at the Paris Exposition; also raising the question of exhibiting at the Pan-American Exposition. He recommended that the Association discuss a form of beekeepers' union.

Mr. R. H. Smith, St. Thomas, read a paper on "Moving Bees to Fall Pasture." With him there is very little honey flow after August 1st, breeding stops, and by winter the hives have only old bees and no stores. To avoid this, he moves bees to a section where buckwheat is grown. The whole top and the entrance of each hive are left open and covered with wire screens. Every precaution is taken to prevent the escape of a single bee. The wagon has springs, and a platform holding about 30 hives, placed with frames crosswise of the load.

Mr. Dickson, Lancaster, in a paper on the production of extracted honey, recommended tiering up supers on the hive as one would comb honey, and using bee-escapes to take it off. His honey room is kept at a very high temperature, and the honey is exposed in shallow vats to ripen it still further. Mr. Newton said that with escapes the honey gets too cold before being extracted. Mr. Hall would not expose honey in vats, but would can it up at once to preserve the aroma. He also mentioned the S. T. Pettit system of removing honey from the extracting supers as being far ahead of any other system he had tried.

"Wintering Bees in and Out," by Mr. H. G. Sibbald, Cookville, introduced a lively discussion on outdoor packing. While many other non-conductors are good, forest leaves are given a slight preference. Bees packed in long clamps sometimes drift from one hive to the other in spring, weakening some and making others inordinately strong, says Mr. J. D. Evans. Mr. Sibbald's cellar arrangement is similar to the Pettit system, which has been fully described in these pages.

Mr. W. J. Craig, editor of *Canadian Bee Journal*, on "Uses and Abuses of Bee Literature," mentioned the importance of literature on any subject, and raised the question, "Should the editor edit?" Every new idea should be carefully considered before being published. Crop and market reports should be edited so that exceptional yields might not give a misleading impression of the general outlook. Standard and current bee literature should be more generally read. Hobbies should not be ridden through the editor's sanctum.

Mr. M. B. Holmes, Athens, read a paper on "Queens," showing that beekeepers, like stockmen, should select always from their best stock. This point can scarcely be too much emphasized.

In the absence of Mr. E. A. Converse, Mr. Hershiser, of the Pan-American Exposition Board, informed the convention that the erection of a separate apiarian building is contemplated, and

desired to know what arrangements the Ontario exhibitors wish. The matter was left in the hands of the Executive Committee of the Association.

Prof. Harrison, of the Ontario Agricultural College, gave an address on the subject of "Foul Brood Germs." Briefly, the symptoms of this dread disease are: Larvæ in unnatural position in the cells; bees inactive; larvæ become flabby and die, then turn brown and "ropy." Dead larva dries down in the cell, leaving a brown scale. Bad smell is noticed in the hive, and bees are seen fanning at the entrance. If the brood has been capped, the cappings turn darker, and a pinhole appears in each. Even the ovaries of the queen are affected. Operators may carry the disease from one hive to another.

Mr. W. Z. Hutchinson, Flint, Mich., editor *Beekeepers' Review*, read a valuable paper on "How Little Neglects Affect the Profit of the Apiary." Ours is a business of details. We must understand our location, know when to expect the harvest, and be ready. Bees need attention winter and summer. Don't neglect anything. Have a place for everything, and everything in its place. Don't waste. Don't have more business on hand than you can attend to. Indolence and procrastination are the root of much evil.

One of the most interesting features of the convention was an address, with stereopticon views, by Mr. E. R. Root, Medina, O., editor of *Gleanings in Bee Culture*, on "Beekeepers I Have Met, and Apiaries I Have Visited."

Mr. John Fixter, of the Experimental Farm, Ottawa, described a series of experiments on wintering bees in different repositories.

Prof. Fletcher, Entomologist and Botanist at the Central Experimental Farm, Ottawa, gave a very able and scholarly address on "The Value of Bees in Orchards," even a brief outline of which could not be given in the space allotted to this report.

QUESTION DRAWER.

Q. What is the best race of bees?
A. A cross between Italians and common blacks. Some prefer Carniolans.

Q. What is the best sized hive?
A. Various opinions: from 8-frame to 10-frame Langstroth or its equivalent.

Q. Which is preferable to cover frames, a quilt or honeyboard?
A. Many leading men favored a honeyboard, but the majority voted for the quilt.

Q. Give hints on marketing honey.
A. Put it up in clean, attractive form: comb honey in glass-faced, no-drip crates, with glass exposed so trainmen can see it is fragile; extracted in 60-lb. tins, crated. Do not make unnecessary distinctions between various kinds of No. 1 white honey. That has already been overdone.

Officers for 1901.—President, John Newton, Thamesford; 1st Vice-President, J. D. Evans, Islington; 2nd Vice-President, Jas. Armstrong, Cheapside; Secretary, Wm. Couse, Streetsville; Treasurer, Martin Emigh, Holbrook; Foul-brood Inspector, Wm. McEvoy, Woodburn; Assistant Inspector, F. A. Gemmill, Stratford.

The next place of meeting will be Woodstock.

GARDEN AND ORCHARD.

Celery Culture in Red River Valley Soil.

T. A. Hoverstad, superintendent of the Crookston Experiment Farm, has the following to say in the *Farm Student's Review* on the cultivation of celery in the heavy clay soil of the Crookston station: During the past several years celery has been grown on the trial grounds of the Experiment Farm at Crookston. The success each year has given evidence that the Red River Valley is peculiarly adapted to the best development of this most desirable garden vegetable. Comparing the quality of the home-grown product with that imported from the neighboring and more distant States, we find cause for great encouragement. The celery was free from rust. The clay soil peculiar to this region seems well adapted for its growth. The two conditions, abundance of moisture and cool weather, which are so favorable for the highest development of celery, are to be found here.

Only the old, well-known ways have been practiced in its care and management. The grounds have been manured in the fall with well-rotted manure, which has been plowed down deeply. The plants are started in hot-beds and transplanted into the garden by the 1st of June or later. The best success has been attained by banking it up with dirt. In the fall straw has been put over the plants to keep them from freezing. With this protection they can be kept in the garden until late in the fall. Later they have been moved into the cellar, their roots being put into moist sand. Our experience this fall shows that celery will do well even in a season of very excessive moisture. Part of the crop was growing in mud and water for several weeks. While this is not the ideal condition, it showed that celery can be produced of good quality even under adverse circumstances.

C. E. SIMPSON, Morpeth, Ont.:—I received the Bible, which I chose as my premium, in good condition, and I am well pleased with it.

All are delighted with the valuable premiums we are offering for procuring us new subscribers.

Annual Meeting of the Fruit Growers' Association.

[Specially reported by FARMER'S ADVOCATE representative.]

The Ontario Fruit Growers' Association annual meeting was held at the City of Brantford, on Dec. 19-21. A meeting of the directors was held the previous evening, at which a large amount of correspondence and the report of the executive was submitted and discussed. On the morning of the 19th, the first business taken up was reports of committees. The committee on codling moth, report by Mr. J. Tweedle.—The committee, he said, had succeeded in getting a statute passed, at the last session of the Legislature, whereby municipal councils might pass a by-law requiring all fruit trees to be bandaged with canvas or burlap, to catch the moth. In the Township of Saltfleet, in Wentworth County, the by-law was passed last spring and put in force with great success. Mr. Tweedle exhibited a bandage taken from one of the trees, which was literally covered with the moths. The bandages are examined several times during the season and the moths destroyed. The moth is much worse in southern Ontario than in the northern districts, and this plan is the most effective yet devised for its destruction.

Prof. Hutt reported on new fruits, mentioning some promising varieties received by the committee during the year. Prof. Macoun, of Ottawa, gave an account of the experiments in fruit-growing at the Experimental Farm, Ottawa. He recommended red clover as the best cover crop for an orchard. It can be turned under the next year, and thus enrich the soil, adding nitrogen and humus? He reported complete success in destroying the oyster-shell bark louse by whitewashing the trees with fresh lime by means of a spray pump. A second application is given as soon as the first is dry, using two pounds lime to eight gallons water. The time for applying is late in November, after the leaves are off. The trees to be sprayed all over, to the ends of the smallest twigs. The effect of the two applications of lime is to loosen the scales, exposing the eggs, which are soon destroyed. The winter and spring rains wash off the lime, and when the lime is off, the bark is clear of the bark louse all over the tree.

Transportation.—The committee on transportation reported that, though there was much to be accomplished yet before rates were arranged on a satisfactory basis, the committee had obtained some concessions, amounting to about 20% of a reduction on fruit in carloads. Some lively discussion followed this report. Mr. Alex. McNeil, of Walkerville, said that, owing to the discrimination by the railways in favor of Americans, the canning factories could buy peaches in Michigan, pay the duty, and have them laid down at the factory as cheap or cheaper than home-grown fruit. Mr. Boulter said it cost four cents more per cwt. to Halifax than to Liverpool. Many other cases were cited, by different speakers, of unfair rates. However, the situation may be sized up in this way: Canadian lines are competing strongly with American lines for American traffic. This they carry at a low rate, and they are making their dividends out of the local traffic. A resolution was passed asking for the appointment of a railway commission with power to regulate rates.

Canadian Fruits at Paris.—Prof. Saunders gave an address on Canadian Fruits at the Paris Exhibition. Canada, he said, had won many prizes and medals for her fruit at Paris, more than any other department, and it was a great advertisement. The fruit carried in splendid condition, notwithstanding the fact that it was five days out of cold storage during transit. The exhibit was an eye-opener to foreigners who saw it. Dr. Saunders told of his travels in France and the British Isles and of the great prospects for a market for our fruit; also in Germany. He said, although we send in some years 500,000 barrels of apples to Britain, yet not one Britisher out of five knows what a Canadian apple tastes like. There is, he said, an abundant market for all our early apples, at a good price, in Britain, as at that time their market is bare of apples. These apples, carried in cold storage, can be delivered in perfect condition.

Cold Storage and Experimental Shipments.—Secretary Woolverton told how the Provincial Department of Agriculture had arranged for trial shipments in cold storage. The Hanrahan system was used both on cars and steamers, the fruit compartments on the ship being fitted under Mr. Hanrahan's supervision. Then the growers around Grimsby agreed to furnish four carloads at each sailing, being the amount necessary to fill the compartment on the steamer, taking their own risk. Red Astrachan and Duchesse apples, peaches and pears, packed in cases, were laid down in Manchester in fine condition, and brought satisfactory and in some cases fancy prices.

Hon. F. R. Latchford gave an address on cold storage, in which he dealt with the subject thoroughly and scientifically. Decay in fruits, he said, came from molds, yeasts, and bacteria. Pasteur had found twelve different molds on one bunch of grapes. Their action was facilitated by dampness and warmth. Therefore, not only a low temperature, but pure, dry air was a necessary condition. Yeasts and molds could not grow in a low temperature, forty degrees or under, and bacteria could not propagate. He explained the system used in the Hanrahan car by means of a model on the table before him. The ice chamber is in the middle of the car, leaving two compartments, one in each

end, for the cargo. The cold air comes out from the bottom of the ice chamber and passes up through the fruit. Slatted racks are placed on the floor of the car to allow for the free passage of the air. As the air gets warmer, it rises, and is drawn through a space in the ceiling back to the ice chamber, passing down through the ice again. Thus the air in both ends of the car is travelling around in a circle like two hoops. No air is admitted from outside, as this would only be a waste of ice. But the air in the car in its passage down through the ice is purified and dried, as the ice absorbs the moisture and gases given off by the fruit and passes them off by the trapped drain pipe. Much interest was manifested in the discussion of the cold-storage question, as it is of vital importance to fruit-growers. And experience so far had proved the Hanrahan system to be the correct one.

Wind-breaks.—A. M. Smith, of St. Catharines, read a paper on Wind-breaks, and in the discussion which followed there seemed quite a difference of opinion as to the utility of a wind-break for an orchard, but a large majority were in favor of it.

Forestry for Farmers and Fruit Growers was ably discussed by Mr. L. B. Rice, a visitor from Port Huron, Michigan, and by Prof. Hutt, of the O. A. C. This is a live question, or should be, in this Province, as the papers and the discussion that followed showed. It was pointed out that the destructive freshets and ever-recurring droughts, the drying up of our streams and wells, the occurrence of cyclones, and many other evils, are directly attributable to the clearing away of our forests. In order to maintain conditions most favorable, 20 or 25 per cent. of the country should be woodland. In Germany 26 per cent. and in Austria 33 per cent. of forest is preserved. In the counties of this Province the proportion runs from 16 per cent. down to 5 per cent. There is much waste land in this Province that should be replanted to forest—sandy and rocky land, hillsides, lake shores, river banks, and swampy land—much of this might be planted with timber that would grow rapidly in value, and many of the nut-bearing trees would give a revenue from the nuts as well as the timber. It was stated that black walnut was growing thriftily in Simcoe County, eighty miles north of Toronto. Mr. Rice told of walnut planting in the States. At Jackson, in Illinois, twenty years ago, a plantation of walnuts was set out, that are worth \$25 per tree to-day, or over \$3,000 per acre.

Co-operation in Shipping Fruit.—Mr. E. Heaton, of the European Exporters' Association, Toronto, gave an address on Co-operation in Shipping Fruit. He recommended the California system to Ontario fruit-growers. There the growers form local associations. The fruit is brought to a central point; is packed by experts, and agents at the principal market centers keep them advised where to ship to catch the best market. The growers receive dividends from time to time through the season, and at the close of the season a final dividend is declared after deducting expenses of packing, selling, and losses. He recommended for Ontario cold-storage depots, large packing warehouses and an evaporating plant in connection. He said we should press for a more forward policy by the Government, and instanced the case of Australia, which has 114 vessels fitted with mechanical refrigeration, while Canada has only 23 such vessels trading from Montreal, and two of the Australian vessels have more cold storage capacity than all the Canadian vessels put together.

Fraudulent Packing.—The liveliest debate of the session was over the Act recommended by the committee appointed last year for the prevention of fraudulent packing of fruit. The bill submitted by the committee last year was introduced in the House of Commons, but was strongly opposed by the shippers, and a lobby was organized against it. The bill never got beyond the committee stage, and it was taken up again this year, at Brantford, and an attempt made to get the shippers to agree to the principle of the bill by adding several of them to the committee. As thus constituted, the committee wrestled with the question for a full half day before presenting their report. The proposal to exclude basket fruit from the operation of the Act brought out strong opposition from the apple shippers, who argued—why confine this Act to apples, why not include all fruit put up in packages of any kind? However, several changes were agreed to, and the bill as amended was agreed to. E. D. Smith, M. P., Winona, and Elmer Lick, of Oshawa, were appointed a committee to look after the interests of the bill at Ottawa. It was made to apply to all fruit instead of only to apples and pears. Instead of providing for three grades of apples and pears, it provided for two, while not prohibiting others. The two provided for were "A No. 1" and "No. 1," and it was provided also that every package of any fruit should bear the name "Canadian" as well as the name of the packer. To be grade "A No. 1" 90 per cent. of the apples or pears in a package had to be free from scabs and worm holes, while "No. 1" grade had to have 80 per cent. free from scabs and worm holes. On each package is to be stamped the minimum size of the fruit contained in it. Fraudulent packing is defined as that which makes more than 15 per cent. of the fruit in a package of worse quality than is indicated by the brand or than is shown in the face when opened. The bill is made to apply only to closed packages, and a closed package is defined as one in which the fruit is concealed and which to

examine causes injury to the fruit. A packer is defined as the person on whose behalf any fruit is packed. Otherwise the bill remains as it was. There was considerable discussion of the report, and a resolution was passed requesting the Government when it appointed inspectors for the enforcing of the act to consult with the Association. Penalties are provided for violation of the Act, and the machinery for the enforcement of the Act is left to the Government, in case the bill becomes law.

San Jose Scale.—Mr. Pettit, Mr. Fisher and Prof. Lochhead reported on the San José scale, and from their report the pest is much more serious than was supposed, and it will require the best efforts and utmost vigilance of the fruit-growers to keep it in check. It is now spread over about twelve square miles in the Niagara district, and is found in a large area along the Lake Erie counties. Mr. Fisher says the most effective remedy is crude petroleum. He recommended fumigation as a practicable and effective method in the case of peach trees. It was strongly urged that the disinfecting of all stock sent out from nurseries be attended to, and the Government should see that it was thoroughly and effectively done.

Standard Apple Barrel.—A resolution was passed asking that the standard apple barrel be made the same size as the American barrel, which is about two inches shorter, and holds about six and a half quarts less than the Canadian barrel.

The Hon. John Dryden addressed the meeting. He spoke principally of cold storage and the San José scale. In the course of his remarks he gave the fruit-growers some excellent advice, pointing out the great possibilities of the fruit industry, and said that he was willing to do all he could to help them.

Miss Hollingworth and Prof. Macoun spoke on the culture of flowers, and Mrs. A. Hoodless made a strong appeal to have the Ontario Agricultural College enlarged, so as to admit of the teaching of domestic science and other useful arts to young ladies.

Mr. J. M. Shuttleworth, of Bow Park, gave a very practical address on the export trade in apples, in which he strongly emphasized the importance of good honest packing.

A Resolution was passed regretting that the Association had not been consulted as to the fruit exhibit at Paris, and asking that it receive recognition in connection with the fruit exhibit at the Pan-American. D. W. Beadle and A. M. Smith, of St. Catharines, were made life members, and J. Clark, a visitor from P. E. Island, was made an honorary member for 1901.

The following delegates were appointed to attend the meeting of the American Pomological Society in 1901: A. M. Smith, W. M. Orr, G. C. Caston, M. Pettit, and L. Woolverton.

The officers were elected as follows: President, W. M. Orr, Fruitland; Vice-President, G. C. Caston, Craighurst; Sec.-Treas., Linus Woolverton, Grimsby, Ont.

Directors—W. A. Whitney, Iroquois; R. B. Whyte, Ottawa; Harold Jones, Maitland; W. Boulter, Picton; Thomas Beall, Lindsay; Elmer Lick, Whitby; A. M. Smith, St. Catharines; J. S. Scarff, Woodstock; J. S. Graham, Vandeleur; T. H. Rice, Mitchell; Alex. McNeill, Walkerville; C. L. Stephens, Orillia.

The next annual meeting will be held at Cobourg, Ont.

Flower Culture.

A lady passed the road by my flowers every week during the summer. One morning she exclaimed: Such lovely flowers! How do you raise them? The work they require must take all the pleasure away for you. Why, I replied, pointing to a row of parsnips on one side and a row of carrots on the other, they take no more work than either of those, except the picking, but that is a pleasure to me. I do not think she could quite believe me, but it was true. I find so many who love flowers, but they think they require so much work they could never grow them. Now, I will give you my experience. I tried first to grow flowers in the yard in front of the house. I made a bed the shape of a five-pointed star, put stones around it, carried rich earth, raised it up a little above the level of the ground, and planted the seed. The grass grew lovely in that rich earth and it all dried out, then I watered it—the water all ran off; the chickens got in and destroyed what was left. I had to give up the struggle. I was a lover of flowers, and it gave me many an anxious thought. Finally, one day, while working in the vegetable garden, the thought came to me, why not grow flowers here? The ground is in a perfect condition. Surely if it will grow such good vegetables, it will grow flowers. It was a little late, but I had a few seeds of phlox and sweet peas, so I planted them. They proved such a wonderful success I would not think of growing them in any other place.

I have grown them this way for a number of years, and for the benefit of farmers' wives and daughters who take the FARMER'S ADVOCATE, I am writing this. This is how I go to work:

After the vegetables are planted, about the middle of May, is the best time for planting flower seed in the open ground. I think they look best in the center of the garden. Take a string the length of the row you wish to plant; have two sticks sharpened at one end; tie the string to both sticks; fasten one securely in the ground; go to the other end, stretch the line tight, and drive the stick into

the ground. Now take a hoe and make a shallow trench along the line. I put the rows a foot apart. I only put four rows, as our garden is fifty feet long. The seed must be first-class. I find it best to order from a good seedsman. Last year I purchased sweet peas, phlox, verbenas, asters, balsams, pansies, alyssum, and portulaca, and nearly every seed grew.

As soon as the plants were up about two inches high, I hoe along each side of the rows the same as I do the vegetables. I then weed out the rows by hand; all the care they need is to keep out the weeds and keep the earth stirred up around them. I set apart an hour twice a week to work at them, until they begin to blossom. That will not be long if they have good rich earth and good care. Now for the part that is so hard to learn. You must pick every flower. If they are not picked while they are fresh, as soon as they fade be sure and pick them. Do not allow seeds to mature, if you wish flowers. You will then have hosts of bright blossoms for the table until frost robs you. My sweet peas were loaded with buds when the frost came and took them. I made more than enough to pay for my seeds and all my trouble, in prizes at the fairs last fall. FARMER'S WIFE.

QUESTIONS AND ANSWERS.

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

Veterinary.

COLT'S FEET IN BAD CONDITION.

S. W. S.:—"Young driving horse, five years old, has been stabled and driven for about a year and a half. When first shod had apparently first-class feet, well shaped and all right up to about three or four months ago, when front feet commenced to break off around where nails were clinched, and at present time I cannot drive him; his feet are so that I cannot put shoes on. He has not been driven for four or five weeks. Feet do not seem to grow. Is lame when shoes are off. What treatment would you advise to make his feet grow?"

[Leave the shoes off; keep the horse in a roomy box stall, and allow the manure to remain, but keep a good supply of straw for bedding. Blister the coronet (just above hoof) with caustic balsam once a week, and apply a mixture daily to entire foot, of neat's-foot oil and oil of tar; in the proportion of ten of the former to one of the latter. When feet are sufficiently grown out, have a blacksmith who understands his business apply properly-fitted bar shoes.]

SKIN DISEASE IN SOW.

G. H. S., Victoria Co., Ont.:—"I have a pure-bred Yorkshire sow about 19 months old that has some kind of a skin disease. It seems like some sort of a scurf, which makes her very itchy, and she rubs and scratches herself so as to make herself bleed, and it seems to prevent her from doing well. She has at present a litter of little pigs three weeks old, and I fear they are getting the same disease, as they seem to have a lot of scratching to do. I feed my sows on pulped turnips and potatoes, raw, before farrowing, and boiled roots thickened with shorts or chop. My pigpen is a frame one, double-boarded on the outside, with tar paper between, and then tar paper inside again, with an air space between, and then boarded on inside again, and a plank floor, with an elevated floor for them to sleep on. I also have a yard outside for them to run in when it is warm enough for them to be out. I noticed her getting very scurfy when she was five or six months old, but thought perhaps it would pass away. Can you tell me what it is, and what I can do for her, and whether it would hurt the pork if I fattened her?"

[Your sow is suffering from a form of eczema, which has become chronic, and I fear will be difficult and tedious to treat. I would advise the application of an ointment composed of one part carbonate of bismuth and six parts vaseline. Rub all affected parts well with this once daily. This treatment will be expensive. A less expensive treatment (but probably not as satisfactory) is to thoroughly wash her body with warm soap suds, removing all the scales that will come off without causing bleeding, and then applying once or twice daily the following liquid: One part creolin to 50 parts water. Besides local treatment, give a dessertspoonful of the following three times daily in her food: Equal parts sulphur, powdered charcoal, and Epsom salts. If her bowels become too loose, discontinue the Epsom salts. If the young pigs are affected, they should have the same local treatment, and after weaning, the same constitutional, of course giving smaller doses. If convenient, make a change of food for a few weeks, dispensing with the shorts. I do not consider that the flesh would be unfit for food. J. H. REED.]

HORSE TROUBLED WITH WORMS.

CRAZY SAM, Compton Co., Que.:—"Horse about eight years old, very thin of flesh, troubled with worms. His eyes seem to be joined somewhere to his jawbone, for every movement of the jaw when eating causes his eye to move in and out about half an inch or so. His eyes are sunken and look dull. Do you believe in giving ashes in feed for worms?"

[If, as you suspect, your horse is troubled with worms, it would account for his being low in flesh.

As to the junction of jawbone and eye, there certainly is no direct union, but a very intimate relation at that part where the lower jaw articulates with the upper. The horse is probably one with naturally deep-set eyes, and the pad of fat upon which the eye rests is probably reduced in bulk by the lean condition of the animal, as all adipose tissue is lessened in such conditions. At the articulation mentioned there is a projection of bone pointing upwards into what is called the frontal fossa, which is connected with the orbital fossa (in which the eye is placed). When eating, each movement of the jaw causes a movement of this projection in the fossa, and it causes more or less movement of the eyeball. I would advise you to have the horse's teeth examined by a veterinarian and, if necessary, dressed. For worms, treat as follows: Give one dram each powdered sulphate of iron, sulphate of copper, tartar emetic and calomel, in damp food, every night and morning for 12 doses. After giving the last dose, allow nothing to eat for 8 to 10 hours, and then give a purgative of say 8 drams Barbadoes aloes, 2 drams ginger, given either shaken with a pint of cold water as a drench or mixed with sufficient treacle or soft soap to make it plastic and form into a ball. Feed nothing but a little bran, and give water in small quantities until the ball commences to act. I do not think a little ashes do horses any harm, probably little good. J. H. REED.]

INDIGESTION IN COW.

G. Q., Huron Co., Ont.:—"Have a cow seven years old, which calved the last day of May, and is due to calve again on April 12th. She milked well all summer, and was always hale and hearty. About three weeks ago she bloated on the left side, frothed at the mouth, and seemed in considerable pain. We gave her a ball of tar about the size of a hen's egg, also some soda and ginger, and then called in the veterinary, but when he arrived the swelling had all gone away. He gave her a physic, but it did not act. She bloated every day about noon for about a week, then we called the veterinary again. He called it chronic indigestion, and gave a stronger physic this time, which acted in due time. She continued to bloat every day until the last few days, when she has been bloated almost continuously, always on the left side. She has a regular passage to her bowels, and manure is quite natural, but her appetite is gone, only eating a very little hay and a small quantity of bran. She continued to chew her cud until about two days ago, and still sweats on the nose, but eyes are very dull and ears hang down. We like your paper very well; it is a welcome guest twice a month."

[The veterinarian who visited your cow no doubt made a correct diagnosis, and followed the correct mode of treatment, as she is certainly suffering from indigestion. The symptoms given indicate that the trouble is caused by some foreign body (possibly a wool or hair ball, or a calculus) in some compartment of the stomach. If this condition exists she will probably die, especially if the obstruction be in the 4th stomach. If in the paunch it could be removed by an operation, but its presence can only be suspected, and it is not well to operate unless there be reasonable certainty of its existence and location. I would advise the use of tonics, such as 1 dram each of powdered sulphate of iron, nux vomica and gentian, and 2 drams bicarbonate of soda, given in a bottle of flax-seed gruel three times daily. Give a few bottles of gruel several times daily, say five or six times, to nourish her. If the bowels become constipated give about 1 lb. Epsom salts. Give a little of anything she will eat. If the trouble be caused by conditions other than those suspected, this treatment will probably effect a cure. J. H. REED.]

A TWIN AS A SIRE—MARE REFUSING OR UNABLE TO EAT—MARES OUT OF CONDITION.

H. E. B., Cumberland Co., Ont.:—"I have a very fine bull calf, a twin, that I am keeping for service. Will he breed or not, or would he be likely to get twin stock?"

"2. My neighbor has a mare that was very fat; all at once she commenced to fail, would not eat, failed in flesh very rapidly, got so weak that she had to be helped upon her feet. Is there any cure, or what is the cause?"

"3. I also have another mare, that first took sore under the throat. All at once she swelled in her limbs, under her belly, up behind to her tail, also her neck and her breast and in all her muscles. Her nose was swollen till it would hardly go into a water hole, and one of her eyes is closed up. What treatment would you prescribe for her?"

"4. My friend has a mare fifteen years old; has cribbed for a number of years; she took swelling under the throat, in lumps the size of a hen's egg, and all down her neck and down to her breast, and between the shoulder points. When she lies down she breathes with much difficulty. What is the cause, or is there any cure?"

[1. When twins are of different sexes, the female, called a "free-martin," generally has a masculine appearance; the female genital organs are supposed to be imperfectly developed, and as a rule she will not breed; still, there are exceptions. The male will be potent. When twins are of the same sex, they both make breeders. Your bull calf is therefore as likely to be a good sire as if he had been of single birth, and more likely to sire twins.

2. In all probability there is something seriously wrong with the teeth or mouth of your neighbor's mare. Have her mouth carefully examined. If

there be any long molars, have them shorn; if any decayed, have them extracted, and have all sharp points rasped down. If there be any foreign matter, as a bone or stick, between the two rows of molars, have it removed. If a molar be split, have the partially detached piece removed.

3. From meager symptoms given, I would say that your mare is suffering from a form of erysipelas. Give a purgation of 8 drams Barbadoes aloes and 2 drams ginger, mixed with a little soap and made into a ball. Feed only bran until ball operates. Then give 3-dram doses powdered hyposulphite of soda, three times daily, either as a drench mixed with a little cold water or, if she eat fairly well, give the powders in dampened bran or boiled oats. Bathe the swellings well and often with warm water, and apply, after bathing, some camphorated liniment (which you will get from your druggist); be very careful to keep warm after bathing.

4. The symptoms your friend's mare present are very peculiar. They indicate a serious disease of lymphatic glands, but I cannot say without more minute symptoms, constitutional as well as local, what the trouble really is. It is certainly a serious trouble, and as the mare is old, if not better by the time you see this, I would advise her destruction. J. H. REED.]

CATTLE BLOATING.

H. VICTOR, Perth Co., Ont.:—"What is the cause of cattle bloating? They are getting three gallons of oat chop and two pails of turnips a day, and all the hay they want to eat."

[Bloating does not frequently occur in the case of cattle getting such food as is mentioned by Mr. Victor. It more often occurs when animals are turned onto fresh, damp or frozen clover, rape or other green food when in a hungry condition. It is due to the forming of gas in the paunch by reason of fermentation of the food eaten. When bloating occurs frequently, it indicates an unhealthy condition of the digestive system. We would not suggest any change in the feed, except, perhaps, to give the roots in three feeds and add bran to the chop. Free access to salt tends to have a good effect upon the digestive systems. A good treatment for a bloated animal is to administer 2 ounces of spirits of turpentine mixed with 1½ pints raw linseed oil. Follow with bran mash for a few meals.]

SUSPICIOUS LUMPS ON HEIFER'S NECK.

C. D. E., Lanark Co., Ont.:—"A lump appeared on the glands of the neck of a two-year-old heifer about a month ago, and it gathered and discharged, but the lump has come again, and there is a lump under her neck—that is, in her throat; these lumps are not fastened to the bone. Do you think this is lump jaw, or does it start on the bone?"

[The symptoms given are suspicious of lump jaw, but not definite. The bone in this disease is not always primarily affected; in fact, sometimes not at all. When the lumps are in the soft tissues, as you describe, they can be removed by a careful operation, and this in many cases effects a permanent cure. The reappearance of the lumps makes the case more suspicious. I would advise isolation of the heifer until a definite opinion of the trouble be formed. It might be wise to call in a veterinarian, and it may be he would operate. If ordinary abscesses they should disappear after eruption. When these tumors burst and run pus for awhile, then heal and after a time form more pus, actinomycosis (lump jaw) is strongly indicated. J. H. REED.]

UNTHRIFTY FOAL.

A SUBSCRIBER, P. E. Island:—"I have a colt seven months old, weaned at three months. It ate well for a little while, and then lost its appetite; will only take a small quantity of water, and will eat a little hay and only take a bite of grain sometimes; has gone to skin and bones; is quite smart yet. What is best to give him?"

[It would seem to us that the colt's digestion has become badly impaired or deranged. We incline to the opinion the foal was weaned too young, and it may possibly be infested with worms. For fear the latter is the trouble, give a pint of new milk, mixed with two tablespoonfuls of spirits of turpentine, three successive mornings before it has had any other feed. On the fourth morning give one dram of tartar emetic in half a pint of raw linseed oil. In any case, the foal must be nursed up with easily-digested foods. Teach it, if possible, to drink new milk. This can usually be done by giving no water for twelve or more hours. Commence with a quart at a feed twice daily, increased to two or three quarts as the foal becomes accustomed to it. Give the milk warm, from a healthy cow not long calved. Give well cured hay (clover preferred), and boiled oats with bran. A handful of flaxseed boiled with the oats will give good results. Keep the colt in a comfortable, well-lighted box stall, where it can move around freely.]

Miscellaneous.

TIME TO TRIM SPRUCE.

A. T., Wentworth Co., Ont.:—"I would like to know when is the proper time to trim Norway spruce to make them into a fence?"

[The best time to trim Norway spruce is early in June, when the new growth is from one to one and a half inches long. This is according to the experience of one of the most successful hedge-growers we know.]

PLAN OF PIGPEN WANTED.

S. E. FULLER:—"I want you to put in FARMER'S ADVOCATE description of a pigpen, say for ten pens, and a loft overhead for straw for bedding and feed, and a runway for cleaning out the manure, and the best kind of floor. Kindly give me full particulars, as I must build such a pen this spring, and I want to get out the lumber and all necessaries for building the pen this winter. I want to build it as cheaply as possible, and I must have a good floor, so it will last."

[Other readers have recently made enquiries about hog-pen plans. We know there are many excellent hog pens on the farms of readers of the FARMER'S ADVOCATE, the plans of which, published in our columns, would greatly help those who propose to build next summer. Even a rough sketch, with dimensions given, also a full description of material used, construction of walls, floors, etc., will enable us to present the subject in a form helpful to our readers.]

PLANTING MAPLES—BULL TO USE.

SUBSCRIBER, Lanark Co., Ont.:—"Would you kindly answer me through your valuable paper as to planting maple trees for shade in spring, or if fall is the best time; what size you would prefer, in early spring or in June?"

"2. I purchased a Shorthorn bull, also a heifer from the same bull, out of a part Jersey and Durham cow. How would they breed? Is this in-breeding?"

[While maples planted in fall may do well, as a rule those set-out in spring are much more certain to grow. From the time the frost is out in spring up to May 24th, maples from 1 1/2 to 2 1/2 inches through at the butt usually live and thrive well when carefully planted in loamy soil and mulched with coarse manure. The trees should be cut off 8 or 10 feet up from the root at time of planting.]

2. Such breeding as mentioned is inbreeding, and is advisable only in exceptional cases. Provided neither the heifer nor the bull have noticeable faults nor weaknesses, and the services of another good bull cannot be secured, the use of the bull in question may not be out of place.]

UNDERSHOT WATER WHEEL.

SUBSCRIBER, Bruce Co., Ont.:—"Can an undershot water wheel be made a success? What power could I expect with a wheel twelve feet in diameter and with an eight-foot head of water?"

[The undershot water wheel provides less power than either the breast or overshot wheels, owing to extra friction, irregular flow of issuing body of water, and the impossibility of consuming on the floats its entire moving force. It is estimated that the undershot wheel never exceeds from 25 to 33 per cent. of the power in the acting body of water, whereas the overshot wheel, under most favorable conditions, utilizes 75 per cent. of the water. The breast wheel resembles in form and construction the undershot, but has its floats closer together and usually inclines towards the stream. It is difficult to estimate the amount of power a twelve-foot wheel would produce in an eight-foot head of water. At this age, in our opinion an undershot water wheel is behind the times; in fact, the same may be said of any sort having a horizontal axis. The modern water wheel runs on a vertical axis, and is known as the turbine. Being much smaller than the old-fashioned water wheel, it has a much higher velocity of rotation, and in this has an important advantage, inasmuch as it admits of the adoption of less heavy and expensive machinery for transmitting the power, dispenses with gearing, and gives greater regularity of speed and equal efficiency under all heights of fall.]

FATENING OLD EWES—SALTPETRE FOR HORSES.

W. L. F., Huron Co., Ont.:—"I have some old ewes that I want to feed. Please let me know in your ADVOCATE what is the best feed to give them to fatten in winter, and what amount to each ewe?"

"2. How much saltpetre should be fed to horses getting hay and straw and no roots? How often should they be fed it, and how much at a feed? Is it injurious to a mare?"

[1. Give the old ewes all the clover hay they will eat up cleanly three times each day. Also feed five or six pounds of pulped or stripped roots in two feeds, as well as a quart of oats 2 parts and peas or corn 1 part, for three sheep, twice each day.]

2. It is not well to dose horses with saltpetre or other drugs except they are ailing, and then it should be guardedly done. In the FARMER'S ADVOCATE for Dec. 1st, Dr. Reed, V. S., outlines a treatment for horses out of condition with stocked legs. See what he says on page 686. However, if a horse's kidneys are out of order, half teaspoonful of saltpetre once a day for a week will do him good. It is not well to give a pregnant animal any sort of medicine if it can be avoided. Such laxative food as bran, roots in small quantity, boiled oats and good hay will, with reasonable exercise, keep a pregnant mare in good health.]

PROBABLY BLACK HEAD IN TURKEYS.

J. LAING, Wentworth Co., Ont.:—"We have a fine flock of about eighty Bronze turkeys. Last summer they got through the troubles of spring and summer well, but in October a sickness affected a few of them. At first they stayed at home in the morning, and hung around with drooping wings a few days, and then died. Had a diarrhoea which, after lying a few hours, the under side became green. I opened and examined three of them. They were full of undigested food, and the livers

were covered with small spots, some as large as ten cents, of a yellowish and green color all through, even to the center. Perhaps you can advise something to help them? I prefer an answer by letter, and enclose a stamp for it, which will greatly oblige."

[The description given is not unlike that of the very troublesome disease among turkeys known as "black head." This disease is prevalent in the State of Rhode Island, also to a limited extent in some other States. It was first noticed in Ontario last year, when one or two birds were sent in for examination. So far as I can learn, there is no cure except to stop raising turkeys and sow the soil where the droppings are placed with lime. The disease is briefly described thus:—entero hepatitis, or "black head."

"This disease is caused by a parasite. The parasite enters the digestive tract along with the food, then becomes lodged in the ceca, where is set up an inflammatory process, which results in partial closure of these parts of the intestines. From the ceca, the parasites reach the liver, where they start a violent inflammation, which results in the formation of yellow and greenish spots. The liver is generally much enlarged."—Taken from a *Washington Report, 1898.*
W. R. GRAHAM,
O. A. C. Poultry Manager.]

COOKING FEED FOR PIGS.

J. B. P. R., Wentworth Co., Ont.:—"I have only a few pigs, Tamworth grades. Will it take too much time and expense to warm or cook the feed for them in winter for profit, and which is best, to feed the chopped grains or shorts dry, or to wet them immediately before feeding, so as not to let the feed freeze?"

[If the pigs are in a cold pen, it will pay to cook the feed, or to at least feed it when warm, as in this way you lessen the amount of feed required for a pound increase in weight of the animal by making them more thrifty. It is better to feed the chopped grains or shorts dry than to wet them immediately before feeding. Give the pigs a little water in a separate trough: warm water, if possible. If it is possible to keep the grain in a warm place it would pay to soak it for 24 hours before feeding, but in a pen where the temperature falls below freezing it is always better to feed dry, unless you are able to give the feed warm.]

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

SPAVINED FILLY.

A. F., Dufferin Co., Ont.:—"I have a colt two years old which appears to be bog spavined on both hind legs and thoroughpinned on one of them. What would you advise me to do with her? They never hurt her any, and when hitched they disappear altogether in travelling five or six miles. Would you kindly let me know of a cure for scratches?"

[Apply the following blister to the mare's hocks once only, rubbing in well, and oil on third and each succeeding third day until the hair starts to grow out. Repeat in six weeks if necessary: Beniodide of mercury and iodine crystal, of each one dram; lard one ounce; well mixed. Clip hair off parts, and tie mare's head up short for six hours. Feed light this winter, and let her run in the barnyard all you can during the cold weather.]

2. Scratches are the result of grossness of the system and overfeeding on grain. To treat, feed regularly on grain in which is a libe al supply of bran. Give one of the following powders in feed twice daily: Bicarbonate of soda, powdered gentian, and powdered saltpetre, of each 1 1/2 ounces; arsenious acid, 40 grains; all well mixed, and divided into 12 powders. Locally apply a little of the following ointment every night to the affected parts: Oxide of zinc, 1 dram; salicylic acid, 1/2 dram; bismuth sub. nit., 1 dram; carbolic acid, 20 drops; vaseline, 2 ounces.]

GASOLINE ENGINE FOR PUMPING—DEHORNING BULL.

F. BROS., Simcoe Co., Ont.:—"1: Would you kindly tell us through your journal whether you consider a gasoline engine a desirable power for pumping water, or not? We have a windmill, but we require what water our well gives every day, and there are a great many days a windmill will not pump, and so, consequently, leaves us short of water on calm days. Our well is 130 feet deep, and we have water elevated into tanks (50 bbl.) in barn about 30 feet higher. Engine would have to force water up about 160 feet. Would gasoline engine be a good cheap power for chopping grain? How much would the gasoline cost, and where can it be purchased?"

"2. Has dehorning a bull any effect on him as a sire? I know some cases where they have been dehorned and are not as sure calf-getters."

[While we personally have had very little to do with gasoline engine power, we are convinced that it is quite satisfactory for all farm purposes, such as cutting, pulping, grinding, pumping, separating milk, etc. The engine of the present day is not unduly expensive, is safe, and easily managed. One advantage of it is that it is started about as easily as a windmill, it practically runs itself, and is always ready. Gasoline costs, wholesale, about nine cents per gallon, and is usually handled by dealers in coal oil, etc.]

2. We have heard the same opinions given as you express regarding the effect of dehorning male animals, but we have never yet received any evidence that convinces us that any bad results occur. We know of many who continue to practice

dehorning such animals as you mention, who would not do so if any loss resulted from the operation.]

BEST FEED FOR PIGS AND POULTRY.

W. I., Manitoulin Island:—"1. What is the best feed for young pigs from the time they are six weeks old till ready for market, when we have no milk to feed them? Can they be fed turnips to advantage in the winter?"

"2. What is the best feed for hens in the winter, to make them lay well?"

[1. The best feed for young pigs from the time they are six weeks until they are three months old is a mixture of shorts and oatmeal; that is to say, chopped oats with hulls sifted out. As the pigs get older the hulls may be left in the mixture. We find it is advisable when feeding young pigs without milk to cook the food, as they seem to do better upon it. As a rule, however, it will not pay to cook feed for pigs. After they are 2 1/2 or 3 months old, we find the best method is to feed them a mixture of equal parts oats, peas, barley and corn, or a mixture of half corn and half oats, peas and barley equal parts, depending upon the relative prices of the grains. If the corn is cheaper than the other cereals, as is generally the case, the latter mixture will prove to be more economical, and may be expected to produce a grade of meat almost equal to the former ration. Especially is this the case if the pigs have been kept in a thrifty condition from the time of birth. Pigs may be fed turnips to advantage in winter if they are pulped or cut up. If the pigs are in a cold pen it would be advisable to cook the turnips, if at all possible, and feed them warm. We have found that feeding roots cooked will not pay, as a rule, except under the conditions above mentioned. If the pigs are being fed in summer, a very good plan is to put them on pasture as soon as they are farrowed, or as soon as the pasture is available, and add a small grain ration such as described above. Probably the best pasture for this purpose is rape, or a mixture of oats and vetches. If fed in winter, a few roots or potatoes should be thrown in to the youngsters.]

2. The best feed for hens in winter to make them lay well is probably a mixture of small wheat and corn, 3 of wheat to 1 of corn, with a small daily feed of cut bone or flesh of some description. A preparation that has proven satisfactory is one that is made from the entrails of any animals that may happen to be slaughtered on the farm. These are taken, the contents removed, and the tissues thoroughly boiled, and then put into barrels and allowed to freeze. A chunk of this may be cut out and thrown to the hens every now and again.]

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

BEST FOOD FOR YOUNG PIGS, ALSO FOR HENS.

W. I. W., Manitoulin Island:—"1. What is the best feed for young pigs from the time they are six weeks old till ready for market, when we have no milk to feed them? Can they be fed turnips to advantage in the winter?"

"2. What is the best feed for hens in the winter to make them lay well?"

[Our issue of Nov. 15th dealt exhaustively with feeding young and growing pigs. The several writers, whose letters appear in that issue, almost all express a preference for shorts, especially for litters previous to and immediately following weaning. A small proportion of finely-ground peas, corn, or barley, may also be added to the shorts; but in no case should oat chop be fed, except the hulls have been sifted out. The hulls of oats contain much rough fiber that young pigs cannot digest. A proportion of the ration should consist of roots in some form, and of these, nothing takes the place of potatoes, boiled, mashed, and fed warm along with the chop, shorts, etc. In the opinion of many successful pig-raisers, litters should not be weaned until they are about eight weeks old, and if they have been well fed up till this time, they will go along well without the dam's milk on the food we have recommended. When the pigs are two months old, pulped mangels, sugar beets, carrots or turnips, will take the place of boiled potatoes. As the finishing period approaches, the ration should be increased in concentration, so as to finish rapidly and at the same time produce a good quality of meat. Note what many of the writers say in Nov. 15th issue regarding the importance of exercise.]

2. Four mornings of the week give a warm mash of mixed meal, boiled roots, and a sprinkling of chopped clover hay. Give about one pint to ten hens, and no more. This partly satisfies them, and as soon as it is eaten, it is well to let them into another pen in which is scattered in litter on the floor mixed grains, composed of wheat, oats, and barley, one handful to three hens. The exercise induced by scratching keeps up warmth and vigor. The other three mornings the mash may be dispensed with, each hen being given a handful of mixed grain in the litter. At noons, cured lawn clippings or clover chaff may be given them steamed. Cabbages, beets, and bones with some meat clinging to them, may be hung up for them to pick at. At night a full feed of whole grain should be given, and in very cold weather, warmed corn may be used for this meal. Charcoal, salt and crushed eggshells may be fed with the mash. Two or three light feeds of ground green bone per week is advantageous. The hens should have comfortable, well-lighted, clean quarters, and liberty to take an outdoor run in fine weather.]

POUNDS OF MILK FOR POUNDS OF BUTTER.

ENQUIRER, Oxford Co.:—"How many pounds of milk should it take to make a pound of butter, from milk testing 3%, 3½%, 4%, 4½%, and 5%?"

[Four pounds of fat produces five pounds of butter, less the slight loss that occurs in improper skimming and churning. Figuring from this standpoint, it requires for a pound of butter 28.57 pounds of 3 per cent. milk, 22.85 pounds of 3½ per cent., 20 pounds of 4 per cent., 17.8 pounds of 4½ per cent., and 16 pounds of milk testing 5 per cent. of fat. In practice it will require slightly more than these quantities, but this relationship should be constant.]

TEST IN COOKING LOAVES.

MISS NORA, Middlesex Co., Ont.:—"Reading McClary's advt. in the FARMER'S ADVOCATE, we were much surprised at the cooking of so many loaves of bread in six and three-quarter hours. We have figured it out, and it beats anything we have ever seen or heard tell of, and as we have a large family, we would like to purchase one of those loaves. Please state, when answering, how many loaves the party cooked at once and how long they gave each batch of bread to cook? I would like to see an answer in the next FARMER'S ADVOCATE."

[The Famous Model has done it in a test and can do it again. You run no risk in purchasing one of these, as they are certainly fuel-savers. You will find an agent in every town or city in Canada.

THE McCLARY MFG. CO.]

SHORTHORN—DURHAM.

SUBSCRIBER, Wentworth Co., Ont.:—"Is there any difference between the Shorthorn and the Durham cattle. If there is a difference in the two, is there a Shorthorn Durham?"

[The names Shorthorn and Durham apply to one and the same breed. Originally they were known only as Durhams, the breed having originated in Durham County, England; but the name Shorthorn was later given them as distinguishing them from the Longhorn breed, which is still perpetuated to some extent in the Old Country, where prizes are yet given them as a separate breed at the Royal Show. There is a herdbook established in the United States for Polled Durham cattle, in which cattle eligible to record as Shorthorns, but which were born hornless, are admitted to registry, and also hornless cattle bred from "mulley" ancestry and having a certain number of crosses of pure Shorthorn blood. The first class rank as double standard, owing to the fact that they are eligible to the Shorthorn Herdbook as well as to the Polled Durham Record.]

FEEDING FOR BEEF.

NEW SUBSCRIBER, O'Connell, Ont.:—"Please give me your views as to the best method of feeding for profit where roots, chop and hay are to be fed. Would it be better to cut the hay and mix roots and chop or feed separate, at separate intervals?"

[In our judgment, and we have fed many cattle, there is little to be gained in cutting up good hay to be fed to cattle, except to mix with straw or other less palatable food, in order to make it go farther. Cattle, like ourselves, become tired of a monotonous mixture, fed meal after meal, so that we would consider it wise to feed the hay, roots and chop separately, as each is palatable and nourishing. Our method has been to give the roots first thing in the morning, before dinner, and about 6 p. m. Give hay immediately after the roots each time, and after breakfast and supper give the grain ration, and more hay at night. When the grain is fed after hay, it is brought up again with the cud and thoroughly masticated; whereas, if it is fed on an empty stomach, it may escape thorough mastication and digestion. Many successful feeders prefer to give the chop mixed with cut hay, and we can see no disadvantage in such a course.]

EXTRAORDINARY GAINS IN PIGS—DRY-EARTH CLOSET.

R. M., Lennox Co., Ont.:—"I raised eight pigs, farrowed on the 21st of August; shipped on Dec. 17th; age 4 months, less one week. Weight, 1,500 lbs.; average weight, 195 lbs. Is there anything unusual about that?"

"Do you know of any way of building and managing a dry-earth closet, in connection with a dwelling house, that will give satisfaction? An early reply to this question will oblige."

[These pigs gained an average of 1.75 pounds per day from birth until nearly four months old, whereas 1.25 pounds is large, and even 1 pound per day up till four months old is above the average with good feeding. A pen of pigs fed at the Minnesota Experiment Station, that won 1st prize at the great Chicago Fat Stock Show, in December, 1900, gained for the first 6 months about 1.17 pounds per day. It would be interesting to learn how these pigs were fed.

2. Dry-earth closets that we have seen were arranged with a drawer or box below that could be drawn out and emptied as often as desired. A small shovelful of dry soil or ashes is thrown in the box after it has been used each time. There is, we are informed, a means of letting the dry earth down from a box by turning a crank. We will be pleased to have readers of the FARMER'S ADVOCATE describe closets of this sort that are satisfactory.]

RAISING GEESSE—MARE OUT OF CONDITION.

FARMER'S SON, Northumberland Co., Ont.:—"My father has taken the ADVOCATE for a number of years, and we could not get along without it. I am thinking of raising geese another year. I can get thoroughbred Toulouse geese at a reasonable figure.

"1st. Which would be the most profitable to buy, aged geese or goslings?"

"2nd. Is a small topknot a sign of bad breeding in a Toulouse goose?"

"3rd. How should geese be fed this winter so as to do best next summer?"

"4th. Are geese as profitable as ducks or turkeys on the farm?"

"5th. What is a good tonic to give a young driving mare whose blood is out of order and whose ankles and hind legs swell?"

[1. Generally speaking, it is better to purchase a pair of young geese, two or three years old, from which to raise the young stock. Get them unrelated if possible. Occasionally, eggs hatch well under hens and can be properly raised, but the chances of disappointment are greater than with a pair of healthy geese.

2. A topknot on a Toulouse goose is a sign of impure breeding. The head should be rather large, short and smooth; dark gray in color.

3. Geese are great vegetable feeders and need little more than pulped turnips during the winter season. A small daily feed of peas, corn or oats will not be lost on them. Without turnips, boiled potatoes, mashed and mixed with bran, shorts or chop, with a few oats occasionally, will answer well. A pen a few yards square will serve well for a house. It should be kept clean and dryly bedded. They should have clean water to drink constantly before them, and be allowed the freedom of a yard during the day.

4. Except for the fact that the broods of geese are usually much smaller than of ducks or turkeys, they would be much more cheaply raised, as they grow up on little more than grass, requiring only a short period of grain feeding in confinement before being killed. They require water to swim in, especially at the mating season.

5. This question is well answered on page 686, Dec. 1st, 1900, issue of the FARMER'S ADVOCATE, under the heading "Stocking or Filling of the Legs of Horses."]

PLOWING UNDER SNOW—WHEAT AND CHESS—CARROTS FOR HORSES—PLANTING WALNUTS—HOUSE PLANS.

D. K. S. SECORD, Haldimand Co., Ont.:—"1. Does it injure heavy clay soil to plow under a little snow in the fall, or plow it when it is very wet? I am speaking of sod mostly. I think it better to plow a little wet in the fall than to plow in spring, and then have it bake, as we call it.

"2. In the ADVOCATE of November 15th and December 1st two or three parties write on the question of wheat and chess. I have the same opinion as T. H. Jull, in December 1st number. I think if you clean your wheat well you will not get chess. I clean my wheat for seed through two or three times if necessary. I put it through a coarse screen. You will not lose by it. What goes through the screen is good enough for market by cleaning through a fine screen. Two years ago the wheat got winter-killed very badly in this section; nearly everybody had lots of chess in wheat. I had a field nearly all killed out; it was a very low, wet field, too, and I had no chess. Why? Because my seed was clean.

"3. Are carrots and oats as good as oats and bran for winter feeding horses doing very little work?"

"4. When is the best time to plant walnuts for trees, fall or spring?"

"5. I have seen a few plans for a house in the ADVOCATE but not just what I want yet. Could any person who reads the FARMER'S ADVOCATE give me a plan of a house, with cellar under it, for a farm, the cost being about \$800?"

[1. If possible to avoid it, clay soil should not be plowed when in a very wet condition. It would do less harm, however, plowed wet in fall than in spring, as the influence of the frost would mellow the surface of fall-plowed land. We leave our readers to deal with this question.

2. It is a scientific fact that chess is a species of the grass plant, as separate from wheat as is rye, timothy or June grass. A few years ago a certain farmer concluded he had positive proof that wheat and chess came from the same root, as he had discovered what appeared to be one plant bearing heads of both wheat and chess. He sent it to the late Prof. Pantou, of Guelph Agricultural College, who, when he washed the roots, found two separate plants, the roots of which were closely intertwined. A thorough investigation will always show chess and wheat to be different species of the *gramina* order of plants.

3. Carrots and bran are quite different foods, and should not be compared. If we had oats and could get only one or other of carrots or bran for idle horses, we would take the carrots, but would prefer a little bran as well to mix with the oats. Carrots, like grass, have a succulence that tends to keep the stomach and bowels in a vigorous condition. What do our readers say about this?

4. Walnuts should be exposed to frost during the winter, so as to crack the shell. They should then be planted soon after the frost is out of the ground in spring.

5. This question is for some kindly-disposed reader to answer. If plans and descriptions are sent to us we will publish them for the benefit of Mr. Secord and other readers.]

MARKETS.

FARM GOSSIP.

Tests with Spelt at Guelph Agricultural College.

As numerous enquiries about a cereal known as Spelt (*Triticum Spelta*) have been received within the past few weeks, a fairly full report is here given in order that a greater number may become familiar with these results.

Spelt is a cereal which is intermediate between wheat and barley, but it is usually classified as a variety of wheat. It is a native of the countries near the Mediterranean Sea. At the present day it is principally grown on the poorer soils in Switzerland, Southern Germany, and Northern Spain. It is also grown at an elevation in Switzerland where the common wheat (*Triticum sativum*) will not thrive. For general cultivation it is considered much inferior to finer varieties of wheat.

When the grain is threshed the heads break in pieces at the different joints, leaving the grain in the chaff as closely clasped as ever. To secure the clean seed, special machinery is necessary to separate the chaff from the grain. From the very nature of the region in which the spelt is principally grown, we can understand that it is mostly cultivated by the poorer classes. The flour obtained from the grain is said to produce a coarse bread.

In order to find out the value of the spelt for growing in Ontario, five varieties were imported in the year 1889. One of these was brought from Switzerland, one from Russia, and the other three were obtained in Germany. These five varieties were carefully tested in our experimental grounds, and all of them gave poor results. The best variety gave a yield per acre of fifteen bushels of grain in the chaff, and this weighed about forty pounds per measured bushel. Two of the other varieties gave an average of only about six bushels per acre, and the remaining two varieties produced no grain whatever. The average yield of straw per acre from the five varieties was only three-quarters of a ton. Some of the varieties were tested for two and three years, and were then discarded on account of the poor results obtained from them.

Some of the seedsmen on this side of the Atlantic are now booming the spelt very extensively. Extravagant claims are made for it, as will be seen from the following quotation, taken from an American seed catalogue for 1900:—"1st. You thresh 50 to 80 bushels of grain, equal to corn, or barley, or oats, or rye, or peas, or wheat as a food; and then comes four to six tons of straw hay, equal to timothy. It's the perfection of food for cattle; hogs yell for the food, cows jump a six-foot fence to get at the straw hay, horses fight for it, sheep delight and fatten on it, poultry relish the grain.—I tell you, Salzer's Spelt is the greatest dry food on earth. We recommend the same heartily. It yields 80 to 100 bushels of richer food than corn, and gives besides four tons of good hay per acre. We never fool the farmer."

A quantity of seed of Salzer's spelt was purchased in the spring of the present year, and two plots in the experimental grounds were sown with this variety. The results obtained this season were very similar to those obtained ten years ago. In yield of grain per acre the best plot of the spelt was surpassed by seventy-five per cent. of the varieties of spring wheat. The grain as it came from the threshing machine weighed forty-four pounds per measured bushel, and after the chaff had been removed it weighed a little less than fifty-eight pounds, being lighter in weight per measured bushel than any of the twenty-eight varieties of the common spring wheat grown at the College this year. C. A. ZAVITZ, Agricultural College, Guelph, Dec. 31, 1900.

Toronto Markets.

The trade at the Western Cattle Market has been very dull for the last two market days, and export cattle were in fair demand, but all other classes dragged at a decline. Cables quote export cattle firmer and a good demand.

Export Cattle.—Trade was fairly good in export cattle, and choice loads sold at firm or steady quotations. Choice export sold at from \$4.50 to \$4.75 per cwt.

Messrs. Dun Bros. shipped five carloads of export cattle per G. T. R. via Portland.

Butchers' Cattle.—Choice picked lots of best butchers' cattle sold at from \$4.10 to \$4.50 per cwt., average from 1,000 lbs. to 1,100 lbs. live weight. Loads of good butchers' cattle sold at \$3.75 to \$4.25 per cwt. Common to medium mixed cattle—

heifers, steers and fat cows—sold at from \$3.30 to \$3.40 per cwt.

Inferior rough cows and common bulls sold down to \$2.40 to \$2.75 per cwt. There is considerable discussion as to the method by which the Provincial Government intend to foster the dressed-beef trade, and while the exporters are sick unto death, they are not particularly anxious to see the scheme go on, and there is promise of opposition on the part of the livestock exporters trading on this market.

Bulls.—Big strong feeding bulls, average weight 1,100 lbs. to 1,600 lbs., suitable for feeding at the distillery byres, were in request, and sold at \$2.75 to \$3.25 per cwt. Yearling bulls, 600 lbs. average, sold at \$2.00 per cwt.

Feeders.—Short-keep feeders, good steers, weighing 1,100 to 1,400 lbs. (finishers, as they are termed), were in good demand, at from \$1.00 to \$1.35 per cwt., to fill space at the byres. Light feeders sold at from \$3.00 to \$3.50 per cwt.

Stockers.—Yearling steers, suitable for the Buffalo market, were in good demand—average about 600 lbs.—sold at \$2.25 to \$3.00; mixed black and white sold at \$1.75 to \$2.00 per cwt.

Calves.—Very few on offer, quality not good. Ten sold at from \$2.00 to \$3.00 per head.

Sheep.—Prices were easy, deliveries good, too many for our trade, and sold at from \$2.75 to \$3.00 for ewes and at from \$2.00 to \$2.50 per cwt. for bucks.

Lambs.—Spring lambs sold at from \$2.50 to \$3.50 per head, or at from \$3.50 to \$4.00 per cwt.

Hogs.—We have still to complain of farmers exceeding the 200-lb. limit to fetch top price. A great many were culled last week for this fault. The accepted weights, and those wanted, are 160 lbs. to 200 lbs., not over, unfed or watered. Prices are a little unsteady, but still high for the time of year. Best selected singlers \$5.57½ per cwt., culled closely. Lights and thick fats at \$5.50 per cwt.; sows \$4.00; stags \$2.00; and stores not wanted, quoted at \$1.50 per cwt.

Milk Cows.—There is always a good steady demand for best family milk cows. Prices at from \$40.00 to \$50.00; forward springers \$35.00 per head.

Grain Markets.—Receipts of grain on the St. Lawrence market were very good; a large number of farmers in, doing their Christmas shopping.

Wheat.—1,300 bushels of wheat at 67c. for white, 67½c. for red, and 62c. for goose, per bushel.

Barley.—Bright-colored sold at 43c. per bushel; graded sold at 41c.; about 900 bushels bought on the street market.

Oats.—Offer 1,200 bushels, sold at 29c. to 30c. per bushel.

Rye.—One load only, sold at 51c. per bushel.

Hay.—About 60 loads sold on Friday and Saturday at from \$13 to \$14 per ton.

Straw.—Four loads sold at \$12 to \$12.50 per ton.

Dressed Hogs.—About 100 dressed hogs on offer from farmers' wagons, sold at from \$7.50 to \$7.55 per cwt.

Hides.—No. 1 steers, 9c. per lb.; No. 2 steers, 8c. per lb.; hides (tired), 9c. per lb.; calf skins, 8c. per lb.; lamb skins, 90c.; horse hides, \$3 each; deer skins, 10c. per lb.; wool (pulled), 18c. per lb.; wool (fleece), 10c. per lb.

MISCELLANEOUS.

Seeds.—Alsike, per bushel, \$6.50; red clover, per bushel, \$6.25; timothy, per bushel, \$1.80.
Hay and Straw.—Baled hay, per ton, \$10; baled straw, per ton, \$4.75; in car lots.

Christmas Market.—The St. Lawrence meat market was thronged all day on Friday and Saturday, inspecting the prize cattle brought for the Christmas trade. One very fine carcass weighed 850 dressed—a two-year-old heifer purchased from Mr. Torbet, said to have cost \$100. A pair of twin calves, raised by Mr. R. S. Freeman, Essex Co., weighed 400 lbs. each, six months old. Mr. J. J. Walsh purchased ten sides of beef from the Guelph Fat Stock Show. Messrs. Puddy Bros. bought the two prize cattle that won the Bell Organ prize at Guelph, bred and fed by Mr. James Leask, Greenbank, Ont.; both three years old, the heifer taking the Halliday Cup, presented by Mr. J. Halliday for the best single animal any age. The Wm. Davies Co. purchased six prize animals from Guelph.

Chatty Stock Letter from Chicago.

[BY OUR OWN CORRESPONDENT.]

Chicago's receipts of live stock (closing days of 1900, estimated) were as follows, with comparisons:

	Cattle.	Hogs.	Sheep.	Cars.
1900.....	2,711,000	8,118,000	3,556,000	276,971
1899.....	2,514,446	8,177,870	3,682,832	269,406
1898.....	2,480,897	8,817,114	3,589,439	276,043

The year's receipts show a gain of nearly 200,000 cattle, a decrease of 50,000 hogs and 126,000 sheep. Cattle receipts were only exceeded in six other years—1889-94, inclusive.

Hog receipts were only exceeded in four other years. Sheep receipts were equalled or exceeded in 99, 98, 97 and '96. Cattle prices, taking good 1,200 to 1,500 lb. heaves as a basis, averaged \$5.25, or 28c. lower, with the top the highest on record—\$15.50 for a carload of the international prizewinners.

Hogs averaged \$5.00, or 95c. higher, being the highest since 1883. This, in face of an eight million run at Chicago, with liberal receipts at all Western points, is a great showing for hog men.

Sheep averaged 35c. higher, or \$1.70, being the highest on record. Lambs made the record-breaking average of \$5.95, being 45c. higher than the previous year.

The steer, "Big Hooker," reported in this department as winning the grand championship in the beef classes at the Chicago International Fat Stock Show, was the sweepstakes winner in the class for grades and crosses. He was a 2-year-old grade Hereford, owned by C. C. Judy. He weighed 1,925 lbs., and dressed 1,403.

The following compilation of top and average prices is from advanced sheets of the annual review of the new Chicago paper, the *Daily Live Stock World*, edited by Mr. A. C. Halliwell, for twenty-three years editor of the first daily live-stock paper ever published.

Extreme top prices, all weights native beef cattle, and average prices 1,200 to 1,500 lb. heaves:

	Extreme Top Price.		Average Price.	
	1900	1899	1900	1899
January.....	\$ 6 60	\$ 6 30	\$ 5 40	\$ 5 35
February.....	6 10	6 25	5 00	5 20
March.....	6 05	5 90	5 00	5 10
April.....	5 85	5 85	5 10	5 05
May.....	5 85	5 75	5 10	5 20
June.....	5 90	5 75	5 30	5 25
July.....	5 85	6 00	5 30	5 50
August.....	6 10	6 65	5 50	5 80
September.....	6 15	6 90	5 50	5 90
October.....	6 40	7 00	5 40	5 85
November.....	6 50	7 15	5 25	5 80
December.....	15 50	8 25	5 15	5 95
The year.....	\$15 50	\$ 8 25	\$ 5 25	\$ 5 50

Top prices heavy and light hogs, and average prices for all grades:

	Top Prices.		Average.	
	Heavy.	Light.	1900	1899
January.....	\$ 4 92½	\$ 4 80	\$ 4 57½	\$ 3 70
February.....	5 10	5 00	4 85	3 75
March.....	5 52½	5 37½	5 05	3 75
April.....	5 85	5 75	5 50	3 85
May.....	5 52½	5 42½	5 25	3 90
June.....	5 37½	5 37½	5 15	3 80
July.....	5 50	5 52½	5 25	4 30
August.....	5 52½	5 57½	5 27½	4 65
September.....	5 52½	5 70	5 30	4 50
October.....	5 55	5 55	4 95	4 40
November.....	5 10	5 12½	4 80	3 85
December.....	5 05	5 00	4 82½	4 00
The year.....	\$ 5 85	\$ 5 75	\$ 5 00	\$ 4 05

Top and average prices, sheep and lambs, by months:

	Top Prices.		Average Prices.	
	Sheep.	Lambs.	Sheep.	Lambs.
January.....	\$ 5 95	\$ 7 00	\$ 4 75	\$ 6 00
February.....	6 50	7 35	5 55	6 85
March.....	6 50	7 60	5 90	7 00
April.....	6 85	7 55	6 00	7 00
May.....	6 50	7 55	5 40	6 55
June.....	6 75	7 40	5 00	6 20
July.....	5 75	7 00	4 20	5 45
August.....	5 00	6 15	4 05	5 25
September.....	4 25	6 00	3 85	5 25
October.....	4 25	5 75	4 00	5 05
November.....	4 50	5 75	3 75	4 85
December.....	5 00	6 75	4 15	5 10
The year.....	\$ 6 85	\$ 7 60	\$ 4 70	\$ 5 95

On a Prairie Telegraph Pole.

Arthur Stringer, the Canadian poet, contributes the following strong lines to *Ainslee's Magazine*, under the title, "On a Prairie Telegraph Pole":—

Past mountain and foothill, plain and lake,
Where it links the east and west,
The tense wire tangles from sea to sea,
A river that runs unrest.

As a two-stringed harp of haste it throbs
With the rise and fall of States;
And sings through a land of sun and peace
Of far-off wars and hates.

Through a glimmering sea of waving green,
Of silence, and golden suns;
As a thread of pain in the woof of peace,
From world to world it runs.

But the tales it tells are idle tales,
And the songs it sings are strange
To us who follow the glad, gold trail
Of the sun on the Open Range.

Subscribers who have renewed their subscription for 1901 should observe the label on their paper. If due credit has not been given, write us at once.

A Fat Stock Show Conundrum.

A writer in an English exchange propounds the following conundrum: "If the Hereford steer, Lord Roberts, beats the Queen's Shorthorn heifer, Cicely, and Cicely beats the cross-bred heifer, Ladysmith, and Ladysmith beats Lord Roberts, how much is Lord Roberts better than himself? Or, if Lord Roberts is second to Ladysmith (as at Norwich) and Ladysmith is nowhere to Cicely (as at Birmingham), and Cicely cannot even reach the reserve place (as at Smithfield), how far down the list ought Lord Roberts to be. This is a first-class Christmas conundrum—one of the best for some years, and is only equalled in mysteriousness by the record at the late show at Guelph, where the class sweepstakes was given to a second-prize sheep in the same class by consent of the judges responsible for the first ruling.

Smithfield Show.

England's great annual Fat Stock Show was held Dec. 10th to 14th, a grand show all round and one whose chief point for remembrance will be its general high quality, for its entries were less than in the more recent years. The result of the fewer entries was a much more level entry, the tail end of the several classes being much nearer the merit and quality of the tops, this being very noticeable in respect to the sheep section of the show, a brief résumé of the more salient features of which has been compiled from personal observation and careful examination by him who has the privilege and honor to represent your greatly appreciated paper in the Old Country, who with this letter takes the opportunity to wish it and its numerous readers a grand, prosperous and successful New Year—the first of the new century. Each breed of cattle, unless otherwise stated, was classified as follows: Steers not exceeding 2 years, steers exceeding 2 years and not exceeding 3 years, and heifers not exceeding 3 years.

The *Hereford* entries present numbered 5, 8, 3, their average daily gains being 2 lbs. 1.21 ozs., 1 lb. 15.65 ozs., and 1 lb. 9.95 ozs. The *Shorthorn* entries present numbered 12, 7 and 5, and their average daily gains were 2 lbs. 1.50 ozs., 1 lb. 13.56 ozs., and 1 lb. 13.02 ozs. The *Aberdeen-Angus* entries present numbered 5, 7 and 6, and their average daily gains were 2 lbs. 2.21 ozs., 1 lb. 13.19 ozs., 1 lb. 8.84 ozs. The *Galloway* entries present numbered 5, 4 and 4, and their average daily gains were 1 lb. 13.35 ozs., 1 lb. 9.90 ozs., 1 lb. 4.74 ozs. The *cross-bred* cattle entries present numbered 12, 7, 6 and 4, and their average daily gains were 2 lbs. 2.27 ozs., 1 lb. 14.41 ozs., 2 lbs. 10.10 ozs., and 1 lb. 11.24 ozs., the classification in this section being for steers not exceeding 2 years, steers exceeding 2 years and not exceeding 3 years, and two similar classes for heifers.

The champion beast of the show was Mr. John Wortley's Hereford steer, which, at the age of 937 days, gave an average daily gain of 2 lbs. 1.24 ozs. He won the breed cup of his breed, cup for best ox or steer, and, as noted above, the championship as best beast in the show. At the Norwich Show he was R. N. for champion to Mr. Learner's cross-bred heifer, and came in behind her also at Birmingham. Mr. Learner's heifer champion at Norwich, R. N. to Her Majesty the Queen's heifer at Birmingham, came in as R. N. for the championship here; she also won the breed cup of her breed, and cup for best cow or heifer in the show. At 1,034 days of age she gave an average daily gain of 1 lb. 7.68 ozs.

The R. N. for best ox or steer was Capt. H. L. Townshand's cross-bred steer, which was R. N. to Mr. W. E. Learner's heifer; for the cross-bred breed cup he took first in his class, and at 1,037 days old gave an average daily gain of 1 lb. 14.73 ozs. Her Majesty the Queen's heifer, Cicely, which was Birmingham champion, came in here R. N. for best heifer, and took first in her class, the Shorthorn breed cup, and Her Majesty's own cup for the best best bred and fed by the exhibitor, which cup, having been won by the Queen last year, goes absolutely to Windsor; this excellent heifer's daily gain at 1,012 days being 1 lb. 12.55 ozs. Mr. John Ross won the cup for best beast under two years old with his cross-bred heifer, which was first in her class, and gave an average daily gain at 710 days of age of 2 lbs. 0.12 ozs., the R. N. for this cup being Mr. George Bruce's under-2-years-old Aberdeen-Angus steer, which, in addition to this honor and his first prize, won also the breed cup of his breed, showing an average daily gain at 693 days old of 2 lbs. 3.73 ozs.

The R. N. for the best best bred and fed by the exhibitor went to the Earl of Strathmore's Aberdeen-Angus heifer, which won first in her class and R. N. for the breed cup, her average daily gain at 1,058 days being 1 lb. 6.54 ozs.

In the sheep section two classes were allotted to each breed, one for wether lambs under 12 months, and the other for wethers exceeding 12 months and under 24 months.

The *Leicesters* numbered 4 and 4 entries present, and their average daily gains were 10.59 ozs and 6.78 ozs. *Border Leicesters*—The entries present were 2 and 1, and their average daily gains were 10.24 ozs. and 5.29 ozs. *Cotswolds*—There were present

one entry in each class, showing the average daily gains of 10.32 ozs. and 7.19 ozs. *Lincolns*—The entries present were 4 in each class, and their average daily gains were 10.31 ozs. and 8.32 ozs. *Southdowns* had present 13 and 10 entries, and their average daily gains were 7.76 ozs. and 4.85 ozs. *Hampshires* had 11 and 5 entries present, and their average daily gains were 10.26 ozs. and 6.39 ozs. *Suffolks* had 9 and 4 entries present, and their average daily gains were 10.79 ozs. and 7.10 ozs. *Shropshires* had 6 entries present in each class, and their average daily gains were 9.54 ozs. and 6.19 ozs. *Oxford Downs* had 5 and 2 entries present, and their average daily gains were 9.67 ozs. and 6.49 ozs. *Dorset Horns* and other short-wools had 5 and 2 entries present, their average daily gains being 9.42 ozs. and 5.07 ozs. *Cross-breds* had 8 and 5 entries present, and their average daily gains were 10.85 ozs. and 7.25 ozs.

The Prince of Wales' challenge cup was won, for the second year in succession, by Lord Ellesmere, who thus wins the cup outright, with his pair of Suffolk wethers, which also won their first class prize, breed cup and champion cup for best pen of short-wools in the show, their average daily gain being 7.70 ozs. at 654 days old.

For the R. N. for the Prince of Wales' cup, Mr. J. Pears' Lincoln wethers, the winners of the Liverpool champion cup, were selected. This was the heaviest pen of sheep in the show, 10 cwt. 11 lbs., and gave an average daily gain of 9.12 ozs. at 661 days of age.

The R. N. for the short-wooled champion cup was the Duke of Richmond's Southdown wethers, which won their breed cup and first in their class, their average daily gain at 640 days old being 4.67 ozs.

The R. N. for the long-wool champion cup were Mr. H. Dudding's first-prize pen of lambs, which, had they been judged entirely from a breed point, were decidedly the best type of their breed in the show. They showed at 296 days of age the average daily gain of 10.32 ozs.

The other breed-cup winners were as follows: *Leicesters*, Mr. E. F. Jordan's wethers, whose daily gain at 609 days was 6.83 ozs.; *Border Leicesters*, the Earl of Roseberry's wether lambs, whose daily gain at 250 days was 10.54 ozs.; *Cotswolds*, Mr. F. Craddock's wethers, whose daily gain at 623 days was 7.19 ozs.; *Hampshire Downs*, Mr. T. F. Buxton's lambs, whose daily gain at 317 days old was 12.23 ozs.; *Shropshires*, Mr. P. L. Mills' lambs, whose average daily gain at 275 days old was 10.18 ozs.; *Oxford Downs*, Mr. H. W. Stilgoe's lambs, whose average daily gain at 320 days old was 9.50 ozs.; *Dorset Horns*, Mr. James Toop's lambs, whose average daily gain was 9.33 ozs. at 341 days old, and cross-breds, Mr. F. I. Mathews' wethers, whose average daily gain was 7.36 ozs. at 647 days old.

The highest daily gain in the cattle section was a cross-bred steer shown by Mr. J. D. Fletcher, and R. N. in its class, whose daily gain was 2 lbs. 8.33 ozs. at 626 days old. The highest daily gain in the wether classes was that of Mr. J. Pears' pen of Lincoln wethers, 9.12 ozs. at 651 days, and the highest daily gain in the lamb classes was that of Mr. W. H. Gibbing's Devon long-wool lambs, 12.50 ozs. at 275 days of age.

The carcass classes were of great interest, the champion prize and its R. N., both in the cattle and sheep sections, going to the younger classes, which is indicative of the value, from a butcher's point of view, of early maturity.

In the steer class not exceeding 2 years there were four entries, whose aggregate age was 2,300 days, their live weight 5,182 lbs., their carcass weight 3,327 lbs., which equals 68.21 per cent. of live weight, the average daily gains being 1 lb. 13 ozs. of live weight and 14.13 ozs. carcass weight.

Seven entries formed the class for steers exceeding 2 years and not exceeding 3 years, their aggregate age being 6,325 days, their live weight 9,620 lbs. and their carcass weight 6,059 lbs., which equals 62.94 per cent. of live weight, the average daily gains being 1 lb. 8.33 ozs. of live weight and 15.32 ozs. of carcass weight.

There were four entries in the heifer class not exceeding 3 years, whose aggregate age was 3,775 days, with a live weight of 5,186 lbs. and a carcass weight of 3,221 lbs., which equals 62.37 per cent. of the live weight, the average daily gains being 1 lb. 5.95 ozs. live weight and 13.55 ozs. carcass weight.

There were eight entries in the long-wooled lamb class, their aggregate average age being 2,048 days, their live weight 977 lbs. and their carcass weight 561 lbs., which equals 57.42 per cent. of the live weight, the average daily gains being 7.64 ozs. of live weight and 4.38 ozs. of carcass weight. The yearling wether class of long-wools numbered seven entries, whose aggregate age was 4,283 days, with an aggregate live weight of 1,111 lbs. and carcass weight of 689 lbs., which gave a percentage of 62.01, their average daily gains being 4.15 ozs. of live weight and 2.57 ozs. of carcass weight. The short-wool lamb class had an entry of twelve, with an aggregate age of 3,534 days, a live weight of 1,760 lbs. and a carcass weight of 1,085 lbs., which gives a percentage of 61.64, the average daily gains being 7.97 ozs. alive and 4.90 ozs. carcass. The yearling wether class had an entry of six, whose aggregate age was 3,886 days, with a live weight of 1,120 lbs. and a carcass weight of 680 lbs., which gives a percentage of 61.51 and the average daily gain of 4.61 ozs. alive and 3.60 ozs. dead.

The swine show was a thoroughly good one in the open sections of the show, but there is not at present any carcass test for these animals.

English Show-yard Results in 1900.

BY W. W. CHAPMAN.

For seven years past I have annually tabulated the results of the show-yard contests of the sheep section of the principal English shows, and its value as a means of reference is a great one, particularly when one requires to judge, not so much the present, but the past, history of the English flocks, for, after all, one of the most valuable and important facts for purchasers to ascertain is, what has this flock been doing in previous years? And for this reason, namely, that there happens in sheep-exhibiting, as in most other things, some phenomenal events, such as a young breeder, or, for the matter of that, an old one, being able, by the result of a judicious cross or perhaps a lucky fluke, to produce some extraordinary pen or pens of sheep, which may in some future time sweep the deck and clear all before them. In such cases as this, the value of past records becomes very great, for no one who is a careful breeder and selector would think of purchasing heavily from such a flock for stud purposes without careful enquiry. And why? Because the essential feature of all such animals is their power of prepotency and to impress their good qualities and merits upon their produce. These qualities only become assured after years and years of careful selection and breeding. Thence arises the peculiar value which those sheep have that are the produce of flocks which year after year have taken a prominent if not the leading place amongst those of their breed in the show-yard contests. Therefore, in order to give your readers the advantage of this information which I have at my command, I have to a certain extent incorporated the results of the previous six years with those of the present year, so far as they affect any present breeder whose name comes well to the fore in the present year's show record.

Leicesters.—Mr. G. Harrison, who takes precedence in the present year with 2 champion, 9 first, 6 second and 4 third prizes, at three shows, has occupied the same place during each of the years since 1894, including that year. Mr. J. E. Ward, second in this year's compilation, with 10 first and 4 second prizes to his record, was not included in that of 1894, 1895, 1896 and 1897, but came seventh in 1898 and fifth in 1899. He has considerably improved his position. Mr. J. J. Simpson comes next this year, with 3 firsts, 6 seconds, 4 thirds and a fourth prize, won at five shows. His position in previous years was: 1894, fourth; 1895, not in the compilation; 1896, seventh; 1897, third; 1898, third; and 1899, eighth. Mr. E. F. Jordan comes fourth this year, with 4 first, 4 second, 2 third and 1 fifth prizes to his record, won at two shows. In 1894 he was second in the compilation; in 1895, second; in 1896, second; in 1897, fourth; in 1898, second; and in 1899, third.

Cotswolds.—This breed is one whose exhibition is in a very few hands, prominent amongst them being the Messrs. Earne, whose senior, Mr. R. Earne, is amongst the long list of prominent breeders of British stud stock, whose demise we mourn this year. He was a man of rare good qualities and of sterling honesty, one of the rare old British yeoman type, whose genial companionship and sound advice will be greatly missed. This year's show-yard compilation for this breed is headed by Mr. R. Swanwick, who comes out on top with 8 first, 5 second and 6 R. N. prizes to his credit, at four shows. In the compilation for 1894 he was fifth; in 1895, not included; in 1896, third; in 1897, sixth; in 1898, first; and in 1899, third. Messrs. R. & W. T. Earne are second this year, with 5 first and 3 second prizes to their credit, at three shows. In 1894 and 1895 they were first; in 1896, 1897 and 1898, second, and in 1899, first. Mr. T. Walker, who comes third this year, with a record of 3 first prizes at one show, was not included in either of the years between 1894 and 1899. Mr. W. Houlton, fourth this year, with 2 second, 2 third and 1 R. N. prizes to his credit, at two shows, is likewise unnamed in the other years included in this record.

Lincolns.—With the exception of the years 1896 and 1897, Mr. Henry Dudding, whose achievement of selling by auction, in three years, two single shearing rams at 1,000 guineas each, holds a record unequalled by any living breeder of Lincolns. He has each year since 1894 held easily the leading place in the show-yard competition, his record during the present season being 7 champion, 18 first, 15 second, and 4 third prizes, at six shows, the only ones at which entries were made. Messrs. R. & W. Wright take the next place, with 1 champion and 2 R. N. for champion, 5 first, 8 second, 4 third and 1 fifth prizes, won at four shows. They were third in 1894, fifth in 1895, first in 1896, second in 1897, third in 1898, and fifth in 1899. Messrs. S. E. Dean & Son come in third this year, with 6 first, 9 second and 1 third prizes to their credit, at five shows. They were not included in the compilation of 1894, and were seventh in 1895, third in 1896, first in 1897, second in 1898, and third in 1899. Mr. Tom Casswell, who comes fifth this year, with 2 R. N. for champion, 3 first, 1 third and 2 R. N. prizes, won at three shows, was not in the compilation for 1884, 1896 and 1897, but was sixth in 1895, seventh in 1898, and second in 1899. Amongst other breeders whose names have been frequently mentioned in the prize records during the period named, and whose names are included in this year's record, are

Messrs. J. Pears, J. E. Casswell, H. Goodyear, and H. Smith, Jr.

Oxford Downs.—Amongst this breed there has been great variation during the past nine years. Messrs. A. Brassey, J. Treadwell and G. Adams have for a time retired from the show-yard, and this is the reason why their names are missed in one of the years we refer to. Mr. W. A. Treweek heads the list this year, with 2 champion, 9 first, 3 second, and 2 third prizes, won at five shows. His name does not come into the compilations until 1898 and 1899. In the former year he was fourth and in the latter first. Mr. J. C. Eady takes second place this year, there being 1 champion, 4 first and 4 second prizes to his credit at three shows. He was second in 1894, 1895, 1896, 1897, 1898, and first in 1899. Mr. J. T. Hobbs takes third place this year, with 5 first, 1 second, 1 third and 4 R. N. prizes, at five shows. In 1898 he was fifth and 1899 third. Mr. R. W. Hobbs, who comes in fourth this year, with a record of 4 first, 5 second and 1 R. N. prizes, has, though his flock is an old one, never before been so prominent in the show-yard, whilst, for the reasons above, the names of Brassey and Treadwell are not given in the compilation, though both of these have successfully exhibited during the period included in our review.

Shropshires.—Mr. R. P. Cooper takes precedence in this year's compilation, there being to his credit 1 champion, 15 first, 13 second, 7 third, 1 fourth and 10 R. N. prizes, won at sixteen shows. His name was tenth in the 1894 compilation, second in 1895, seventh in 1896, tenth in 1897, third in 1898, and fifth in 1899. Mr. A. E. Mansell, whose noted flock, it may be mentioned, will be dispersed in its entirety next September, on account of its owner having decided to settle in Tasmania, comes in second in this year's record with 2 champion, 7 first, 9 second and 1 fourth prizes, won at five shows. He was first in 1894 and 1895, fourth in 1896, first in 1897, second in 1898, and third in 1899. Mr. A. E. White, who takes third place this year with 2 champion, 8 first, 6 second and 4 third prizes, at three shows, all Irish, is not included in any previous compilation. Fourth and fifth places in this year's compilation are occupied by Messrs. J. Ratcliffe and J. Kinworthy, who owe their prominent place to success at the smaller shows. Next comes Mrs. M. Barrs, with a good record of 7 first, 11 second, 6 third and 4 R. N. prizes, at seven shows. She was third in 1894, fifth in 1895, second in 1896, fourth in 1897, eighth in 1898, and first in 1899. Mr. A. Tanner comes next, with a record of 7 first, 10 second, 2 third and 4 R. N. prizes, won at seven shows. He was ninth in 1894, not in 1895, twelfth in 1896, seventh in 1897, sixth in 1898, and second in 1899.

Southdowns.—Mr. W. Toop takes first place in this year's compilation with a record of two champion, 8 first, 5 second and 2 third prizes, won at four shows. He was third in 1894, 1895, 1898 and 1899, second in 1897, and sixth in 1896 compilations. The Pagham Harbor Co. takes the second place this year, with 3 champion, 5 first, 4 second, 7 third and 3 fourth prizes to their credit, won at five shows. They were fourth in the list in 1894 and 1896, second in 1895, seventh in 1897, and first in 1898 and 1899. T. N. Hobgen, with three champion, 5 first, 3 second, 2 third and 3 R. N. prizes, comes in for third place, won at four shows this season. The first appearance of this name was in 1896, when it was ninth; it was fourteenth in 1897 and tenth in 1898. Earl Cadogan takes fourth place, with a record of 3 championship, 7 first, 2 second and 2 third awards, won at seven shows. In 1897 this flock was tenth in the list; in 1898, fourth, and in 1899, sixth. The Earl of Ellesmere takes fourth place this year, with a champion, 7 first and 2 second prizes, at six shows. This flock was twelfth in 1895, thirteenth in 1896, sixth in 1897, seventh in 1898, and fourth in 1899. Col. McCalmont, M. P., takes sixth place this year, with a champion, 7 first, 6 second and 7 R. N. prizes, won at 11 shows, a considerable improvement upon the 1899 record, when he occupied the eleventh place.

Suffolk.—The Earl of Ellesmere occupies the first place in this breed this year, with a record of 5 champion, 14 first, 15 second and 3 third prizes, won at five shows. A like position His Lordship occupied in the years 1895, 1897, 1898 and 1899, whilst he was second in 1894 and 1896. H. E. Smith, son of Mr. J. Smith, who has the old flock of his father, comes in second in the list this year, a like position to that which he occupied last year. Major E. W. Baird takes third place this year, with 4 first, 2 second and 1 third prizes to his credit, at four shows.

Hampshire Downs.—Mr. James Flower heads this year's record, with 3 champion, 15 first and 8 second prizes, won at five shows, a similar position to which he occupied in 1895, 1896, 1897 and 1899, whilst he was second in 1894 and third in 1898. The Earl of Carnarvon comes in for second place this year, with a record of 2 champion, 8 first and 6 second prizes, at five shows. This flock was tenth in the record for 1896, sixth in 1897, first in 1898, and seventh in 1899. T. F. Buxton takes the third place, with 2 champion, 7 first, 6 second and 3 third prizes, won at four shows. He was first in 1894, third in 1895, fourth in 1896, 1897 and 1898, and third in 1899. W. B. Greenfield, who comes in fourth this year, with a record of 4 first, 2 second, and 4 third prizes, at five shows, was eighth in 1897, sixth in 1898, and ninth in 1899.

Kent or Romney Marsh.—F. Neame takes precedence this year, with 2 champion, 7 first, 2 second and 2 third prizes, won at six shows. He was tenth in 1895, second in 1896, fourth in 1897, and fourth in 1899. W. Mullen takes second place, with a record

for the year of 6 first, 6 second and 2 third prizes, at four shows. He was third in the 1894 list, first in 1895, 1896, 1898 and 1899, and second in 1897. C. File comes in for third honors this year, with a record of 1 champion, 4 first and 2 second prizes, won at three shows. He was fourth in 1894, then retired for a time from show-yard contests, and came out in 1899, taking third place in the record.

Dorset Horn.—W. R. Flower takes precedence in this section, with 1 champion, 3 first and 4 second prizes, at two shows, a position he has occupied each year since 1894, except in 1897, when Col. McCalmont came out very strong with a flock now dispersed.

The record of the Scotch breeds is also available, so far as it concerns the larger shows in that country, but from the fact that in the early years of the record these were not closely booked, we refrain from including them.

Minnesota Station's Exhibit at Chicago.

AGES, WEIGHTS AND GAINS OF ANIMALS.

The competition between the U. S. experiment stations in live stock at the Chicago Fat Stock Show was taken part in by Iowa, Wisconsin, Michigan, and Minnesota. In classes where competition was open to the world, the Minnesota Station won the following premiums: Shorthorn steer calf, first prize, \$60; grade yearling steer, fourth prize, \$10; Southdown wether yearling, first prize, \$15; champion Southdown wether, \$25; Tamworth sow under one year, first prize, \$12; same, second prize, \$8; champion Tamworth sow, \$20; pen of five barrows, 250 to 350 pounds, first prize, \$25; same, third prize, \$10; pen of five barrows, 200 to 250 pounds, third prize, \$10; pen of five barrows, bacon, 150 to 225 pounds, second prize, \$15; champion pen of five barrows, \$25; total, \$235.

Out of a thousand dollars in premiums offered to experiment stations, the Minnesota University Experiment Station won \$600, as follows: Yearling steer, second prize, \$30; yearling steer, third prize, \$20; calves, first, second and third prizes, \$50, \$30 and \$20, respectively; best five head of steers or spayed heifers, \$100; yearling wether, \$30; champion wether, \$40; barrow under one year, third prize, \$10; champion barrow, \$40; best general exhibit, \$200.

The cattle exhibit from this Station, consisted of five animals—two yearlings and three calves. The yearling steer, Robert Bruce, a grade Shorthorn, age one year, eight months and nine days, weighed 1,480 pounds, making a gain of 2.39 pounds per day from birth. During the last three months the daily gain was 2.83 pounds. Golden Crown, also a grade Shorthorn steer, age one year, seven months and eight days, weighed 1,330 pounds, making a gain of 2.27 pounds per day from birth. During the last three months the daily gain was 2.38 pounds. Golden Robe Jr. is a pure-bred Shorthorn steer; age eleven months, two weeks; weight, 1,058 pounds; daily gain since birth, 3.03 pounds; daily gain last three months, 2.70 pounds. White Lily is a grade Shorthorn heifer, spayed; age eleven months, two weeks; weight, 995 pounds; daily gain since birth, 2.85 pounds; daily gain the last three months, 2.09 pounds. Black Prince is a Shorthorn Aberdeen-Angus steer; age one year, one month and seven days; weight, 1,007 pounds; daily gain from birth, 2.50 pounds; daily gain the last three months, 2.16 pounds.

They were fed a grain ration of bran and oats, equal parts, from April 19 to Aug. 1, at the rate of about one pound to each hundred pounds weight of animal. They were also fed about six pounds of roots per day for the two weeks after they came; the roots then gave out. The hay was timothy and clover. They were out at nights on grass from the end of May till the middle of August. They were fed green food in the stable as soon as it could be cut, viz., oats and peas, and oats and vetches, and later green corn, which was fed twice a day. They received some hay all the time. About August 1 some corn was added to the grain ration, and occasionally some barley. Some boiled food, as peas, oats and barley, was fed about five times a week during August and September. September 10 the green food was stopped and some eight pounds of mangels a day were fed. Since September 1 the corn in the grain ration has been increased. For the last two months a little oil cake was fed. The calves suckled all summer, and at no time were they fed as much corn as the yearlings; otherwise they were fed much the same. A portion of these cattle were bred in Canada.

The swine exhibit consisted of twenty-seven animals, all bred at the Station. Of these, eight were Tamworths, six were Yorkshires, and thirteen cross-breeds. The average weight of the six Tamworth barrows was 272.4; average age, 229½ days. They made an average gain of 1.194 pounds per day from birth. The average daily gain the last three months was 1.69 pounds. The two Tamworth sows were 238 days old and averaged 244.5 pounds in weight. From birth they made a gain of 1.028 pounds per day, while their gain during the last months was 1.445 pounds per day. The average weight of the six Yorkshires was 268 pounds; average age, 209.7 days; average daily gain since birth, 1.277 pounds; average daily gain last three months, 1.727 pounds. The average weight of the ten cross-bred pigs was 258.45 pounds; average age, 217.8 days; average daily gain since birth, 1.187 pounds; average daily gain during the last three months, 1.64 pounds.



The Science and the Art of Homemaking.

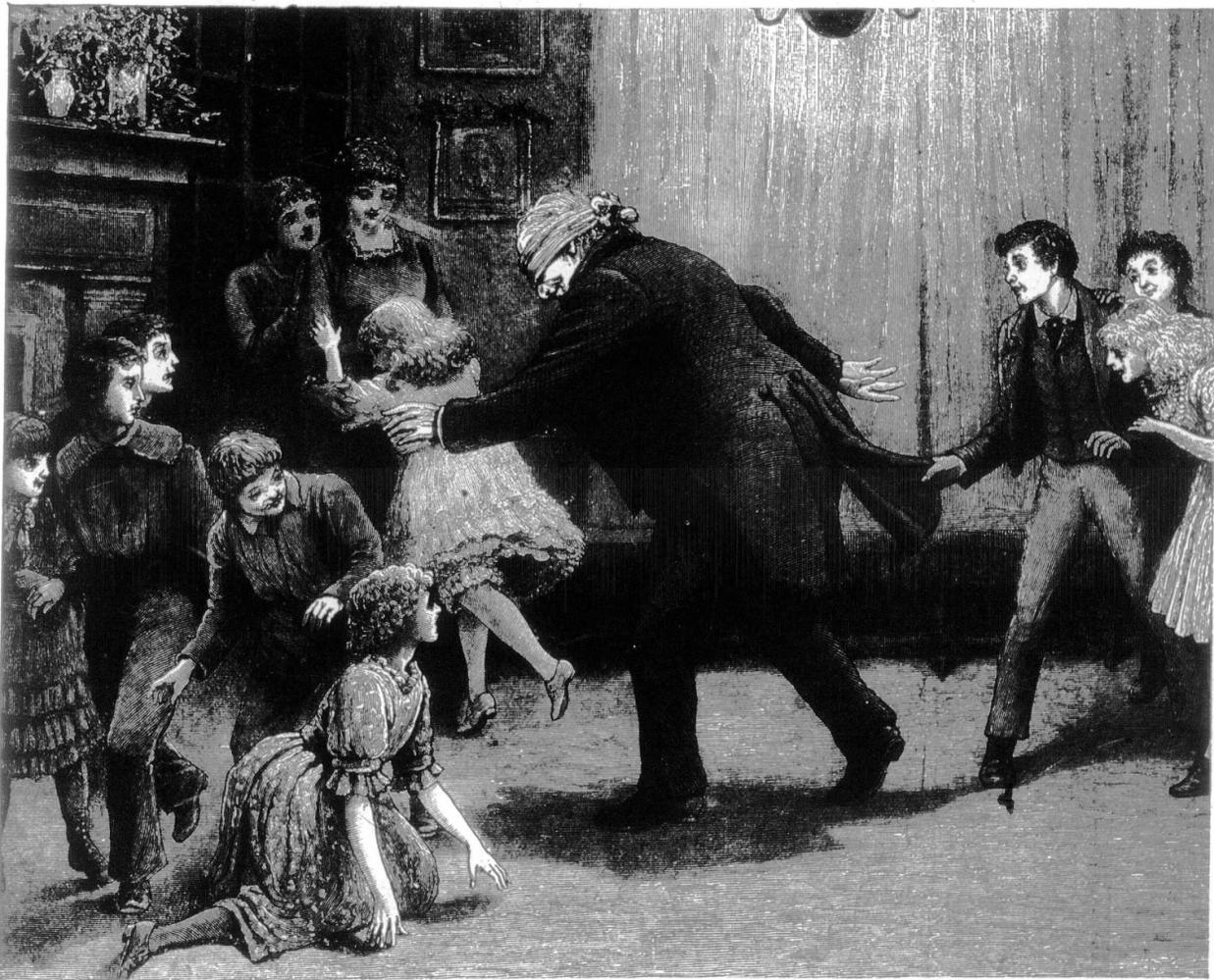
The old century has taught us many valuable lessons, but amongst them, perhaps, none more valuable than the absolute necessity for special training as a preparation for the life work of every child born into the world. Public opinion has at last decided that it is not only the man destined to become the lawyer and the doctor, the wholesale merchant or the retail tradesman, who must have definite instruction if he is to be a success instead of a failure, but that the young girl who is to become the housewife and the homemaker of her generation must have definite instruction also. There is no royal road to knowledge for one more

The girl now knows the why and wherefore of what she does. If she cooks, she does not merely take a certain number of ingredients, and after chopping some and peeling others, and stirring up the mixture, turn out a more or less palatable condiment for the table, but she knows the value of each component part, and what its effect upon the human system. She has an intelligent acquaintance with the growth and development of fruits and vegetables. She has some acquaintance with germs and how to neutralize some of their mischievous effects by cleanliness. Her sense of proportion is more exact, and she can enter upon the various processes to which she puts her hand during the day's work with an interest born of knowledge. She knows, too, that she is being trained for the life she expects to lead, which is her heritage, even though she may not be endowed with it for some time to come, or perhaps never at all. To have a home of her own may be denied to her, but knowledge is power, and the fact that she is equipped to be a housekeeper will give her a sense of self-respect and a certainty that, if need be, she can earn her own bread as the very real help in the home of another who is in a position to avail herself of her capable services.

Dr. Thwing says: "Appreciation, enlargement, enrichment, unity, and differentiation, are the

responsibilities upon her for their well-being requires special study and adaptation. The test has been applied, and the result of incorporating this definite teaching into the school curriculum has everywhere been most satisfactory. The boys who have had a chance to use their fingers as well as their brains return with renewed zest to their routine studies, whilst the girls come back refreshed from the cooking class or housewifery lesson, to their algebra or their euclid, which had begun to tangle up their mental faculties, thankful for the pleasant little break which had not only served its own high purpose, but which had cleared away some of the cobwebs which had obscured their mental vision.

The fact that this definite training will be shared in by the children of all classes alike, that it is as much a necessity for the mother-head of the opulent home as for the mother-head of the humble tenement or four-roomed cottage, for the mistress as well as for the maid, should, before this century is many years old, have such an important influence upon the vexed problem of domestic service that it will not be long before it is wholly solved. Domestic service, like that of nursing, will become a profession, and, to succeed in it, each individual must have her certificate to mark her standing, leaving only those incapable of the distinction to



"A ROMP WITH GRANDPA."

than for the other. Both boy and girl alike need guidance, and a wise discrimination in the training afforded them, if the result is to be the development of the special gifts with which they have been naturally endowed, and to this end parents and teachers should strengthen one another's hands by wise and kindly co-operation. Our limited space forbids our telling in detail what other countries have done along the lines of definite education for girls during the last fifty years, but representatives from all over the world gave, at the International Congress of Women, held in London, England, in 1899, their testimony to the encouraging fact that its necessity had, at last, been everywhere fully recognized. It was with the keenest satisfaction that the representative of the National Council of Women of the Dominion stood up, in her turn, to affirm that the Boards of Education of the Dominion of Canada were in no wise behind the educators of the continent of Europe or the Colonies of Great Britain in affording facilities for the giving to the girl-child of to-day an insight into the principles essential to the best profession for any woman—i.e., that of housekeeper and homemaker. Everywhere is now accepted the fact that homemaking is a science, an art, not a mere intuition belonging to the weaker sex alone, and which should come to her as naturally as the hair grows upon her head or the nails upon her finger-tips.

words significant of the educational progress of the century. The American people began the century believing that education was of value to every man, and especially to the members of the liberal professions; they end the century convinced that no education can be too high or broad or fine for every member of the human family." And as with the United States of America, so is it, thank God, with us in Canada. We too recognize more and more clearly "that education is not a matter of paper and ink, but a taking up of the whole child, body and mind, just as it stands there, and endeavoring so to train the faculties of each as to prepare it to do the very best as it travels along the varied journey of life lying before it." It is a path full of hope, for it makes a full provision for contingencies—it leaves in the training of the girl student "no gaps in her life to be filled up by the happy-go-lucky chance of something turning up."

Mrs. Hart Davis, in an admirable address upon the subject, at the International Congress of Women, said: "The old view was that by hook or by crook a woman would find a niche to fit into somewhere, whether she had received a good or an indifferent education. It was supposed she need not seek useful work to do. It would come to her of itself." But the spirit of the age has changed all this, and no one now questions that every phase of woman's life which touches the lives of others and entails

fill up the vacancies in the factories, the work of which requires a very low amount of mental capacity, and it will all be brought about by the recognition that homemaking and housekeeping is not only an art, but also a science, and, to quote the words of Mrs. Bottome, President of the King's Daughters of the U. S., "No work can be grander than the work our Father gives us to do, whether it be in the kitchen or on the broad highway." H. A. B.

"A Romp with Grandpa."

Among the many joys that throng the Christmas time, none, perhaps, is more valued by the young people than the annual visit to the old homestead where grandpa reigns an honored king and receives his guests with a right royal welcome. Every hour is delightful, but perhaps the best of all is when the spacious kitchen is cleared up for a "Romp with Grandpa."

Our illustration shows a happy group all engaged in the good old-fashioned game of "blindman's bluff." One little fairy is all but in the toils of the blind man, but mischievous Hal giving a pluck at his coat-tail leaves him almost undecided which way to turn. Judging from the faces of all the group, they are indeed having a merry Christmas. A. A.

THE QUIET HOUR.

The Death of the 19th Century.

Our life passeth swiftly onward.
Each age in its turn must die,
Must pass the mysterious river,
And enter eternity.
The evening still changeth to morning;
Old age giveth place unto youth.
All hail to thee, Twentieth Century!
May thy motto be "Justice and Truth"!

Two old men were standing beside a river—a river black as night and still as death. One bent beneath the weight of a hundred years; the other counted his years by thousands. He addressed his companion gravely. "How have you used the hundred years committed to your keeping? What have you to show for them?"

The younger man turned to him with an eager smile. "You shall see, Father Time," he exclaimed, triumphantly. He waved his hand, and the air was filled with bright and airy sprites who came about him and stood waiting for orders. Another wave of his hand set them all to work. Some dragged long trains or lifted heavy burdens with swiftness and ease. Others flashed along wires, carrying messages thousands of miles with lightning speed. The air was filled with the clank and whir of marvellous machines, which seemed to be able to do anything. The gathering twilight was brilliantly illuminated by countless electric lights.

"My inventions and discoveries surpass anything which the centuries before me could show," said the 19th Century, proudly. "The lightning is harnessed to my carriages; the great sun himself is compelled to paint my pictures. I can sail through the air, walk about under the sea, and sail swiftly over it, in defiance of wind and tide. I can study the stars through my telescopes, and examine things, which were invisible to my forefathers, through my microscopes. I can see through solid objects, and speak to people who are many miles away."

"You are very clever indeed," said Father Time. "Now you must die, and all these slaves of yours will serve their new master, and forget you. Soon, very soon, the 20th Century will laugh at your inventions, and call your machines 'antiquated' and 'out of date.' He will improve on them, and then call them his own, forgetting that he started life with all the knowledge you had toiled so hard to gain. Is this fair and just?"

The 19th Century bowed his head in shame, remembering that he had spoken in that fashion of the discoveries and inventions of the ages before him. He could not complain, for he felt that such ingratitude was only his due.

"What evil have you done?" said Father Time.

Then, through the darkness, came creeping ugly creatures, evil spirits who hated the light. The spirits of murder were called forth and questioned. "Why do you love to kill and destroy?"

The many voices in answer nearly all seemed to give the same reason: "We do it for love of money."

Some of the evil things crawled about like snakes on the grass; others flew about with bat-like wings. Father Time did not question any more, but said, sadly, as he dismissed them: "You have invented many new sins, and destroyed very few old ones; but it is not for me to judge you. These things, too, you must leave as a legacy to your successor. Perhaps he may be able to kill some of them. What good have you done?"

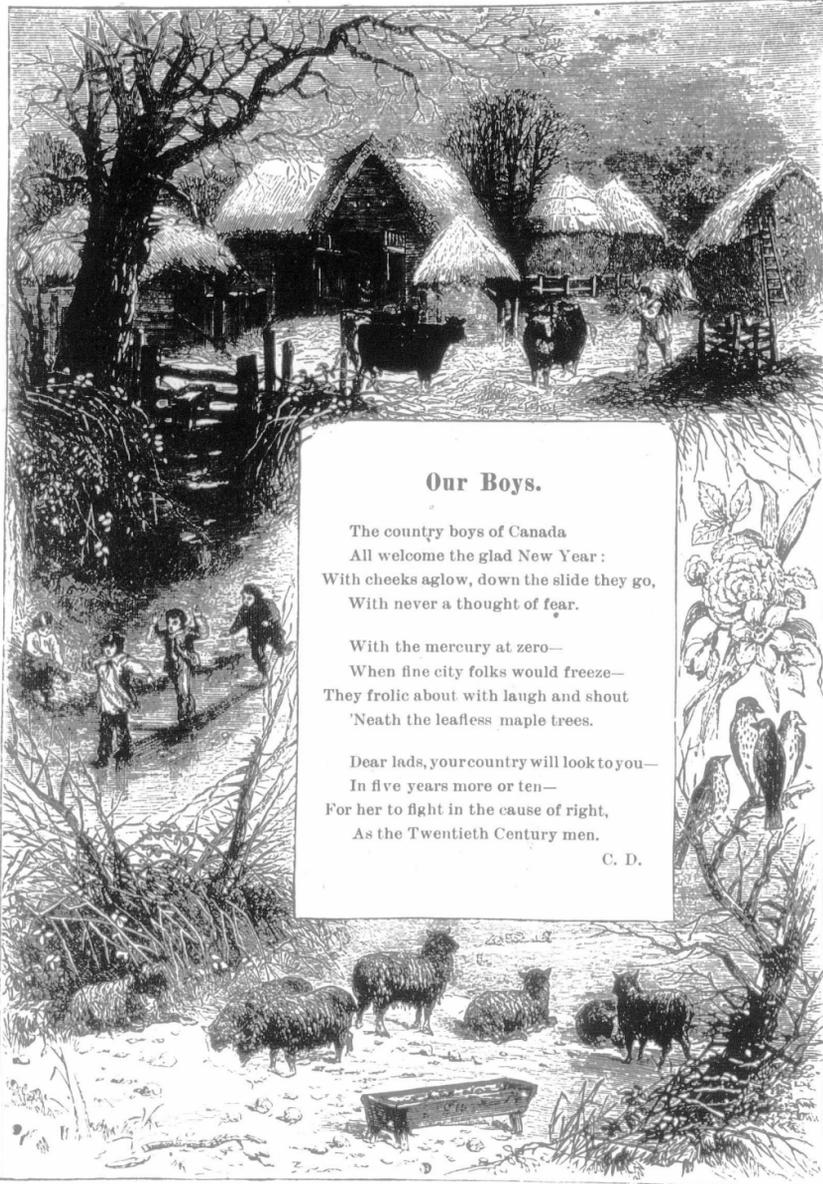
The 19th Century answered: "I have provided free schools for the ignorant, and compelled them to learn. I have saved many lives by my medical discoveries, and relieved pain in many ways. I have built an immense number of churches, hospitals, and other useful institutions; I have

He was interrupted by a number of people, who came from every direction, and were dressed in many strange costumes. Each one carried a Bible, and they crowded around the 19th Century, with grateful exclamations. "We were in darkness, and you brought us light," they shouted, in many languages. Then came multitudes of the sick and poor, who added their words of praise. "We were in misery, and he visited us and helped us," they said, lovingly.

Father Time smiled as he laid his hand tenderly on the bowed head of the younger man. He was really humble at last, this 19th Century. What might he not have done for the heathen if he had only put a little more heart into the work of missions! How many of the sick and needy were still neglected and downtrodden!

Then came the summons to enter the dark river. He went forward bravely, while his satellites turned to do homage to a young man who just then sauntered along. He looked at them unconcernedly, merely remarking: "Oh, you did very well for the 19th century, but you are a trifle old-fashioned, you know. I'll soon show you how to do things."

Meanwhile the spirits of love could not so easily forget their old friend. They lifted him up tenderly, and carried him through the cold, deep waters. The sound of their sweet voices came back to inspire the proud young 20th Century with a longing after better things than worldly greatness, for this was their song:



Our Boys.

The country boys of Canada
All welcome the glad New Year:
With cheeks aglow, down the slide they go,
With never a thought of fear.

With the mercury at zero—
When fine city folks would freeze—
They frolic about with laugh and shout
'Neath the leafless maple trees.

Dear lads, your country will look to you—
In five years more or ten—
For her to fight in the cause of right,
As the Twentieth Century men.

C. D.

"Thou hast not failed! Where holy love and truth
Content with evil failure cannot be!
Their sorest scars claim reverence, not ruth;
Their worst repulse is still a victory!"

The young king then went quietly forward to take his rightful crown, no longer proud of his own great attainments, but rather grateful to those whose successes and failures had taught him wisdom. The centuries gone before still lived in him, and his grand and glorious heritage was a gift from them. Great privileges were his, and a great burden of responsibility too, for the good that a man does lives after him, and also the evil.

"Alike are life and death,
When life in death survives,
And the uninterrupted breath
Inspires a thousand lives.
Were a star quenched on high,
For ages would its light,
Still travelling downward from the sky,
Shine on our mortal sight.
So, when a great man dies,
For years beyond our ken
The light he leaves behind him lies
Upon the paths of men."

HOPE.

THE CHILDREN'S CORNER.

Who Filled the Stockings?

The rain was swiftly falling
On a Christmas-eve long ago,
When Santa Claus said to his wife, "I fear
There's something the matter, I feel so queer:—
Do you think you could take my place, my dear?
For this rain is far worse than snow."

In bed she tucked him snugly,
With a nice hot brick at his feet:
Then the dear old lady bustled around,
Ransacked the storeroom, with never a sound,
And a goodly supply of treasures found,
Which she neatly packed in a sheet.

The children were soundly sleeping—
There were four of them, as you see,—
The stockings were hung in an even row,
With a name pinned tightly to every toe—
"For Santa might make a mistake, you know,"
Said wise little Marjorie.

The midnight bells were ringing
When Jimmie awoke from a doze:
And widely he opened his eyes so
brown,
For Santa was taking the stockings
down.
But could this be Santa in black stuff
gown?
Had he dressed up in woman's
clothes?

But Jimmie's eyes were
heavy,
And he shut them to take a
nap:

The next thing he knew they were
shaking him
And shouting, "Get up! It is Christ-
mas, Jim!
Our stockings are full to the very brim.
Stop snoring, you lazy old chap!"

Some years ago this hap-
pened,
But Jimmie is wondering still
Why Santa Claus should choose to
appear
Dressed up for a joke in woman's gear.
He never will guess the sad truth, I
fear.
That the poor old fellow was ill.
C. D.

The Lookout Regiment.

I have received the follow-
ing communication from one
of the soldiers:

DEAR GENERAL,—

Do you think you could make me
captain of one of the regiments? I
don't think we are going to have a rink
this year, so I would have plenty of
time to look after my duties. If you
think you could possibly make me a
captain, please tell me what I would
be expected to do. Do you think it
would do to divide the boys and girls
up equally into regiments, give each
regiment a captain, and you be
general of all the regiments? Al-
though I don't write much, I take a
lot of interest in the regiment, and
hope I am not asking too much alto-
gether, because I would like to be a
captain, and the only way to find out
if I can is by asking, and if you allow
me to be one I will try my best to do
my best. Don't you think if my sug-
gestion is any good you could choose
the captains of each regiment, and let
the captains you choose hold their
posts for about three months. Then
have an election and if the majority
vote for the captain you have chosen
let him hold his post for another three
months. If the majority vote against
him, you choose another one for each
regiment.

Hoping my suggestion is not alto-
gether worthless,
I remain loyal,
JEMMIE MATCHET.

I am always glad to hear
from you, Jemmie, and hope
you got my letter explaining
that each company must con-
sist of at least four members
living in the same neighbor-
hood. The captain of each
company is expected to report
progress from time to time.
Our regiment is fighting

against sorrow and trouble, and each soldier should
be always ready to stretch out a helping hand to a
comrade—*everybody within reach is a comrade*. To
shovel a little snow, cut a little wood, carry a pail of
water, etc., for some one who needs help; to do such
things willingly and cheerily either for your own
family or for a neighbor, without being asked—
all such kind actions are worth reporting. I would
rather hear that your company is lifting small
burdens for other people than that it is trying
to shoulder big ones; for you can find opportuni-
ties for doing such little kindnesses every day.

I was glad to hear that all the winners in the
last competition were pleased with the prizes sent
to them, and hope that the winners this time will
be equally well satisfied.

As this is holiday time, I will give you a few
old riddles with which to amuse your friends:

"Why is it dangerous to take a nap in a train?"
Because it always runs over sleepers.

"When do two and two make more than four?"
When they make twenty-two.

"What weed is most like a rent in a garment?"
A tare.

"When does rain become too familiar with a lady?"
When it begins to pat her (patter) on the back.

"When may a chair be said to dislike you?"
When it can't bear you.
"What drum is best when it cannot be beaten?"
Conun-drum.
But I must not take up too much room with my nonsense, or the authorities will be giving me notice to quit. May you have a very happy New Year—I might say *New Century*—is the wish of your old friend,
COUSIN DOROTHY.

Ingle Nook Chats.

"Yesterday now is a part of forever,
Bound up in a sheaf, which God holds tight,
With glad days and sad days and bad days which never
Shall visit us more, with their bloom and their blight,
Their fullness of sunshine or sorrowful night."
—Susan Coolidge

A serious thought is embodied in the above lines, and at no time does it appeal to us more strongly than when we have just bade farewell to a dying year and been ushered into the presence of his vigorous young successor. As it is true that "whatever has been written shall remain, nor be effaced nor written o'er again," it is equally certain that we may and should turn the experience gained in the past to genuine profit.

Do we regret lost time? Why not begin at once to use the present as you wished to have done the past? Does conscience reproach you with lack of kindness to one whom at heart you love? What fairer opportunity to heal the wound than now, when the echoes of the "good-will" song still reverberate over all the great earth, and all hearts are softened by its magic influence?

Thus, one by one, we may take the failures of the past and make of them stepping-stones by which to reach our ideal. By the way, how many of us have an ideal? It may be foolish to build castles in the air, but it affords relief during the dull routine of everyday work to allow the mind to soar to higher realms, and if we do fall short of the noble resolutions formed in that mental journey, who shall say that we have not in some degree profited by the excursion?

"Aim high, even though your point you miss!
Some higher mark you gain by this,
Than if, lest failure should befall,
You took no lofty aim at all."

The following contribution was sent me by one of our readers, who has evidently determined to look for the silver lining, a determination we should do well to emulate, for, unlike the pot of gold at the foot of the rainbow, the silver lining is sure to appear to every earnest seeker:

Ever There's Light.

Rain is falling from starless skies;
Cold winds wail and moan;
Darkness drear; but a glowworm lies
Down in the grass alone.

Tears are falling from eyes of night;
Tempests of sorrow chafe;
Loss is gloom; but ever there's light—
The love of some lonely waif.

"ESSEX."

RESULT OF COMPETITION IV.

One hundred and fourteen books were voted upon in this contest. Those winning the greatest number of votes are:

- 1—Uncle Tom's Cabin—H. B. Stowe 15 votes.
- 2—Ivanhoe—Sir Walter Scott 13 votes.
- 3—Ben Hur—Gen. Lew Wallace 12 votes.
- 4—David Copperfield—Chas. Dickens 8 votes.
- 5—Vanity Fair—Wm. M. Thackeray 8 votes.
- 6—Adam Bede—George Eliot 8 votes.
- 7—Robinson Crusoe—Defoe 6 votes.
- 8—John Halifax—Miss Mulock 5 votes.
- 9—St. Elmo—A. J. Evans Wilson 5 votes.
- 10—Jane Eyre—Charlotte Brontë 4 votes.
- Kenilworth—Sir Walter Scott
- To Have and to Hold—Mary Johnson
- Beside the Bonnie Briar Bush—I. Maclaren
- Opening of a Chestnut Burr—E. P. Roe

The total number of votes for ten books was 84, and the highest amount scored by any contributor was 80—a close run. The winners are: Miss Queenie Langford, Maple Grove, Ont.—80; D. W. Monkman, Bondhead, Ont.—77; Miss Lizzie Conner, Hyde Park, Ont.—67. Those making more than 50% of the total are: Maud Kirkland, Ada Smithson, Lily Rogers, Kate J. Matheson, M. C. Boss, Fred Conner, G. Langford, G. J. McCormac, C. W. Baker, Wilbert Mackay, J. Vessey, Agnes Henderson (extra good for a ten-year-old girl), Mrs. W. Evens. Papers were also received from Laura Fee, Emily A. Murray, Fremlin Hollingsworth, Matthew A. Robertson, Louise Williams, Violet Metcalfe, E. Crealy, and Beatrice B. Phin. Competitors came from Algoma, Manitoba, Assiniboia, Nova Scotia, Prince Edward Island, Quebec, and many parts of Ontario. "If at first you don't succeed, try, try again." Plenty of time for work on Contest V. to be sent in, and I hope every class will be well represented.

COMPETITION VI.

Three prizes are offered for the best articles on the subject, "My Ideal—What I should like to do with my life." Contest open until Feb. 20th, and will be divided into classes, as in contest V., viz.: Class I., 18 years and over; Class II., 14 years and under 18; Class III., under 14 years.

The glowing embers in the grate begin to grow dim, but before their cheery light has fled, a wish that all that is glad, good and true may be the lot of all her readers, is tendered by
THE HOSTESS.

Address, "The Hostess," Ingle Nook Chats, Pakenham, Ont.

A man once wrote to a distinguished scientific agriculturist, to whom he felt under obligation for introducing a new variety of swine:—

"Respected sir, I went yesterday to the cattle fair: I found several pigs of your species. There was a great variety of beasts, and I was very much astonished at not seeing you there."

A Happy New Year.

Just at the turn of the midnight,
When the children are fast asleep,
The tired Old Year slips out by himself,
Glad of a chance to be laid on the shelf,
And the New Year takes a peep

At the beautiful world that is waiting
For the shouts that he will bring;
For the wonderful things in his peddler's pack;
Weather, all sorts, there will be no lack,
And many a marvellous thing.

Flowers, by hosts and armies,
Stars and sunshine and rain!
The merry times and the sorrowful times,
Quickstep and jiggle and dirge and chimes,
And the weaving of joy and pain.

When the children wake in the morning,
Shouting their "Happy New Year,"
The year will be started well on his way,
Swinging along through his first white day,
With the path before him clear.

Twelve long months for his journey;
Fifty-two weeks of a spell;
At the end of it all he'll slip out by himself,
Glad of a chance to be laid on the shelf,
At the stroke of the midnight bell.

1901.

With eager hope, with radiant, smiling mien,
The Guardian Angel of the coming year
Waits on the Future's verge with kindly cheer,
In robe of light untouched by hand unclean.
But ah! how changed may be that raiment's sheen
When from its folds his wistful face shall peer,
And how may we, whose sins have sullied, bear
To read His mute reproach, life's "might have been?"
Oh brothers, sisters, in fierce trial's hour,
When the arch Tempter whispers, be ye strong;
Fight, that the right may triumph o'er the wrong,
Pray for your soul's release from Satan's power,
That on the path no haunting shadow cast
May dim the tender memory of the Past.



WHO FILLED THE STOCKINGS? (SEE PAGE 24.)

"Now I Lay Me Down to Sleep."

The fire upon the hearth is low,
And there is stillness everywhere;
Like troubled spirits, here and there
The firelight shadows fluttering go:
And as the shadows 'round me creep,
A childish treble breaks the gloom,
And, softly, from a farther room
Comes, "Now I lay me down to sleep."

And, somehow, with that little prayer
And that sweet treble in my ears,
My thoughts go back to distant years,
And linger with a dear one there;
And, as I hear the child's amen,
My mother's faith comes back to me,
Crouched at her side I seem to be,
And mother holds my hands again.

O for an hour in that dear place!
O for the peace of that dear time!
O for that childish trust sublime!
O for a glimpse at mother's face!
Yet, as the shadows 'round me creep,
I do not seem to be alone—
Sweet magic of that treble tone—
And "Now I lay me down to sleep."
—Eugene Field.

Popular authors, it is said, are often the recipients of communications from persons of whom they perhaps know absolutely nothing, requesting that they may be favored with a free copy of the author's latest book. A case in point was that in which a certain novelist, not unknown to fame, received from a lady an unstamped letter asking the loan of his book, on the plea that she could not obtain it at the booksellers in her town. His reply was worded as follows:—

"Dear Madam,—In the town where you reside there appears to be a lack of all sorts of things which are easily procurable elsewhere, not only my recent work in all the book shops in which it is applied for, but also the postage stamps for letters. I have in my possession, it is true, the book you desire to obtain, and also the stamps to pay its carriage, but, to my regret, I am without the necessary string to make it into a parcel. If you can supply me with a piece I am at your service."

Good Health.

CAMPHOR FOR COLDS.

One of the most efficient remedies for breaking up a cold during its earliest stage is camphor. When the eyes begin to water, and there is the accompanying tingling of the nose and feeling of chilliness, place three drops of camphor on a lump of loaf sugar and place the sugar in mouth. Repeat this every fifteen minutes till four or five doses have been taken. At the same time place the feet where they will become thoroughly warm. This will usually prove effectual in breaking up a cold if the cold is taken at its very beginning. For a child but one drop should be placed upon the sugar, and five or six doses administered. Another method of taking the camphor, which is sometimes preferred for grown people, is to put a spoonful of sugar in a cup, add hot water and from ten to fifteen drops of camphor. This makes what is called a camphor sling. Camphor may be prepared by placing in a corked bottle as much camphor gum as the amount of alcohol which the bottle holds will dissolve. Place some of the gum in the alcohol and add more as this is taken up. This makes a strong, pure solution.

ALUM TREATMENT OF WHOOPING-COUGH.

Not many years ago alum was one of the favorite remedies for the relief of whooping-cough, but of late it has been almost entirely superseded by other less unpalatable drugs. Now it seems to be again entering upon a time of favor and appreciation. Dr. Warfvine, of Stockholm, records a series of cases of whooping-cough of varying degrees of severity in which he exhibited the remedy, as a rule, as soon as the characteristic symptoms were declared. The earlier the treatment was begun the better were the results obtained. In one case of a boy, eight years of age, who had a cough for three weeks, and who had just begun to whoop, the symptoms disappeared entirely after the use of alum, in a solution ten grains to the ounce, for two weeks. In another case of a girl, six years of age, who had from twenty to twenty-five moderately severe attacks in the day, the cough was cured in ten days by the same means. The remedy was given usually in a mixture of equal parts of solution and orange syrup in the dose of a teaspoonful four times a day. Even in the later stages of the disease, the attacks seemed to be greatly reduced in frequency and severity when alum was exhibited to the exclusion of all other remedies.

Humorous.

Here is a copy of a letter from the American litterateur, T. B. Aldrich, to Professor Morse, who had just favored him with an illegibly-written epistle:—

"My Dear Morse,—It was very pleasant for me to get a letter from you the other day. Perhaps I should have found it pleasanter if I had been able to decipher it. I did not, however, succeed in mastering anything beyond the date (which I knew) and the signature (which I guessed at). There is a singular and perpetual charm in a letter of yours—it never grows old, it never loses its novelty. One can say to one's self every morning: 'There's that letter of Morse's. I haven't read it yet. I think I'll take another shy at it to-day, and maybe I shall be able in the course of a few years to make out what he means by those t's that look like w's, those i's that have no eyebrows.'

"Other letters are read and thrown away and forgotten, but yours are kept forever—unread. One of them will last a reasonable man a lifetime—Admirably yours,
T. B. ALDRICH."

Scene—Cottage Hospital.—Patient (to nurse)—
"Would you give me a looking-glass?" Nurse—
"What for?" Patient—"To see myself starving."

A lady in the Lake District, having sent an order for a joint of mutton to the butcher who usually supplied the wants of her household, received the following note in reply:—

"Dear Mem,—I am sorry I have not killed myself this week, but you can have a leg off my brother.—Your affectionate Butcher."

A policeman had offered his hand to a young woman, and, being refused, arrested her and took her to the police office. Officer at the bar—"What is the charge against this woman?" "Resisting an officer, sir," was the reply. She was discharged, and so was the policeman.

A barrister whose name was Missing was examining a witness about a donkey that was stolen, as follows:—Barrister (sternly)—"Do you mean to tell me the donkey strayed?" Witness (with a knowing look at the judge)—"I mean to say the ass was missing."

GOSSIP.

THE SHORTHORN HERD OF J. & W. B. WATT.

In the records of the principal live-stock exhibitions in Canada in the last twenty years, it may be safely stated that for no other herd and no other breeder of Shorthorn cattle in the Dominion can be claimed a more successful or more honorable record in prize-winning than stands to the credit of J. & W. B. Watt, of Salem, Ontario.

Among the other families added to the herd, by the purchase of high-class females at later periods, are English Ladies, descended from imp. English Lady, bred by W. S. Marr, of Uppermill, and sired by Heir of Englishman, a bull that is said to have made as great improvement in that herd as did Champion of England in the Sittytown herd.

But, richly-bred and well-selected as have been the females figuring in the herd, it has been to the exercise of superior judgment in the selection of sires to mate with them that the success that has crowned their work as breeders is mainly due.

Following Barmpton Hero and Challenge, a wise and judicious selection of a stock bull was made in the Marr-bred imp. Royal Sailor, a son of the Spicy bull, Sea King, bred at Sittytown, and out of a daughter of the great William of Orange.

vice are Royal Victor = 34681 = (illustrated on another page in this issue), a sappy red-roan son of imp. Royal Sailor, and much resembling himself, out of Mildred 4th, by Hospodar, and full brother to the champion Judge, and Royal Wonder, first-prize bull under a year at Toronto and London, 1900, a red son of imp. Royal Sailor and English Lady 11th, and considered one of the best young bulls ever shown in Canada, combining quality, substance and breed character in a very high degree.

If the Messrs. Watt have used more bulls of their own breeding than most Canadian breeders, it has been because their own have been better than any they could buy, and because they knew their own were bred right, from stock as good as any that has been imported, and qualified to breed as good, or a little better, as their showyard record has amply proven, and in this they have but followed the course adopted by the most successful breeders in Britain.

Advertisement for fertilizers featuring 'No crop can be grown without Potash' and 'Supply enough Potash and your profits will be large; without Potash your crop will be "scrubby."' Includes images of fertilizer bags and a 'Farmers Guide' book.

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.

FOR SALE: Young Shorthorn bull, Double Diamond, 14 months old, sired by (Imp.) Diamond Jubilee; dam (Imp.) Myrtle 3rd; she won a number of prizes in Scotland at one year old, and 1st prize at Toronto at 2 years old. He is a fine, even, straight young bull.

Prize List Ontario Provincial Winter Fair, 1900.

- BEUF CATTLE. SHORTHORNS. Steer, two years and under three—J. Fried & Sons, Roseville. Steer, one year and under two—Israel Groff, Alma; 2 Peter Stewart, Everton. Cow or heifer, three years and over—1 W. J. Biggins, Clinton; 2 Dan Talbot, Everton; 3 John Campbell, Woodville. Heifer, two years and under three—J. Fried & Sons. Heifer, under two years—1 H. Smith, Hay; 2 J. Fried & Sons. Dressed carcass—1 J. Fried & Sons; 2 W. J. Biggins; 3 H. K. Fairbairn, Theoford. Sweepstake for best Shorthorn steer—Israel Groff. Sweepstake for best Shorthorn cow or heifer—H. Smith.

year and under two—1, 2 and 3 John Park & Sons. Wether, under one year—1, 2 and 3 John Park & Sons. Wethers, under one year—John Park & Sons. Ewes, under one year—John Park & Sons. Dressed carcass, wether, one year and under two—1 and 2 John Park & Sons. Dressed carcass, ewe or wether, under one year—John Park & Sons.

LINCOLNS.—Ewe, under one year—1, 2 and 3—J. T. Gibson, Denfield. Wether, one year and under two—1 and 2 J. T. Gibson. Wether, under one year—1 and 3 J. T. Gibson; 2 L. Parkinson, Eramosa. Wethers, under one year—1 J. T. Gibson; 2 L. Parkinson. Ewes, under one year—1 J. T. Gibson; 2 and 3 L. Parkinson. Dressed carcass, wether, one year and under two—J. T. Gibson. Dressed carcass, ewe or wether, under one year—1 L. Parkinson; 2 J. T. Gibson.

LEICESTERS.—Ewe, under one year—1 and 3 A. & W. Whitelaw, Guelph; 2 John Kelly, Shakespear. Wether, one year and under two—1 and 2 Orr & Lillico, Galt. Wether, under one year—1 Orr & Lillico; 2 and 3 John Kelly. Wethers, under one year—1 and 3 Orr & Lillico; 2 John Kelly. Ewes, under one year—1 A. & W. Whitelaw; 2 and 3 John Kelly. Dressed carcass, wether, one year and under two—Orr & Lillico. Dressed carcass, ewe or wether, under one year—1 Orr & Lillico; 2 John Kelly.

OXFORDS.—Ewe, under one year—1 Kenneth Finlayson, Campbellton; 2 Smith Evans, Gourcock; 3 Andrew Elliott, Pond Mills. Wether, one year and under two—1 and 2 Andrew Elliott. Wether, under one year—1, 2 and 3 Smith Evans. Wethers, under one year—1 Smith Evans; 2 Andrew Elliott. Ewes, under one year—1 Kenneth Finlayson; 2 Smith Evans; 3 J. H. Jull, Mount Vernon. Dressed carcass, wether, one year and under two—1 and 2 Andrew Elliott. Dressed carcass, ewe or wether, under one year—1 and 3 Andrew Elliott; 2 Smith Evans.

SHROPSHIRE.—Ewe, under one year—1 and 2 John Campbell, Woodville; 3 D. G. & J. G. Hamner, Mt. Vernon. Wether, one year and under two—1 and 2 John Campbell; 3 D. G. & J. G. Hamner. Wether, under one year—1 and 2 R. Gibson, Delaware; 3 John Campbell. Wethers, under one year—1 and 2 R. Gibson; 3 W. E. Wright, Glanworth. Ewes, under one year—1 John Campbell; 2 D. G. & J. G. Hamner; 3 Abram Rudell, Hespeler. Dressed carcass, wether, one year and under two—1 T. Lloyd-Jones & Sons, Burford; 2 D. G. & J. G. Hamner; 3 John Campbell. Dressed carcass, ewe or wether, under one year—1 R. Gibson; 2 T. Lloyd-Jones & Sons; 3 W. E. Wright.

SOUTH-DOWNS.—Ewe, under one year—1 and 2 John Jackson & Sons, Abingdon; 3 Robt. McEwen, Byron. Wether, one year and under two—1 W. E. Wright, Glanworth; 2 Telfer Bros, Paris; 3 Hon. Geo. A. Drummond, Beaconsfield, Que. Wether, under one year—1 T. C. Douglas, Galt; 2 and 3 John Jackson & Sons. Wethers, under one year—1 T. C. Douglas; 2 John Jackson & Sons; 3 Telfer Bros. Ewes, under one year—1 John Jackson & Sons; 3 Robt. McEwen; 3 Wm. Martin, Binbrook. Dressed carcass, wether, one year and under two—1 Telfer Bros; 2 W. E. Wright; 3 W. H. Beattie, Wilton Grove. Dressed carcass, ewe or wether, under one year—1 Telfer Bros; 2 John Jackson & Sons; 3 T. C. Douglas.

DORSET HORNS AND MERINOS.—Ewe, under one year—1 and 2 R. H. Harding, Thorndale. Wether, one year and under two—1 W. E. Wright, Glanworth; 2 and 3 R. H. Harding. Wether, under one year—1, 2 and 3 R. H. Harding. Dressed carcass, ewe or wether, one year and under two—1 W. E. Wright; 2 and 3 R. H. Harding. Dressed carcass, ewe or wether, under one year—1 and 2 R. H. Harding.

HAMPSHIRE AND SUFFOLKS.—Ewe, under one year—John Kelly, Shakespear. Wether, one year and under two—1 and 3 W. J. Rudd, Eden Mills; 2 Jas. Bowman, Guelph. Dressed carcass, ewe or wether, one year and under two—1 and 3 W. J. Rudd; 2 Jas. Bowman. SWEEPSTAKES.—Best animal in class: Lincolns—J. T. Gibson, Denfield. Leicesters—A. W. Whitelaw, Guelph. Oxfords—Kenneth Finlayson, Campbellton. Shropshires—R. Gibson, Glanworth. Southdowns—W. E. Wright, Dorset. Horns—R. H. Harding, Thorndale. Hampshire and Suffolks—J. Kelly, Shakespear.

GRADES AND CROSSES.—Ewe, one year and under two—1 John Campbell, Woodville; 2 T. C. Douglas, Galt; 3 Jas. Scott, Aberfoyle. Wether, one year and under two—1 John Campbell; 2 W. E. Wright, Glanworth; 3 T. Lloyd-Jones & Sons, Burford. Three wethers, under one year—1 John Campbell; 2 R. Gibson, Delaware; 3 Orr & Lillico, Galt. Wether, under one year—1 J. T. Gibson, Denfield; 2 John Campbell; 3 W. E. Wright, Glanworth. Ewe, under one year—1 John Campbell; 2 R. H. Harding, Thorndale; 3 J. T. Gibson, Denfield. Best ewe or wether, under two years—1 W. E. Wright; 2 John Campbell. Dressed carcass, ewe or wether, one year and under two—1 John Campbell; 2 Telfer Bros, Paris; 3 W. E. Wright. Dressed carcass, ewe or wether, under one year—1 R. H. Harding; 2 W. E. Wright; 3 John Kelly, Shakespear.

GRAND SWEEPSTAKE.—Best sheep carcass, any breed—John Campbell, Woodville, grade Shropshire. SWINE. BERKSHIRES.—Barrow, six months and under nine—1 and 3 Geo. Green, Fairview; 2 Durham & Cavan, East Toronto Barrow, under six months—1 and 2 Geo. Green; 3 Snell & Lyons, Snelgrove. Sow, nine months and under fifteen—1 Snell & Lyons; 2 and 3 Geo. Green. Sow, six months and under nine—1 Geo. Green; 2 and 3 Snell & Lyons. Sow, under six months—1 and 2 Snell & Lyons; 3 Jas. A. Russell, Precious Corners. Three pigs, offspring of one sow—1 Snell & Lyons; 2 Geo. Green.

YORKSHIRES.—Barrow, six months and under nine—1 and 3 Brethour & Saunders, Burford; 2 H. Dedels, Breslau. Barrow, under six months—1 and 3 Brethour & Saunders; 2 J. Featherston, Streetsville. Sow, nine months and under fifteen—1 Brethour & Saunders; 2 J. Featherston; 3 H. Dedels. Sow, six months and under nine—1 J. B. Macdonald, Muirkirk; 2 and 3 Brethour & Saunders. Sow, under six months—1 and 3 Brethour & Saunders; 2 H. Dedels. Three pigs, offspring of one sow—1 and 2 Brethour & Saunders.

CHESTER WHITES.—Barrow, six months and under nine—1 and 2 Bennett & Pardo, Charlevoix; 3 D. DeCourcy, Bornholm. Barrow, under six months—1 and 2 D. DeCourcy; 3 Bennett & Pardo. Sow, nine months and under fifteen—1 H. George & Sons, Crampton; 2 D. DeCourcy; 3 Bennett & Pardo. Sow, six months and under nine—1 H. George & Sons; 2 D. DeCourcy; 3 John Silverthorn, Scotland. Sow, under six months—1 Bennett & Pardo; 2 H. George & Son; 3 D. DeCourcy. Three pigs,

offspring of one sow—1 D. DeCourcy; 2 Bennett & Pardo.

POLAND-CHINAS.—Barrow, six months and under nine—1, 2 and 3 W. M. & J. C. Smith, Fairfield Plains. Barrow, under six months—1, 2 and 3 W. M. & J. C. Smith. Sow, nine months and under fifteen—1, 2 and 3 W. M. & J. C. Smith. Sow, six months and under nine—1, 2 and 3 W. M. & J. C. Smith. Sow, under six months—1, 2 and 3 W. M. & J. C. Smith. Three pigs, the offspring of one sow—1 and 2 W. M. & J. C. Smith.

ESSEX.—Barrow, six months and under nine—1 T. A. McClure, Meadowvale; 2 and 3 J. Featherston & Son, Streetsville. Barrow, under six months—1 and 2 J. Featherston & Son; 3 T. A. McClure. Sow, nine months and under fifteen—1 T. A. McClure; 2 and 3 J. Featherston & Son. Sow, six months and under nine—1 and 2 J. Featherston & Son; 3 T. A. McClure. Sow, under six months—1 T. A. McClure; 2 and 3 J. Featherston & Son.

PLAMWORTHS.—Barrow, six months and under nine—1 Norman M. Blain, St. George; 2 Andrew Elliott, Pond Mills; 3 David Douglas & Sons, Mitchell. Barrow, under six months—1 A. C. Hallman, New Dundee; 2 W. R. McDonald, Ridgetown; 3 Norman M. Blain. Sow, nine months and under fifteen—1 Norman M. Blain; 2 A. Elliott & Son, Galt; 3 W. M. & J. C. Smith, Fairfield Plains. Sow, six months and under nine—1 A. Elliott & Son; 2 A. Elliott, Pond Mills; 3 David Douglas & Sons. Sow, under six months—1 and 2 Norman M. Blain; 3 J. R. Newell & Sons, Crampton. Three pigs, offspring of one sow—1 David Douglas & Sons; 2 Andrew Elliott, Pond Mills; 3 Norman M. Blain.

DUROC-JERSEYS.—Barrow, six months and under nine—1, 2 and 3 W. N. Tape, Bentpath. Barrow, under six months—W. N. Tape. Sow, nine months and under fifteen—1 and 2 W. N. Tape; 3 W. M. & J. C. Smith, Fairfield Plains. Sow, six months and under nine—1, 2 and 3 W. N. Tape. Sow, under six months—1, 2 and 3 W. N. Tape. Three pigs, offspring of one sow—1 and 2 W. N. Tape.

SWEEPSTAKES.—Best animal in class: Berkshires—Geo. Green, Fairview. Yorkshires—Brethour & Saunders, Burford. Chester Whites—H. George & Sons, Crampton. Poland-Chinas—W. M. & J. C. Smith, Fairfield Plains. Essex—J. Featherston & Son, Streetsville. Tamworths—Norman M. Blain, St. George. Duroc-Jerseys—W. N. Tape, Bentpath.

GRADES AND CROSSES.—Barrow, six months and under nine—Robt. Agnew & Son, Acton. Barrow, under six months—1 Robert Agnew & Son; 2 A. Elliott & Son, Galt; 3 Norman M. Blain, St. George. Sow, six months and under nine—1 Norman M. Blain; 2 W. R. McDonald, Ridgetown; 3 A. Elliott & Son. Sow, under six months—1 Snell & Lyons, Snelgrove; 2 Robert Agnew & Son; 3 A. Elliott & Son.

EXPORT BACON HOGS.—Two Berkshires—1 Geo. Green, Fairview; 2 W. J. Rudd, Eden Mills; 3 Jas. A. Russell, Precious Corners. Two Yorkshires—1 Brethour & Saunders, Burford; 2 G. B. Hood, Guelph; 3 J. Featherston & Son, Streetsville. Two Tamworths—1 Norman M. Blain, St. George; 2 A. Elliott & Son, Galt; 3 H. George & Sons, Crampton. Two Chester Whites—1 W. E. Wright, Glanworth; 2 R. H. Harding, Thorndale; 3 D. DeCourcy, Bornholm. Two Poland-Chinas—W. M. & J. C. Smith, Fairfield Plains. Two Duroc-Jerseys—W. N. Tape, Bentpath. Two Essex—1 and 2 J. Featherston & Son. Two grades or crosses—1 A. Elliott & Son; 2 R. Agnew & Son, Norwich; 3 Robt. Agnew & Son, Acton.

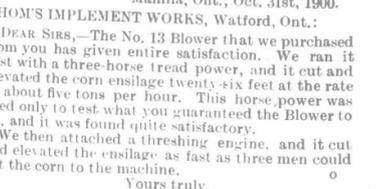
SWEEPSTAKE.—Two best export bacon hogs, any breed—1 Brethour & Saunders, Burford; 2 G. B. Hood, Guelph; 3 J. Featherston & Son, Streetsville.

DRESSED CARCASSES.—Two Berkshires—1 W. J. Rudd, Eden Mills; 2 Snell & Lyons, Snelgrove. Two Yorkshires—1 Brethour & Saunders, Burford; 2 and 3 G. B. Hood, Guelph. Two Tamworths—1 R. Newell & Sons, Crampton; 2 H. George & Son, Crampton; 3 A. Elliott & Son, Galt. Two grades or crosses—1 R. Agnew & Son, Norwich; 2 A. Elliott & Son; 3 H. George & Son. SWEEPSTAKE.—Two best carcasses, any breed—1 R. Agnew & Son, Norwich; 2 Brethour & Saunders, Burford; 3 J. R. Newell & Sons, Crampton.

GRAND SWEEPSTAKE.—Best pair swine carcasses, any breed—Not yet decided. Judges gave 1st to R. Agnew & Son, but they had not made entry. Brethour & Saunders are next in order.

Another Prominent Farmer Heard From.

WE HOLD THE RECORD.



Manilla, Ont., Oct. 31st, 1900. DEAR SIRS.—The No. 13 Blower that we purchased from you has given entire satisfaction. We ran it first with a three-horse tread power, and it cut and elevated the corn ensilage twenty-six feet at the rate of about five tons per hour. This horse power was used only to test what you guaranteed the Blower to do, and it was found quite satisfactory.

We then attached a threshing engine, and it cut and elevated the ensilage as fast as three men could get the corn to the machine.

Yours truly, H. Y. GLENNING & SON, THOM'S IMPLEMENT WORKS, WATFORD, CANADA. ESTABLISHED 1875.

Our **Farmer's Library**

A RECENT bulletin prepared by Prof. J. B. Reynolds, of the Ontario Agricultural College, gives a list of meritorious books on Agriculture, Live Stock, Dairying, and Fruit Growing, from which we have made a selection and added a few others. How to obtain, see below:

SOIL AND CROP.

- THE FERTILITY OF THE LAND.—Roberts. 372 pages. \$1.25.
- A BOOK ON SILAGE.—Woll. 185 pages. \$1.00.
- SOILS AND CROPS.—Morrow & Hunt. \$1.00.
- FORAGE CROPS.—Thos. Shaw. \$1.00.
- SOILING, ENSILAGE, AND BARN CONSTRUCTION.—F. S. Peer. 247 pages. \$1.00.

LIVE STOCK.

- VETERINARY ELEMENTS.—A. G. Hopkins, B. Agr., D. V. M. \$1.00. A practical book for stockmen and agricultural students.
- THE STUDY OF BREEDS (CATTLE, SHEEP, AND SWINE).—Prof. Shaw. 400 pages; 60 engravings. \$1.50.
- HORSE BREEDING.—Sanders. 422 pages. \$1.50.
- LIGHT HORSES—BREEDS AND MANAGEMENT. 226 pages. \$1.00.
- HEAVY HORSES—BREEDS AND MANAGEMENT. 219 pages. \$1.00.
- CATTLE—BREEDS AND MANAGEMENT. 270 pages. \$1.00.
- SHEEP—BREEDS AND MANAGEMENT. 232 pages. \$1.00.
- CATTLE BREEDING.—Warfield. 386 pages. \$2.00.
- THE DOMESTIC SHEEP.—Stewart. 371 pages. \$1.75.
- THE SHEEP.—Rushworth. 496 pages. \$1.50.
- PIGS—BREEDS AND MANAGEMENT.—Sanders Spencer. 175 pages. \$1.00.
- FEEDS AND FEEDING.—Henry. 600 pages. \$2.00.

GENERAL AGRICULTURE.

- AGRICULTURE.—C. C. James. 200 pages. 30 cents.
- FIRST PRINCIPLES OF AGRICULTURE.—Voorhees. 207 pages. \$1.00.
- AGRICULTURE.—Storer. 1,875 pages, in three volumes. \$6.00.
- CHEMISTRY OF THE FARM.—Warrington. 183 pages. 90 cents.
- FARMYARD MANURE.—Aikman. 65 pages. 50 cents.
- BARN BUILDING.—Sanders. 280 pages. \$2.00.
- IRRIGATION AND DRAINAGE.—King. 502 pages. \$1.50.
- IRRIGATION FOR THE FARM GARDEN AND ORCHARD.—Henry Stewart. \$1.00.
- SUCCESSFUL FARMING.—Rennie. 300 pages. \$1.50, postpaid.

DAIRYING.

- AMERICAN DAIRYING.—H. B. Gurler. 252 pages. \$1.00.
- THE BOOK OF THE DAIRY.—Fleischmann. 330 pages. \$2.75.
- MILK AND ITS PRODUCTS.—Wing. 230 pages. \$1.00.
- TESTING MILK AND ITS PRODUCTS.—Farrington & Woll. 255 pages. \$1.00.
- DAIRYING FOR PROFIT.—Mrs. E. M. Jones. 50 cents.

POULTRY.

- ARTIFICIAL INCUBATING AND BROODING.—Cypher. 146 pages. 50 cents.
- PRACTICAL POULTRY-KEEPER.—Wright. \$2.00.

APIARY.

- THE HONEYBEE.—Langstroth. 521 pages. \$1.50.

FRUIT, FLOWERS, AND VEGETABLES.

- VEGETABLE GARDENING.—Green. 224 pages. \$1.25.
- FLOWERS AND HOW TO GROW THEM.—Rexford. 175 pages. 50 cents.
- THE PRINCIPLES OF FRUIT-GROWING.—Bailey. 514 pages. \$1.25.
- BUSH FRUITS.—Card. 537 pages. \$1.50.
- HORTICULTURIST'S RULE BOOK.—Bailey. 312 pages. 75 cents.
- SPRAYING OF PLANTS.—Lodeman. 399 pages. \$1.00.
- THE NURSERY BOOK.—Bailey. 365 pages; 152 illustrations. \$1.00.
- AMATEUR FRUIT-GROWING.—Samuel B. Green. 5x7 inches; 134 pages, with numerous fly leaves for notes; bound in cloth, and illustrated. 50 cents.

PLANT AND ANIMAL LIFE.

- THE STORY OF THE PLANTS.—Grant Allen. 213 pages. 40 cents.
- THE STUDY OF ANIMAL LIFE.—J. A. Thomson. 375 pages. \$1.75.
- INSECTS INJURIOUS TO FRUITS.—Saunders. 436 pages. \$2.00.

HOW TO OBTAIN THESE BOOKS:

We will furnish present subscribers any of the above books for cash or as premiums for obtaining new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each, according to the following scale:

Books valued at, from	\$0.30 to \$0.65,	for 1 new subscriber.
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"	6.00	for 12 "

We can furnish any of the above books at the regular retail price, which is given opposite the title of the book. By a careful study of the above list, any farmer can choose a select list of books suited to his needs, and for a small outlay in cash, or effort in obtaining new subscribers for the ADVOCATE, secure the nucleus of a useful library.

Cash to accompany names in every case. \$1.00 pays each new subscription from now to end of 1901.

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

Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means the same class of goods as are hawked around fair grounds, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

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Description of Watches.

The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows:

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.

No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

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Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

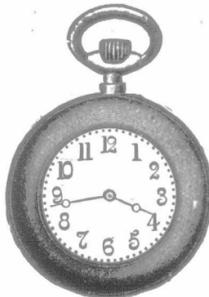
Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

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TO ANY SUBSCRIBER sending us the names of 12 NEW yearly paid-up Subscribers we offer a young COLLIE, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States.

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Our Self-Binder, HANDY, DURABLE and ATTRACTIVE.

Made to contain the 24 issues of the year. We will forward this Binder, postpaid, to anyone sending us the names of two NEW subscribers and \$2.00.

Bagster's NEW COMPREHENSIVE Teacher's Bible,

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

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Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of two NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

Handsome Curb-link Silver Bracelet with Padlock and Key, For 2 new subscribers. For each additional new subscriber, two Sterling Silver Friendship Hearts.

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums right away. In every case cash must accompany the new names.

ADDRESS

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

GOSSIP.

The Kinellar Lodge Dispersion Sale.

The dispersion sale of John Isaac's Shorthorn herd, at Markham, was an unqualified success, prices running higher than even the most sanguine expectations. This is the more gratifying in view of the fact that the great majority of the animals fell to the bids of Canadian breeders, the attendance of United States buyers being limited, owing to a combination of circumstances, among which was the occurrence of a number of large Shorthorn sales in the States at about the same time. Still, there was quite a helpful sprinkling of bidders from over the line, and a few of the animals went that way. Manitoba furnished the largest buyer, W. S. Lister, of Middlechurch, having claimed eleven head, at an average of \$332, while John E. Smith, Brandon, took three at an average of \$342. William Chalmers, Hayfield, Man., bought the bull calf, Banks o' Don, at \$300, and Thomas Speers, Oak Lake, took Fancy Ury at \$215, and the 8-months calf, Lord Roberts, at \$175. W. D. Flatt, Hamilton, secured the grand roan Kinellar Claret 2-year-old heifer, imp. Daisy 3rd, at \$1,600, the highest price of the day, and Rosebud 2nd at \$1,025. W. H. Gibbon, for Senator Drummond, of Montreal, claimed the red yearling heifer, Lavender 42nd, by imp. Golden Measure, at \$1,050, the second highest, and the roan 2-year-old May Queen, by Lordly Archer, at \$700. The highest price for a bull was \$600, for the red 3-year-old imp. Nonpareil, bought by Hector Cowan, Jr., Pauline, Iowa. The most of the bulls were young and thin, and were not expected to sell high, but they made fair prices. The average for the 44 females sold was \$448.41; for the 8 bulls, \$278.13. The total of the sale was \$21,955, an average for the 52 animals sold of \$422.22, which is considered a very satisfactory result, in view of the fact that nearly one-third of the young things were in only very moderate condition, owing to the privations of recent importation and quarantine. Col. Carey M. Jones, Davenport, Iowa, as auctioneer, ably conducted the sale, with the valued assistance of Mr. John Smith, M. P. P., Brampton, and Capt. T. E. Robson, M. P. P., Ilderton. There was a very large attendance of breeders and farmers, and a considerable degree of enthusiasm prevailed, congratulations on the success of the sale being freely expressed. It was a very good closing sale for the year and the century in Canada. We give below a list of the animals sold, with prices and buyers:

COWS AND HEIFERS.

Aggie Douglas (imp.), W. G. Pettit, Burlington, Ont., \$420.
Belinda 8th (imp.), G. Harding & Son, Waukesha, Wis., \$420.
Best Ury, W. H. Hogg & Son, Thamesford, Ont., \$460.
Carnation (imp.), A. & D. Brown, Iona, Ont., \$305.
Cherry Ury, W. S. Lister, Middlechurch, Manitoba, \$400.
Cinderella 4th (imp.), W. G. Pettit, Burlington, Ont., \$300.
Claret Cup 6th (twin) (imp.), Wm. B. Watt, Salem, Ont., \$500.
Claret Jug (twin) (imp.), W. S. Lister, Middlechurch, Man., \$600.
Clymnestra (imp.), John Miller & Sons, Brougham, Ont., \$525.
Columbine (imp.), H. Golding & Son, Thamesford, Ont., \$350.
Countess 2nd (imp.), W. S. Lister, \$400.
Daisy 3rd (imp.), W. D. Flatt, Hamilton, Ont., \$1,600.
Damsel 3rd (imp.), W. G. Pettit, \$475.
Damsel 4th (imp.), W. S. Lister, \$400.
Elsie 2nd (imp.), W. S. Lister, \$545.
Fancy Ury, Thomas Speers, Oak Lake, Man., \$215.
Glad Welcome 2nd (imp.), P. Stewart, Atha, Ont., \$405.
Golden Belle (imp.), John E. Smith, Brandon, Man., \$335.
Hawthorn Blossom 10th (imp.), George Swan, Vasey, Ont., \$420.
Jilt 21st (imp.), W. S. Lister, \$400.
Lady Dorothy 31st (imp.), W. S. Lister, \$420.
Lady Emma (imp.), Capt. T. E. Robson, Ilderton, Ont., \$290.
Lady Jane (imp.), John E. Smith, \$400.
Lady of Promise (imp.), W. S. Lister, \$400.
Lavender 42nd, Senator Drummond, \$1,050.
Lustre (imp.), W. S. Lister, \$400.
Martha 6th (imp.), Hector Cowan, Jr., Pauline, Iowa, \$500.
Martha 9th (imp.), W. B. Watt, \$625.
Maryculter Princess (imp.), W. S. Lister, \$260.
May Queen (imp.), Senator Drummond, \$700.
Mina Girl (imp.), W. S. Lister, \$275.
Nancy Lee (imp.), Hector Cowan, Jr., \$290.
Pride 8th (imp.), James Thompson, Belton, Ont., \$360.
Primula (imp.), W. J. Biggins, Clinton, Ont., \$305.
Queen Esther 20th (imp.), Hector Cowan, Jr., \$345.
Rosebud (imp.), George Mitchell, Newcastle, Ont., \$300.
Rosebud 2nd (imp.), W. D. Flatt, \$1,025.
Rosemary 2nd (imp.), A. Montague, Thamesford, Ont., \$320.
Rosemary 3rd (imp.), Walpool Bros., Rock Valley, Iowa, \$270.
Rosetta 9th (imp.), W. G. Pettit, \$400.
Ury Garnet, J. E. Smith, \$290.
Ury Gem, Walpool Bros., \$300.
Watercress (imp.), Goodfellow Bros., Macville, Ont., \$420.
Winning Witch (imp.), Cookson Bros., West Branch, Iowa, \$610.

BULLS.

Banks o' Don (imp.), Wm. Chalmers, Hayfield, Man., \$300.
Golden Earl, Chas. Younge, Brookdale, Ont., \$135.
Lord Roberts, Thomas Speers, Oak Lake, Man., \$175.
Nonpareil (imp.), Hector Cowan, Jr., Pauline, Iowa, \$600.
Pilgrim (imp.), J. I. Davidson, Balsam, Ont., \$200.
Royal Hope (imp.), D. S. Shantz, Haysville, Ont., \$365.
Sir Christopher (imp.), George Prout, Zephyr, Ont., \$290.
Sittlyton Hero 3rd, Edward Green, Indianapolis, Illinois, \$100.

The Army of Health.

THE ARMY IN THE PHILIPPINES INSIGNIFICANT COMPARED WITH THIS ONE.

If all the people in the United States, Canada and Great Britain who make daily use of Stuart's Dyspepsia Tablets could be assembled together it would make an army that would outnumber our army of one hundred thousand by at least five to one.

Men and women who are broken down in health are only a part of the thousands who use this popular preparation; the greater number are people who are in fair health, but who know that the way to keep well is to keep the digestion perfect and use Stuart's Tablets as regularly as meal time comes to insure good digestion and proper assimilation of food.

Prevention is always better than cure, and disease can find no foothold if the digestion is kept in good working order by the daily use of Stuart's Dyspepsia Tablets.

Mr. Thomas Seale, Mayfield, Calif., says: "Have used and recommended Stuart's Tablets because there is nothing like them to keep the stomach right."
Miss Lelia Dively, 4627 Plummer St., Pittsburg, Pa., writes: "I wish everyone to know how grateful I am for Stuart's Dyspepsia Tablets. I suffered for a long time and did not know what ailed me. I lost flesh right along until one day I noticed an advertisement of these tablets and immediately bought a 50-cent box at the drug store. I am only on the second box and am gaining in flesh and color. I have at last found something that has reached my ailment."

From Mrs. Del. Eldred, San Prairie, Wis.: "I was taken dizzy suddenly during the hot weather of the past summer. After ten days of constant dizziness I went to our local physician, who said my liver was torpid and I had oversteered my blood; he doctored me for two weeks without much improvement. I finally thought of Stuart's Dyspepsia Tablets (which I had used long before for various bad feelings), and the first three tablets helped me. "They are easily the best all-round family medicine I ever used."

The army of people who take Stuart's Tablets are mostly people in good health, and who keep well by taking them regularly after meals. They contain no opiates, cocaine or any cathartic or injurious drugs, simply the natural peptones and ingredients which every weak stomach lacks.

Stuart's Dyspepsia Tablets are sold by druggists everywhere in United States, Canada and Great Britain—Advt. om

320-ACRE FARM FOR SALE.

South half Sec. 6, Tp. 16, R. 29, W.

260 acres thoroughly fenced and subdivided with three wires; 150 acres under cultivation; 56 acres summer-fallowed the past season, and 15 acres of fall plowing, ready for wheat in the spring. The farm has been worked on the 3-year rotation system, summer-fallowing one third every year, and land in first-class state of cultivation, yielding from 40 to 45 bushels wheat per acre. There is quite a large portion in virgin prairie, with bluff of good young poplar on it. Frame house, lathed and plastered twice, making two dead-air spaces, and well-finished in every respect. Main part, 20 x 30 ft., containing dining-room, kitchen, pantry, and hall, downstairs; 4 bedrooms and linen cupboard upstairs; and a lean-to on north side, 10x30 ft. There is a good stone cellar, with brick partition, under house. House cost \$1,200, not counting labor of drawing sand; stone, etc., and finishing. Stable, 25x40 ft., concrete, hayloft above, and frame implement shed, 15x40 ft., on north side. Henhouse, frame; 15x15 ft., with shingle-roof buildings; one frame stable, 22x15 ft., with sod roof. There is also a never-failing well. Seed and feed can be bought by purchaser at market prices. Situation: 17 miles from Moosomin; 3 miles from church and school. The N. W. C. R. R., whose present terminus is 25 miles east, is expected, during the coming summer, to run within 3 miles of the farm.

This is undoubtedly one of the best opportunities of obtaining a grand homestead at a moderate price.

For further particulars apply to

G. P. COLLYER,

London, Ont.

For Sale: Six Ayrshire bulls, ranging from 5 months to 1 year past. Also a few cows and heifers, thoroughbred fowls, and Scotch collie dogs. om

WM. STEWART & SON, MENIE, ONT.

FOR SALE:

One Galloway bull, two years old, with registered pedigree. S. SIPES, Owen Sound P. O.

GOSSIP.

William Aitchison, Erindale, Ont., offers for sale in this issue a few choice Tamworth pigs, almost ready to breed.

W. S. Hawkshaw & Son, Glanworth, Ont., breeders of Shropshire sheep and Mammoth Bronze turkeys, change their advertisement in this issue. Some of the turkeys they offer weigh from 22 to 25½ pounds each. They also offer a grand lot of hens from imported males.

CHAS. S. CHAPPELL, Aurora, Ont.:—"Your Christmas Advocate to hand. I must say I think the artistic taste displayed is superb. I also note with pleasure the prominence given to stock, the backbone of the farmer's success in Ontario."

Messrs. Alfred Mansell & Co. of Shrewsbury, have received a letter from Mr. George Simonds, of Tasmania, which reads as follows:—"My Shropshire shearing ram, bred by Messrs. Evans, to be known henceforth as 'Austral Star,' arrived by the ss. Paparua on the evening of Oct. 29th, in good order, and it will interest you to know that I am perfectly satisfied with the selection. The other sheep sent with the same vessel turned up in a most healthy condition, reflecting creditably on the arrangements made for the journey."

GOSSIP.

R. H. Harding, Thorndale, Ont., writes:—"I have had splendid success at the late Chicago and Guelph shows with my Dorset sheep, not only in the pure-bred classes, but in the grade classes. I scored third prize in the dressed lamb carcass competition at Chicago, in a class of eight; second prize in the grade-lamb class at Guelph, in a large class; and first with the same lamb, dressed, in a class of eight. Both of these lambs were sired by a Shropshire ram; their dam was a registered Dorset ewe."

A. B. ARMSTRONG'S YORKSHIRES AND POULTRY.

Fanciers of Yorkshire pigs will notice the new advertisement of Mr. A. B. Armstrong, of Coderington, Ont. We have visited Mr. Armstrong and seen his stock, and speak with confidence when we state that Mr. Armstrong has laid his foundation on selection from the best families in the breed, those possessing individual merit sufficient to warrant a portion of the best trade. A liberal number of young things, ready for shipment, are among his immediate offerings, which also include several of the leading varieties of fowls more popular among the practical farmers.

O. A. C. STUDENTS AS JUDGES.

At the great International Live Stock Exposition, which closed at Chicago on December 8th, there was held an "intercollegiate judging contest," open to students of American and Canadian agricultural colleges. Forty-six students in all entered the contest, and the competition was of the keenest character. The students were required to judge three classes of horses, three of cattle, three of sheep, and three of swine. Prizes were given in the various classes, and sweepstakes prizes were added for the best all-round judges. The latter prizes were awarded on the aggregate scores made by those students who judged throughout all the classes. Fourteen men qualified for this part of the competition. The Ontario Agricultural College entered only one man, Mr. W. J. Black, of Shelburne, Dufferin Co., Ont. Mr. Black received practically no special training for this event, and had to depend entirely upon the ordinary training in live-stock judging such as is given to every student who takes the regular college course. Notwithstanding this fact, Mr. Black succeeded in carrying off the following prizes:

Table with 2 columns: Prize Name and Amount. Judging Hereford cattle, second prize...\$25 00; Judging Cotswold ewes, first prize... 10 00; Judging swine, third prize... 5 00; Judging Dorset ewe lambs, fourth prize... 3 00; Sweepstakes (general proficiency), third prize... 30 00; Total...\$73 00

Mr. Black won more money than any of his competitors, and, as will be noticed in the statement given above, only two men had higher aggregate scores in judging. There were eight sweepstakes, or general proficiency prizes, and six of these prizes were taken by men trained by graduates of the Ontario Agricultural College, viz., Prof. Carlyle and Dr. Hopkins, Wisconsin; Prof. Kennedy, Illinois; Prof. Craig, Iowa; and Prof. Day, of Guelph.

PLEASE MENTION FARMER'S ADVOCATE.

Advertisement for Mica Axle Grease. Text: "In every town and village may be had, the Mica Axle Grease that makes your horses glad." Includes an illustration of a horse's head.

A FAST FRIEND.

A. J. LODS, St. Hyacinth, Que.:—"Find enclosed \$1 for the renewal of my subscription to your paper. I thought I could stop it this year, since I am living in the city, but I find that I can no more drop the FARMER'S ADVOCATE than I would drop my country friends."

WOODED AND WON IN A YEAR.

IRA MINOR, Low Banks, Ont.:—"I am in receipt of Christmas number of the FARMER'S ADVOCATE. It is certainly a treat to all admirers of good stock. In looking over the numerous engravings, and in reading the descriptions of many of Canada's noted herds and flocks, I feel it to be a great advantage to us to be in reach of such a valuable paper. It instructs, and amuses as well, the whole family. I have taken the FARMER'S ADVOCATE only one year, but I don't see how I could get along without it. I wish you a merry Christmas and a prosperous New Year."

Ontario Veterinary College.—The Christmas examinations of the Veterinary College, Toronto, concluded on Dec. 21st. The board of examiners, which is composed of prominent veterinary practitioners, awarded diplomas to the following: Robert K. Bryant, Sunderland; Herbert Killips, Tonawanda, N. Y.; Z. T. McNeess, Butler, Pa.; Orange Judd Phillips, Warrensburg, Mo.; W. J. E. Ramage, Morrisburg; Ira B. Rivenburgh, Chatham, N. Y.; Herbert L. Switzer, Springfield, Mass. Primary examinations, anatomy—Norman A. Anderson, passed primary in anatomy; Thomas H. Monahan, passed primary in anatomy. The college will reopen on January 2nd, 1901.

NOTICES.

The National Cream Separator.—The chief points about this very satisfactory cream separator are well set forth in this issue in the quarter-page advertisement of the Raymond Mfg. Co., of Guelph, Ont.

Bibby's Food.—The display of the various stock food preparations exhibited at the Fat Stock Show by the Bibby Food Co. was surrounded by inquirers much of the time. This food has a national reputation, which it has won chiefly in Great Britain, where stock-raising is the chief agricultural industry of the country.

National Separator.—The Guelph Fat Stock and Dairy Show presented a fine opportunity to many men and women, young and old, to see a modern cream separator in operation. The cows competing in the dairy test provided the milk, and the Raymond Manufacturing Co. furnished the machine. The separation was carried on at stated hours each day, and was watched with interest.

Stock Fodder Machinery.—The Thom Manufacturing Co., of Watford, Ont., furnished food-preparing machinery for the use of the exhibitors of stock at the Guelph Fat Stock Show, which was much appreciated, as it did good work and did it rapidly. This firm manufactures a full line of pulpers, cutting boxes, etc., of a modern and substantial class.

Feed Cookers.—The feed cookers exhibited in operation at the Provincial Fat Stock Show at Guelph interested a great many visitors. Among the features of this cooker are the following: Economy in fuel, speed in boiling food and water, food cannot be scorched, and simplicity of manipulation. It is manufactured by the Rippley Hardware Co., Grafton, Ill.

The chances are, before spring there will be a great scurrying round for serviceable Shorthorn bulls, as the wide-awake fellows are gathering them up now. James Brown, Thorold, Ont., offers five red ones in this issue. See his advertisement.

Ontario Poultry Association.

The annual meeting of the Ontario Poultry Association was held in Guelph on December 13th. A considerable amount of routine business was transacted, and the following were elected officers for the ensuing year:

- Hon. President—F. W. Hodson, Ottawa. President—A. W. Tyson, Guelph. 1st Vice-President—Wm. McNeil, London. 2nd Vice-President—M. T. Burn, Tilsonburg. Secretary—A. P. Westervelt, Parliament Buildings, Toronto. Delegates—Toronto Industrial Fair, W. Barber and W. Fox, Toronto; Winter Fair Board, A. W. Tyson, Guelph, and Wm. McNeil, London; Western Fair, London, J. H. Saunders and W. H. Beattie; Central Fair, Hamilton, R. Mackay and — Henderson; Southern Fair, Brantford, T. A. Cox and W. Colwell, Brantford. Directors—D. C. Trew, Lindsay; James Dundas, Toronto; John Crowe, Guelph; C. Massey, Port Hope; T. H. Scott, St. Thomas; John Ramsay, Owen Sound; A. Bogue, London; J. W. Kedwell, Petrolia; Dr. A. W. Bell, Toronto; W. R. Graham, O. A. C.

Advertisement for Kendall's Spavin Cure. Text: "KENDALL'S... SPAVIN CURE". Includes an illustration of a horse and rider. Text: "The old reliable remedy for Spavins, Ringbones, Splints, Curbs and all forms of Lameness. It cures without a blister because it does not blister. North P. Matigenet, Ont., Feb. 10, '98. Dr. B. J. Kendall Co. Dear Sirs:—Will you please give me a remedy for lameness. I have a mare that is afflicted. It takes pleasure in stating that I have cured a curb of four years' standing with your Kendall's Blister, by using it out once and then applying your Spavin Cure. As long as I have horses, I will not be without Kendall's Spavin Cure and Kendall's Blister in my stable. Very truly yours, APOLPHUS GAUTHER. Price \$1, Six for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also 'A Treatise on the Horse,' the book free, or address DR. B. J. KENDALL CO., ENOSBURG FALLS, VT."

Pure Scotch Shorthorns for Sale. Two bulls and fifteen months old, and three two-year-old and two one-year-old heifers. All right. Good ones. Meadowvale station, C. P. R. S. J. PEARSON & SON, Meadowvale, Ont.

Mr. Abram Rudell, Hespeler, Ont., breeder of Shropshire sheep, had an excellent exhibit of ewe lambs at the Guelph Fat Stock Show. They were nice in form, color and covering, but lacked a bit in fitting to win the best prizes offered. Doubtless, however, they will be placed in the breeding flock, and are therefore better for not being too fat.

We would ask those interested in the breeding of profitable hogs, either from the farmer's or breeder's standpoint, to look up the Messrs. Ferguson's advertisement appearing in our columns. Before leaving for Michigan, Mr. J. J. Ferguson had got together a splendid lot of Berkshires of the long, deep-sided kind wanted by the packers. The Berkshire is still a general favorite with the farmer, and we would recommend our readers to write this firm if they want good animals at right prices.

SHORTHORNS

140 HEAD

SCOTCH IMPORTED

140 HEAD

NINETY of the females are either in calf or have calves at foot. The majority of the calves are imported in dam.

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

- AUGUSTAS CLARAS NECTARS GOLDIES JENNY LIND VICTORIAS MATILDAS HESSIES CROCUS ROSEBUDS BRAWITH BUD LANCASTERS MAYFLOWERS AMARANTHES BUTTERFLY CLIPPERS EMMAS BROADHOOKS MEDORAS MINAS VILLAGE MAIDS BEAUTY MRS RAMSDEN FLORES RAGLANS LUSTRES GEM OF THE VALE

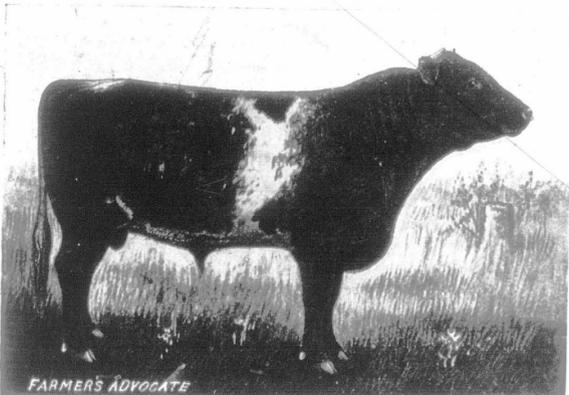


FARMER'S ADVOCATE

IMP. FASHION'S FAVORITE.

FIVE EXTRA GOOD IMPORTED BULLS AND A MATILDA FOR SALE

of VERY promising BULL CALVES, imported in dam, HERD headed by the IMPORTED BULLS, Golden Drop Victor and Prince Bosquet.

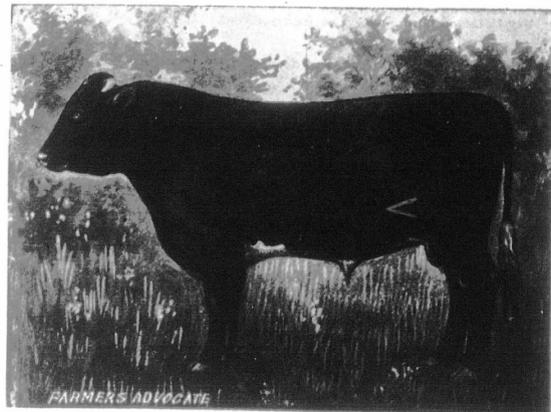


FARMER'S ADVOCATE

IMP. CLAN McKAY.

CATALOGUE FREE.

If interested, come and see us, or write—



FARMER'S ADVOCATE

IMP. PALERMO.

H. CARGILL & SON, CARGILL, ONTARIO, CANADA.

Kenneth McIvor, Roselea Farm, Virden, Manitoba.

[The Introducer of Native Rye Grass (*Agropyrum tenerum*).]
[FROM OUR WESTERN EDITION.]

As has been aptly said, "Grass is the forgiveness of nature—her constant benediction." The blood-stained battlefield, the abandoned city street, the deserted homestead, alike grow green with grass and the desolation and ruin is forgotten. In the constant cultivation of our fertile wheat lands we play havoc with the soil's fertility and mechanical condition, until Nature asserts herself and compels wiser methods. During drought, the light, friable soils drift so as no



KENNETH McIVOR.

mortgage can hold them down; heavy clays become like sun-dried brick; soil moisture is dissipated; implements fail of their best work, making heavier drafts on the horse power, and weeds alone flourish. The remedy?—humus, root fiber, and grass the most practical source of supply.

Timothy, *Bromus inermis* and native rye grass (*Agropyrum tenerum*) are the grasses most suitable for present conditions. The latter, *Agropyrum tenerum*, is a native to be found on our prairies, but its introduction as a cultivated grass is to be credited to Mr. Kenneth McIvor, of Virden, whose portrait is herewith presented to the readers of the FARMER'S ADVOCATE. The patient, persevering efforts of the introducer of this valuable addition to the agriculture of the 20th century will undoubtedly become more and more appreciated as the years go by.

NEW IMPORTATION

Just arrived. Personally selected from the best studs in England and Scotland.

CLYDESDALES

By the champion winners, Baron's Pride, McGregor, Flashwood, Prince Alexander, Prince of Carruchan, etc.

Shires, Suffolks, Percherons and Hackneys

By the leading sires of the day, all combining size, color, quality and action.

Fourteen first prizes and six second prizes won at the recent State Fairs of Illinois, Iowa, and Wisconsin, in the very hottest competition. Inspection cordially invited.

ALEX. GALBRAITH, Janesville, Wis.

WANTED—A situation as herdsman or stockman (used to dairy or breeding herds), by experienced Englishman.
R. GOODALL, EGLINTON P. O.

FOR SALE.

CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—in-cluding 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.
R. R. Station, Stittsville, C.P.R.

SPRINGHURST SHORTHORNS.

The herd is largely of Cruickshank and other Scotch sorts, and is headed by the Inverquherry-bred bull, Knuckle Duster (imported) (72793). Herd has furnished the Fat Stock Show champion three times in the last five years.

Choice young stock (both sexes)
FOR SALE.

H. SMITH, - HAY, ONT.
Exeter Station on G. T. R., half a mile from Frim, Ont.

Points of Excellence.

A FEW REASONS WHICH ARE RAPIDLY MAKING A NEW CATARRH CURE FAMOUS.

Stuart's Catarrh Tablets, the new Catarrh cure, has the following advantages over other catarrh remedies:

First: These tablets contain no cocaine, morphine or any other injurious drug, and are as safe and beneficial for children as for adults; this is an important point when it is recalled that many catarrh remedies do contain these very objectionable ingredients.

Next: Being in tablet form, this remedy does not deteriorate with age, or on exposure to the air, as liquid preparations invariably do.

Next: The tablet form not only preserves the medicinal properties, but it is so far more convenient to carry and to use at any time that it is only a question of time when the tablet will entirely supersede liquid medicines, as it has already done in the medical department of the United States Army.

Next: No secret is made of the composition of Stuart's Catarrh Tablets; they contain the active principle of Eucalyptus bark, red gum, bloodroot and Hydrastin, all harmless antiseptics, which, however, are death to catarrhal germs wherever found, because they eliminate them from the blood.

Next: You cannot cure catarrh by local applications to the nose or throat, because these are simply local symptoms and such treatment can not possibly reach the real seat of catarrhal disease, which is the blood; for this reason, inhalers, douches, sprays and powders never really cure catarrh, but simply give temporary relief, which a dose of plain salt and water will do just as well.

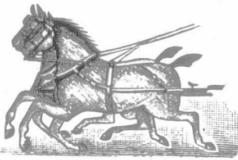
Catarrh must be driven out of the system, out of the blood, by an internal remedy, because an internal remedy is the only kind which can be assimilated into the blood.

Stuart's Catarrh Tablets do this better than the old form of treatment, because they contain every safe specific known to modern science in the antiseptic treatment of the disease.

Next: The use of inhalers and spraying apparatus, besides being ineffective and disappointing, is expensive, while a complete treatment of Stuart's Catarrh Tablets can be had at any drug store in the United States and Canada for 50 cents.—Advt. om

FOR SALE OR TO LET, a well-equipped hennery, with 10 acres of land, dwelling house and barn. Apply to **A. Gray Farrell, Smith's Falls, Ont.**

PROMINENT HORSEMEN SWEAR



by our REMEDIES and TESTIFY they are as recommended. You will do likewise after a TRIAL. Our line consists of

Caustic Balsam (the greatest Liniment and Blister known—it has no superior), Colic, Chill and Fever, Tonic Mixtures, Lotion for Wounds, Heave Remedy, Condition Powders, Hoof Ointment, and Gall Cure. Your druggist or store-keeper should have them. If not, send us his name, and we will see that you are supplied. Every remedy guaranteed, or money refunded. Veterinary advice free. **EUREKA VETERINARY MEDICINE COMPANY, London, Ont.**

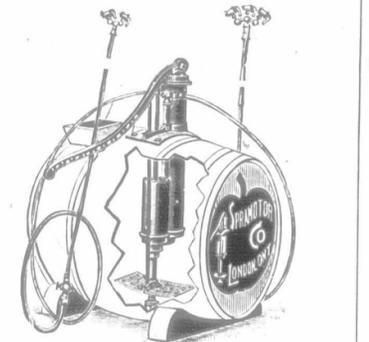
THE only reason why people buy inferior Spray Pumps is, they don't know the difference.

They have no good excuse for this when they can get a Copyrighted Treatise on Sprayers and Spraying by sending their address on a postal card.

They had better buy cheap seeds than inferior sprayers, for cheap seeds means only the loss of the season's crop, whereas the use of a poor sprayer means the loss of the chemicals, labor, crop and the outlay for the sprayer.

To save the farmers from this, the Government had a contest of all sprayers, and the judges stated in their award that the SPRAMOTOR was best.

Don't you think their judgment is worth your consideration? There are hundreds of Spray Pumps, but only one SPRAMOTOR. "Every word's true."

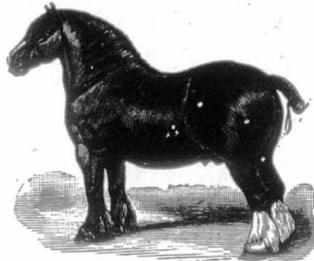


You can paint your buildings with the Spramotor, as well as kill your wild mustard. Send postal card for catalogue, Box "A." It's free. We pay the postage.

SPRAMOTOR Co.,
68-70 KING ST. LONDON, CAN.

Mr. Thos. F. Shore, White Oak, Ont., announces in this issue a grand lot of Mammoth Bronze turkeys from his several yards. He has some young toms weighing from 20 to 26 lbs. each. Has also some very promising cockerels and pullets of breeds mentioned in the advertisement. Those interested in first-class strains of poultry should not be satisfied with the same old blood when by moderate expense they can improve their flocks very materially. See Mr. Shore's advertisement in another column.

CLYDESDALE STALLIONS FOR SALE.



Third consignment will arrive about January 1st, 1901.

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.

"Post" Fountain Pen.

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

It is a wonderful tribute

to the greatest invention in fountain-pen construction of the age.

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

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

A Great Offer:

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



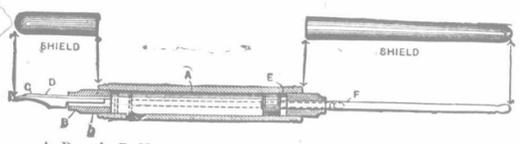
General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge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

Lew Wallace.

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



THE only self-filling and self-cleaning pen manufactured in the world. To fill the pen, put the nib in ink and draw the piston rod up. To clean, put the nib in water and draw the piston backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.



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

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

Frank Sankey.

ADDRESS—

THE **Wm. Weld Co., LTD.,**
LONDON, ONTARIO.

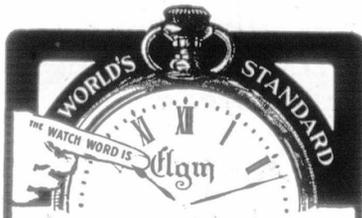
F. A. GARDNER'S SHORTHORNS AT BRITANNIA, ONTARIO.

We found at the head of Mr. Gardner's Shorthorns the imported bull, Scotland's Fame 26063, sired by Mr. Duthie's favorite stock bull, Golden Ray (67132), by the famous Cruickshank-bred Scottish Archer, and out of Kilbean Beauty 3rd, E. H. B., by Renown (57980). Since our acquaintance with Mr. Gardner, we have known him to place due value upon good sires, and this time when we called we found him well fixed in this respect. Scotland's Fame, apart from his rich breeding, is an individual worthy of his high responsibility as a sire, a bull possessing much style, substance and character, and one which should stamp the desired type on his offspring. Scotland's Fame is being mated with a very useful lot of females, in whose pedigrees, though varied, we found much to recommend them in common, and possessing a very considerable amount of individual merit, coupled with judicious management, to obtain the desired results. It will be remembered that Mr. Gardner purchased the imported heifer, Roan Empress, by Roscommon, and a daughter of Northern Empress (69188), at Mr. Flatt's sale a year ago. She is still in the herd, and regarded as one of the good ones, carrying an abundance of natural flesh, without extra feed, and having that type of character so essential to make her an impressive matron.

Another strong, useful tribe are the Rose Saxon cow, by Royal Saxon 16737, and her daughter by imp. Bold Briton, whose ancestry run back to Rose of Kentucky 11th, by imported Reporter. They are a large, thick-fleshed, broad-backed, easy-feeding tribe, possessing much good quality, the younger cow placing two sweet females in the herd to the services of Scotland's Fame, being again due in February to the same sire, while the older cow gave bull calves to his services. Marchioness 9th 28277, by Scotsman, and out of Marchioness 8th, by Prince Royal and her half-sister, Marchioness 10th, by Bold Briton, come from a useful, prolific race, whose deep-milking qualities were inherited from their dam, a competitor in the Shorthorn dairy test at the World's Fair, Chicago. They too are being bred to Scotland's Fame.

A pair of roan heifers are well worthy of special note, as one carries a combination of Nonpareil, Indian Chief and Missie blood, while the other traces to Rose of Kentucky through Brampton Hero. They too are safely in calf to the imported bull. Other tribes are represented by individuals, each possessing their own special merit.

Mr. Gardner is well supplied with bulls of a serviceable age. The large local patronage which he receives has led him to retain such of his own bulls as are required to meet those demands, and when we called we found the 2-year-old son of Bold Briton and Rose Saxon in the best of serviceable condition, a bull with much style, substance and character; also a well-developed yearling by Scotland's Fame, that, though by no means fat, is in the best possible shape for the purchaser. These two, with other younger fellows, are among Mr. Gardner's offerings elsewhere in this issue. A few choice Cotswold sheep are also receiving attention.



Elgin Watches

are tested and tried by extreme heat and cold at the factory and adjusted to withstand varying temperatures.

Genuine Ruby Jeweled Elgins

are sold by all Jewelers in sizes and styles to suit, and at reasonable prices.

An Elgin Watch always has the word "Elgin" engraved on the works—fully guaranteed.

Booklet Free.

ELGIN NATIONAL WATCH CO.
ELGIN, ILL.

HOGATE & CO., OF TORONTO, ONT.

IMPORTERS OF Clyde and Shire Stallions.

Large importation just arrived. Can show you more Clyde stallions of breeding ages than any firm in Canada. Prices from \$700.00 up. Don't fail to see our horses before you buy. Have had fifteen years' experience, and can save you money. All horses guaranteed to be reasonably sure getters. We are stabling our horses at Woodstock this winter, and can be seen at our barn there.

FOR FURTHER PARTICULARS WRITE—
E. R. HOGATE, WOODSTOCK, ONT.

ROBT. NESS & SONS, HOWICK, QUE.
BREEDERS AND IMPORTERS OF
Clydesdale Horses & Ayrshire Cattle
Also the leading breeds of fowls for the farmers.

HENRY B. WEBSTER'S SHORTHORN CATTLE AT FERGUS.

Within a short walk from the Village of Fergus, Ont., we found Mr. Henry B. Webster busily engaged with his Shorthorn cattle when we called early in December. There is scarcely a more favored location in the Province of Ontario in which an ambitious young man could be located to better advantage to engage in Shorthorn cattle breeding. Wellington County has long been noted for its herds and flocks, and many of the most noted prizewinners have either had their origin here or found their way to this noted section. Mr. Webster has taken advantage of the opportunity to employ good sires, and is retaining gilt-edged females to strengthen his herd. At the head of the herd is the Scotch-typed sire, Lord Stanley 4th 22678, by the World's Fair winner, Lord Stanley, and out of Nonpareil Victoria 17138 (dam of the champion Toppman), by imp. Vice Consul 4132, a Toronto Exhibition champion, and from his breeding one would be disappointed if he were not a good one. He is a high-class representative of the worthy tribes from which he is descended, rich in natural flesh, covered by a splendid coat of mossy hair, having a head denoting the strength of character which every impressive sire must possess. Mr. Webster keeps him in good serviceable shape: fat enough, but by no means loaded, and as he is following a line of good bulls, his services will be all the more valuable. Cromwell 21664, by The Premier, of the Cruickshank Village Bud family, did four years' service, and was followed by his own son, a worthy successor.

The female foundation was laid in 1872, on Maid of Hopshill 3rd 22948, by Clan Stewart 14381 (first at Toronto as a 3-year-old), of the Village Bud tribe, dam by Barmpton Hero, grandson of the great Champion of England, and sire of a long list of champions having proven highly successful breeders. Females of this tribe have been retained in the herd, and largely predominate. They are a robust, prolific race, having good constitution, and rich in natural flesh. The Mistletoe family are also represented by five females, all of which have rich Scotch top crosses, abounding in the blood of the Cruickshank Village family, and mostly carrying Vice Consul in their pedigrees. A member of the noted Matchless family, with a splendid bull calf at foot, is held in high esteem by the owner. The youngster, being a grandson of imp. Royal Sailor, is highly prized, from his rich inheritance in breeding and conformation. Mr. Webster contemplates placing him at the head of his herd. He is a low, thick and level fellow, well developed and evenly made. In the herd are a few useful representatives of other families, many of which possess excellent milking qualities, and never fail to produce the best calves. He informs us that all matured females are in calf to Lord Stanley 4th, from which good results may reasonably be looked for.

Mr. Webster offers elsewhere a few cows and heifers for sale, to which we would direct the attention of readers in search of this class of stock.

HORSEMEN! - THE ONLY GENUINE IS

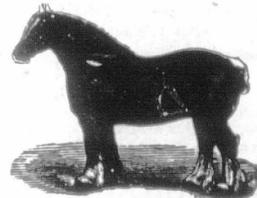
GOMBAULT'S CAUSTIC BALSAM.

Not genuine without the signature of The Lawrence, Williams & Co. Sole Importers & Proprietors for the U.S. & CANADA, CLEVELAND, O.
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY or FIRING. Impossible to produce scar 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.

THORNCLIFFE Stock Farm

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

"LYON MACGREGOR."



Stallions and Colts

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

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

PLEASE MENTION FARMER'S ADVOCATE.

TROUT CREEK HERD OF SHORTHORNS.

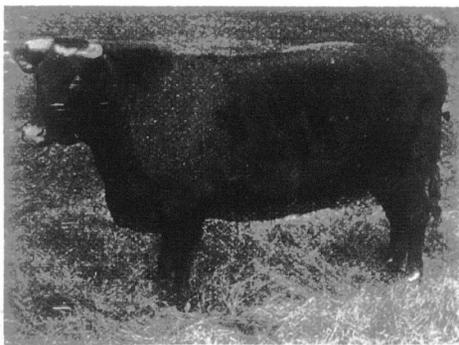
Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced,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



IMP. EMPRESS 12TH.
First prize, Royal Show, 1900.

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.

W. D. FLATT,

378 Hess Street South, HAMILTON, ONT.

Jas. Smith, Manager.

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.

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.

Cut a Figure in the World



A farmer's boy or girl can take a position in town or city at a fair salary after a few months study at home. By our plan their education pays for itself while they are studying. Everything they learn is turned into money at once. Our teaching is practical.

By our method
FARMERS' BOYS
 have become draftsmen, electricians, surveyors, engineers.
FARMERS' GIRLS
 have become stenographers, book-keepers, designers.
 Write, stating subject which interests you.
International Correspondence Schools.
 Box 1517, Scranton, Pa.

WANTED:

Man with experience in fitting and taking care of stallions. Must understand his business. Apply—
FARMER'S ADVOCATE OFFICE, LONDON.

Rosedale Stock Farm.

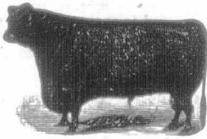
**CLYDE AND SHIRE HORSES.
 SCOTCH SHORTHORNS.
 LEICESTER SHEEP.**

Six choice Shorthorn bulls, Scotch and Scotch topped, from 11 to 13 months (red and roan), good quality. Prices right.

My motto, "The best is none too good."

J. M. GARDHOUSE, Highfield P. O.
 Malton Sta. G.T.R. om Weston Sta., C.P.R.

W. R. Bowman, Mt. Forest, Ont.



We have five choice young bulls of various ages, also a few in-calf heifers and cows from prize-winning stock, which we will dispose of at reasonable prices. We also offer for sale sixty

Shropshire and Suffolk Down ewes of excellent breeding and quality, at from \$10.00 to \$15.00 each. All stock registered.

JOHN DRYDEN, BROOKLIN, ONTARIO,

OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine.

GOOD QUALITY AND CHOICE BREEDING.

Clover Leaf Lodge HERD OF Shorthorns

A number of choice young bulls, heifers and cows, excellent milking strains. Correspondence invited.
R. CORLEY, Helgrave P. O., Ont., and G. T. R.; Wingham, C.P.R.

R. MITCHELL & SON, Burlington, Jet. Station, Nelson, Ontario,

Breeders and importers of
SCOTCH SHORTHORNS,
 Offer for sale:
 12 Canadian-bred females.
 11 Imported females.
 4 Imported bulls.
 7 Canadian-bred bulls.

YOUNG SHORTHORNS FOR SALE

Our present offering includes several choice young bulls fit for service, sired by "Scotland Vet." 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, IONA, ONTARIO.



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.
H. D. SMITH, COMPTON, QUE.

GOSSIP.

SALE OF HOLSTEIN-FRIESIAN CATTLE.

Messrs. Henry Stevens & Sons, Lacona, N. Y., write: "Sales of Holstein-Friesian cattle at Brookside have been very good of late. We recently sold to Mr. J. F. Doran seven fine animals, a male and six females, all exceptionally well bred and remarkably good individuals. Among the number was Manor Queen, a daughter of our great bull, Manor De Kol, whose dam, Netherland Hengerveld, still holds the world's largest official butter record of 28 1/2 lbs. in seven days. Another fine animal was Zady Bergsma 2nd, whose dam, Zady Bergsma, has an official butter record, at three years old, of 16 lbs. 3 1/2 ozs. in seven days, and is also one of our finest show cows. We exhibited her with great success as a two-year-old, from Syracuse to St. Louis, also at the Canadian Exposition, Toronto, Canada, never missing a prize, and usually winning first. Mr. Doran also secured the two-year-old heifer, Pauline Hartog De Kol, together with her beautiful heifer calf. The dam of Pauline Hartog De Kol has an official butter record of over 20 lbs. in seven days. The young calf was sired by our great Canadian-bred bull, Calamity Jane's Paul. His dam, Calamity Jane, won the Canadian Provincial dairy test four years in succession, competition open to all breeds, and in some of these tests more than thirty cows competing. Calamity Jane has been officially tested several times. At six years old she made over 24 lbs. butter in seven days, and at seven years old she made over 25 lbs. in seven days. Both tests were official. Mention should also be made of Jessie Veeman C., whose dam, Jessie Veeman, has given over 75 lbs. milk in one day, and also won the sweepstakes prize over all breeds at the Oswegatchie Agricultural Fair at Ogdensburg last year. To head the herd, was selected a fine young bull, whose sire is a son of Netherland Pietertje Princess, by a son of De Kol 2nd. The records of De Kol 2nd are too well known to the breeders and dairymen of this country to need mention by us. The entire purchase consisted of animals of the best breeding and fine individually, very uniform in type, and of rich and large-producing strains. These animals were selected by Mr. Doran and his herdsman, Joseph Brands, as the foundation for a herd. Their place, Brookview Farm, is situated about eight miles east of Albany, and their milk is put into 2-qt. cans and shipped daily to that city. They were very careful in making their selection, being content only with the best.

"H. G. Whitney & Son also came here and selected two very fine cows, one of which was Mildred De Kol Pauline Paul. Her dam was a daughter of De Kol 2nd, referred to above, and her sire was a son of Pauline Paul. The other cow, Molly Wood 3rd's De Kol, Mr. Whitney writes us, has dropped a calf and is doing exceedingly well. He also writes that he cannot milk her in a 14-qt. pail, and he is very much pleased with his purchase.

"Among our other sales was a fine yearling heifer, to E. E. Abbott. This heifer was sired by De Kol 2nd's Butter Boy 2nd, whose dam is De Kol 2nd, and whose sire is Kimpess Josephine 3rd's Sir Meechthilde. This was a beautiful heifer, attractive and showy in appearance, and has all indications of making a large producer. Mr. Abbott made a personal examination of the herd, and selected this heifer as one of the foundation cows for his Onondaga Co. herd.

"H. V. Noyes, of the Oneida Community, and his herdsman, visited us, and purchased a fine young bull in De Kol 2nd's Butter Boy 3rd No. 1. This we believe to be one of the finest bulls bred at Brookside for a long time. His sire, De Kol 2nd's Butter Boy 3rd, at Brookside for a long time. His sire, De Kol 2nd's Butter Boy 3rd, we believe has no superior in breeding in this country. As his name indicates, he is the son of De Kol 2nd, and sired by Manor De Kol. The dam of this young bull is Aaggie Lily's Pietertje Netherland, who has an official record of over 18 lbs. butter in seven days from three teats.

"Wm. Smeeck was here from Pennsylvania, and selected a very fine pair of calves—Kornady Queen De Kol Pietertje and Inka 8th Lady Hengerveld. Jno. H. Walker also purchased a very well bred heifer, Aaggie Hengerveld De Kol, a granddaughter of our great show cow, Aaggie Grace 2nd's Pietertje, which is the only cow that we believe has ever given 100 lbs. milk in one day in an official test."

FOR SALE: MAMMOTH BRONZE TURKEYS

Heavy birds, either sex, from prizewinning stock at Toronto and London, 1900.

T. HARDY SHORE, Glanworth, Ont.

HOLSTEINS

FOR SALE.

I AM now offering 4 royally-bred Holstein bulls: Regulator De Kol, Pompous De Kol, Jessie 3rd's Inka De Kol, De Dickert's De Kol. All from heavy-milking dams, closely related to De Kol 2nd and Netherland Hengerveld, the greatest of Holstein cows.
J. A. CASKEY,
 om Madoc, Ont.

MAPLE GROVE OFFERS Holsteins of all ages and both sexes, of the most approved type and richest breeding, for sale at right prices. For particulars, address
H. BOLLERT, CASSEL, ONT.

4 HOLSTEIN BULLS 4

FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aaggie, and Tritonia Prince, and out of imported females that have proven their worth at the pail. **THOS. B. CARLAW & SON,**
 Warkworth.

HEREFORDS FOR SALE.

THE HERD of upwards of 90 head of registered animals contains the blood of the best English Herds, with imported True Briton and Likely Lad at the head. Stock of both sexes and all ages for sale. Correspondence or a personal visit invited.
A. S. HUNTER,
 om DURHAM, ONT.

T. Douglas & Sons, BREEDERS OF Scotch Shorthorns.

STRATHROY, ONT.

100 head to select from.

Offer for sale 20 young bulls, and cows and heifers of all ages, of the most approved breeding, from (imp.) Diamond Jubilee = 28861 =, at head of herd. Farm one mile north of town.

Isaac Usher & Son, QUEENSTON, ONT.,

Manufacturers of QUEENSTON CEMENT. Proprietors of

Queenston Heights Stock Farm. Shorthorn Cattle.

Herd headed by Lord Gloster (26995), by Abbotsford. We have for sale seven young bulls, 4 to 20 months; also young cows and heifers. Stock offered for sale sired by or bred to such noted bulls as imp. Guardsman, Royal Standard, Abbotsford, Lord Gloster, Indian Count.

P. O., TELEGRAPH AND TELEPHONE, QUEENSTON, ONT.

FARM 3 MILES NORTH OF NIAGARA FALLS.

The De Laval Cream Separators

OFFICE OF THE ARNPRIOR CREAMERY ASSOCIATION, Manufacturers and Dealers in GILT-EDGED CREAMERY BUTTER. Arch'd Russell, General Manager.

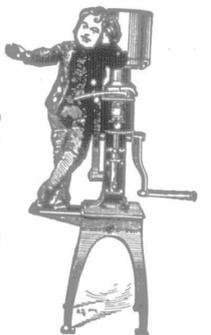
Arnprior, 14th Dec., 1900.

THE CANADIAN DAIRY SUPPLY CO., Montreal, P. Q.:

GENTLEMEN,—Now that we have our creamery in operation and all the 30 Baby Separators placed, we thought perhaps you would like to hear from us. It is with pleasure we say that the creamery outfit is most satisfactory, and to add that our patrons are "Jelighted" with the Baby Separators is using a mild term, more particularly as the majority of our dairymen looked upon the promised results as the "Stock in Trade" of the talkative agents. They have, however, got over that stage, and have now settled down to solid work, which has given us encouragement and confidence in the enterprise that will be of great advantage to stock-raisers, who will have their own milk fed in a normal condition without artificial heating. The expert assistance you gave us was of the utmost importance in the success of our undertaking, in explaining and creating confidence in the minds of our patrons, who are with us solid now.

We have the proof already of the uniformity and smoothness of the cream from the Alphas as compared with that from another make which is quite lumpy and unsatisfactory. Yours faithfully,

ARNPRIOR CREAMERY ASSOCIATION. (Arch. Russell.)



For circulars, prices, etc., write or call on

GENERAL AGENTS FOR CANADA:

CANADIAN DAIRY SUPPLY CO.,
 327 Commissioners Street. MONTREAL, QUEBEC.

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.

SPRINGBANK FARM.

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

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.

9—SHORTHORN BULLS 9

From 7 to 18 months old, Of the Fashion and Lavender tribes; well-developed, healthy, and thick-fleshed; red and roan animals. Golden Robe now heads the herd.

WM. G. HOWDEN,
 Columbus, Ont.

ULRICH'S Ensilage Corn

MAMMOTH WHITE GIANT PROLIFIC YELLOW DENT IMPROVED LEAMING WHITE CAP YELLOW DENT RED COB

E. R. ULRICH & SONS
 Main Office: Springfield, Ill.

Ask your dealer for Ulrich's seed corn. Take no other.

FOR SALE. FIFTEEN OR TWENTY young Scotch Shorthorn cows and heifers. Also 10 bulls, 6 to 24 months; good ones at right prices.
DAVID MILNE, ETHEL, ONT.

Bonnie Burn Stock Farm
Forty rods north of Stouffville station, Ont., offers 5 Shorthorn bulls and some heifers, 30 Shropshire rams and ewes from Imp. and Canadian-bred sires, at reduced prices.
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SHORTHORNS AND BERKSHIRES.
Young bulls, six to twelve month old; cows and heifers. Berkshires (various ages, either sex), and Embden geese.
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Maple Lodge Stock Farm
ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.
LEICESTERS—Imported and home bred—the best.
ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

Center Wellington Herd Scotch Shorthorns was founded in 1892 on Marry-bred descendants, to which have been added the Mistletoe and Matchless tribes, with Lord Stanley 4th 22678 at the head. Young cows and heifers for sale. Farm 1/2 mile from town and 14 miles north of Guelph.
Box 66, H. B. WEBSTER, Fergus, 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.

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.
G. A. BRODIE, Stouffville Station, Bethesda, Ont.

R. & S. NICHOLSON
SYLVAN P. O., PARKHILL STATION.
IMPORTERS AND BREEDERS OF
SHORTHORN CATTLE.
OFFER FOR SALE
7 Imp. cows.
3 Imp. heifers.
7 Yearling heifers.
7 Yearling bulls.
9 Cows.

High-class Shorthorns and Yorkshire Pigs.
One very superior bull, about 17 months old; three bulls about 5 months old, from imp. stock; cows and heifers due to calve this fall. Forty Yorkshire pigs, 2 months old, from imp. stock; imp. boar, 2 years old, and sows due to farrow soon. Write, or come and see us.
JAS. McARTHUR, GOBLE'S, ONT. Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met.

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
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HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.
We are offering 8 young bulls for sale, of first-class quality, and A1 breeding.
Wm. Grainger & Son, - Londesboro, Ont.

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PLEASE MENTION FARMER'S ADVOCATE.

A QUICK, SHARP CUT
hurts much less than a bruise, crush or tear
DEHORNING Done with the
KEYSTONE KNIFE
is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying.
Owned and Manufactured by R. H. McKENNA, V.S., Picton, Ont.
THE LATE A. C. BROSIUS' PATENT.

NO DUTY TO PAY NOW
ON THE FOLDING SAWING MACHINE. It is made in Essex Centre, Ontario. It saws down trees. Saws any kind of timber on any ground. 9 CORDS BY ONE MAN IN 10 HOURS. Send for free illustrated catalogue showing latest improvements and testimonials from thousands. First order secures success. Address Main Office, Folding Sawing Mach. Co., 55 N. Jefferson St., Chicago, Ill.

5 SHORTHORN BULLS... 5
My five lusty, well-fleshed, red Shorthorn bulls range in age from 5 to 15 months old. They are all for sale.
JAS. BROWN, Thorold, Ont.

FOR SALE:
SHORTHORN BULLS AND HEIFERS from such sires as Mariner (imp.), Royal Judd 17499, Sultan Selam (imp.), Grenadier 26251, and Roseville Abot 30871, on a Victoria foundation. Also one extra Kinellar Stamp 10-mos. red bull. Come or write.
HURON COUNTY, THOS. CUDMORE & SON, EXETER STATION and Telegraph Office, Hurondale, Ontario.

FOR SALE:
Shorthorn Bulls, Cows and Heifers, carrying a combination of Scotch top crosses, and tracing through many popular strains on the dam's side.
F. A. Gardner, Britannia, Ont.

PURE AND SCOTCH-TOPPED SHORTHORNS FOR SALE.
Ten red bulls, between 6 mos. and 2 years, by Imp. Prime Minister, Strathallan, Hawarden. Also females.
A. P. ALTON, Burlington Jct., Appleby, Ont.

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

SPRINGFIELD FARM
HERD OF
Shorthorns, Oxfords, and Berkshires.
Young bulls and heifers on hand. Also a few choice Berkshires.
CHAS. RANKIN, Wyebridge, Ont. SIMCOE CO.

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.
WM. HAY, TARA, ONT.

SHORTHORNS
Cows, heifers and bulls ready for service, by Scottish Chief = 27244 =, by Scottish Pride (imp.). Dam Fane's Gem, by Guardsman (imp.).
BERKSHIRES.
Modern type, well-bred boars and sows, all ages.
ALEXANDER LOVE, EAGLE, ELGIN CO., ONT.

Shorthorns, Cotswolds, & Berkshires
Our Shorthorn herd was founded on Bates and Cruickshank blood, upon which we have employed only Scotch-bred bulls. 60 to select from. We are now offering an extra choice lot of young bulls and heifers from Duchess of Gloster and Miss Ramsden sires, on Cecelia and Anchovy dams. Also Cotswolds, shearlings and lambs, and Berkshire pigs.
F. BONNYCASTLE & SON, Campbellford, 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.
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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,**
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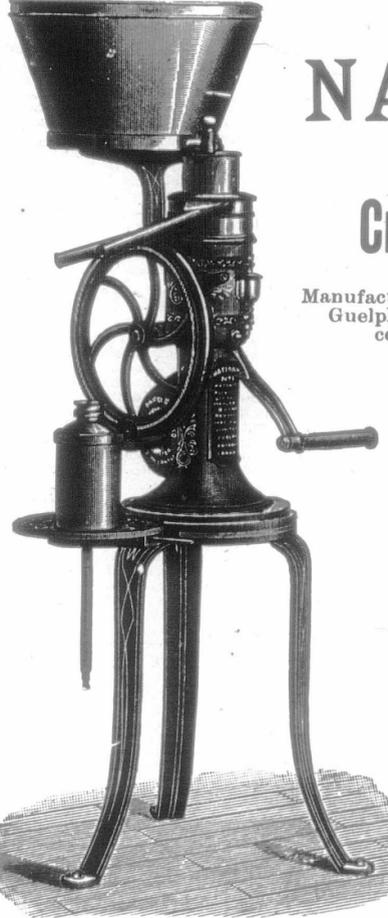
J. & W. B. Watt, SALEM, ONT., BREEDERS OF Clydesdale horses, Scotch Shorthorn cattle, Leicester and Oxford sheep, Berkshire pigs.
(Post and Telegraph Office.)

Our **SHORTHORN** herd was founded over 30 years ago, and contains such tribes as the **Village Ruds, Matchless, Missies, Mildreds, Stamfords** and **English Lady**, upon which we have employed such bulls as **Barnyton Hero 324, Young Abbotsburn 6236, Challenge 2833, Perfection 9100, Lord Lansdowne (imp.) 2712, Clan Stuart 14381, Canada 19536, Stittton Chief 17469, Royal Sailor (imp.) 18959, Royal George 28513, Clipper King 16293 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 **Road Cloud 31317**, by **Lord Gloster 26995**, 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.
The Breed THAT FIRST Hillhurst Famous
FIVE GRAND YOUNG SHORTHORN BULLS FOR SALE, 9 to 12 months old—registered; bred from milking strains; hardy and active, having been reared in a natural manner on pasture. Prices moderate. Special inducements to clubs. A choice lot of
SHROPSHIRE
Ram and Ewe Lambs, by imported rams of Mansell's and Harding's breeding. **HAMPSHIRE, THE GOLDEN-FLESHED,** Ram Lambs all sold. Next crop due January, 1901. Ready for service in August.
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117 miles from Montreal, on Portland Div. Grand Trunk Ry.; 12 miles from Lennoxville, C. P. R.

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IMPORTERS AND BREEDERS OF
Scotch Shorthorn and Shropshire Sheep
OFFER FOR SALE:
20 Imp. bulls.
40 Imp. cows and heifers.
6 Home-bred bulls.
30 Choice Home-bred heifers—1, 2 and 3 years old.
25 Ewe lambs.
Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm.

THE NATIONAL FARM Cream Separator
Manufactured by the Raymond Mfg. Co. of Guelph, Limited, manufacturers of the celebrated Raymond Sewing Machines.



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

THE CREAMERY SUPPLY CO., GUELPH, ONT.,
General agents for Ontario.
W. G. GLENN,
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"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 350 lbs. per hour.

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SHORTHORNS FOR SALE.
Two young bulls and a few young females, carrying Isabella, Kirklevington and Kinellar strains. All in good form and health.
JAS. S. FLEMING, Gill, Ont.
For sale: Yearling A. J. C. C. Bull, sired by a son of Two Hundred Per Cent; dam rich in Stoke Pogis blood. Solid color; good size. For price and particulars address
E. B. HINMAN & SONS, Grafton, Ont.
IN WRITING
PLEASE MENTION FARMER'S ADVOCATE.

FOR SALE.



6 YEARLING JERSEY BULLS,

sired by Brampton's Monarch (Imp.), and from tested cows; also registered and high-grade springer.

B. H. BULL & SON, BRAMPTON, ONT.

CONTAGIOUS ABORTION

HAS BEEN CURED BY

WEST'S FLUID

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

Write for circular on this disease, specially prepared by a V. S.

Headquarters for "STANDARD" Sheep Dip. Manufacturers: The West Chemical Company, Agents Wanted, in TORONTO, ONT.

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FOR SALE:

A granddaughter of Louise of H, the great cow whose yield and cost of feed were published in F.A., 8 months old; a son of Bella of H, full sister in blood to Louise, 7 months old; a great-granddaughter of the famous cow, Massena (900 lbs. butter in one year), 19 months old, and in calf.

MRS. E. M. JONES, Box 324, om, BROCKVILLE, ONT.

GLEN ROUGE JERSEYS.

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

Maple City Jerseys.

One Jersey bull two years old. Some very choice bull calves from 2 to 5 months old, and a few high-grade heifers and heifer calves. All of the choicest breeding. Write for prices.

Box 552. W. W. EVERITT, Chatham, Ont.

Jerseys...

One pure-bred and five high-grade heifer calves, from 1 to 2 months old, from cows who have produced from three to four hundred pounds butter last year.

W. C. SHEARER, Bright, Ont.

RIDGEDALE HOLSTEIN-FRIESIANS

Two young bulls of choice breeding for sale; also some heifers. Prices reasonable. Write for particulars, or come and see them. R. W. WALKER, Shipping stations: Utica P. O., Fort Perry, G. T. R.; MYRTLE, C. P. R.

WE WANT TO SELL A FEW

Holstein Heifers, coming 2 years old or a few young Cows.

THEY are of the richest and largest producing strains, fine individuals, and bred to bull calves as there are living. We have a few bull calves and yearling bulls also for sale.

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

For Sale: 2 Young Holstein Bulls 2

Carrying the blood of Aaggie, Netherland, Clothilde, and Inka, and sired by Inka 5th's Netherland. Also the 8-year-old daughter of Margaret 4th (over 10,000 lbs., 3.67, and 410 lbs. butter in season), and Clara C, in milk and in calf.

Thos. B. Carlaw & Son, Warkworth, Ont.

BROOKBANK

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

GEO. RICE, Currie's Crossing, Ont. Oxford Co.

Maple Glen Stock Farm.

The home of officially tested, Advanced Registry, dairy test and showing-winning A. G. Holsteins. A grand sireling herd of Sylva HOLSTEINS, of Carmens Sylva now for sale. Price is in keeping with breeding and performances.

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

Maple Hill Holstein-Friesians

SPECIAL OFFERING:

Two yearling bulls (prizewinners), sired by DeKol 2nd's Paul DeKol Duke. Five bull calves, sons of Count Mink Mercedes and Daisy Teak's King. Also several yearling heifers in calf. Will make special prices to reduce stock before winter.

HARRISBURG STN., G.T.R. G. W. CLEMONS, GALT STN., C.P.R. ST. GEORGE P.O., ONT.

GOSSIP.

CAVAN & DURHAM'S NEW IMPORTATION OF BERKSHIRES.

The above-named firm have established their headquarters within ten minutes' walk of the terminus of the Kingston road electric car, Toronto, and a mile and a half east of the York station, on the Grand Trunk, their shipping point. Mr. Cavan, having had a large experience in the selection and fitting of Berkshires, both in Canada and the United States, has within the past few months made selections from the large American herds, a long string of young sows and boars, also a few matured and tried English and American bred sows, which proved their worthiness on American soil. Among the matured matrons we found Lady Hallett (Imp. 18061), which formerly came from the herd of Burbridge, South Wrexham, Eng. She is a sow of superior merit and Berkshire character, and has proven herself to possess sure and prolific merit. Four of her June sows to Fitz Majestic accompany her to her new home. They are typical Berkshires of the early-maturing sort, which, with proper management, should easily make show animals, having the requisite quality, well-fleshed hams and backs, and especially good around the hearts. Their heads are of the true Berkshire. Another English sow of importance to the firm and bred is the year-old Holyrood 11th 8207, by Goliath, and out of Holyrood 5th 42547. She was bred by E. Hayter, White Church, England, and since coming to American soil has not only attracted much attention as a show sow, but has proven herself a matron worthy of her high type and character. Elphick's Matchless, by Safeguard, and out of Sweet Pippin, also accompanies the string, and those most familiar with Berkshires and their show records will recognize this sow as one of the chief attractors in her yearling form, when she won 25 firsts and sweepstakes in England, while the two former were among the chief winners in England and Canada in their show days. Elphick's Matchless now suckles a choice litter of ten to Fitz Majestic (Dec. 1st). Four very choice April boars were shown, sired by Elma Greatness, a son of the noted Great Eastern, and out of Rural Pet, by High-clere Lad, and tracing to the noted Benjafeld Bernice family, which won immense showyard fame in England. They are a bunch possessing individual merit, with splendid backs and hams, standing on short legs, and having splendid heads and good markings; while in another pen we saw a superior young boar in Lord Windsor 2nd, by Elma Harvester, a son of Lord Windsor, dam Kathleen Windsor, by Lord Windsor, and tracing to Sally 926, that fetched \$1,000 for Mr. T. S. Cooper, and to which the firm intend breeding a portion of their young sows, being a boar whose quality corresponds with the high type of his breeding. The present stock boar, Fitz Majestic 8077, being a grandson of the noted Lord Windsor, has given the young things in the herd a popular strain of breeding of the most desired sort. A long string of sows, farrowed during and since the early spring, carry breeding of equal merit to those already mentioned, being intermixed with Lord Windsor, Fitz Majestic, Bernice, and other popular tribes. We found them in good growing form and true in Berkshire conformation. The firm in full capacity will carry at least 20 brood sows, and intend to keep a list of sires at the head whose breeding and individuality will attract the attention of the best buyers, with whom they hope to do business.

SHOW AYRSHIRES FOR SALE.

As we are not going to show any cattle at the fairs this year, we will sell the imported prizewinning bull, Napoleon of Auchenbrain, champion and head of first-prize herd at Toronto, 1898. Also first-class 2-year-old bull and three choice bull calves of last fall. These are all fit for the showing, as we kept them for that purpose. For prices and particulars come and see, or write. James Boden, Mgr., St. Anne de Bellevue, Quebec. Farm close to St. Anne Station, G.T.R. & C.P.R., 20 miles west of Montreal.

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

for special prices on Ayrshire bulls from 14 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jock of Burnside—1684—; also a number of all ages. Shropshire sheep of all ages; a female of fine ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

AYRSHIRE CATTLE AND POULTRY.

Three prizewinning bull calves, 8 mos. old, from 30 to 35 dollars each. One fine bull calf, 3 mos. old, 25 dollars. All fashionable color and choice breeding, from dams with heavy milk records and fine show qualities, and sired by Royal Star of the St. Anne's, first-prize bull at Toronto and London. Females all ages. Prices right. Twenty varieties of chickens, Pekin ducks. Also ten pair Toulouse geese, from \$4 00 to \$5.00 per pair. For particulars, write—

WM. THORN, Trout Run Stock Farm, Lynedoch, Norfolk Co.

Maple Cliff Dairy and Stock Farm.

FOR SALE:

Ayrshires—6 yearling bulls, females any age. Tamworths—40 boars and sows of different ages. Berkshires—3 boars, a number of sows.

R. REID & CO., Hintonburg.

Farm 1 mile from Ottawa. Electric cars to farm. om

1 2-year-old Ayrshire bull and 2 yearlings for sale.

Also a fine lot of calves, sired by Dewey, bred by Wm. Stewart & Son, Menie.

F. W. TAYLOR, Wellman's Corners, Ont.

DAVID A. MACFARLANE, KELSO, P. O., BREEDER OF

Ayrshire Cattle.

The blood of Nellie Osborne is largely represented in my herd, and combine style, quality and production. A few choice things for sale.

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 the 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.

Ayrshires, Guernseys, Shropshires, Yorkshires for immediate sale.



SOME fine Ayrshire bull calves. A few Shropshire ram lambs. A few choice Yorkshire pigs.

Kindly note that Mr. T. D. McCallum has no further connection with this farm, either directly or indirectly. All correspondence should be addressed to



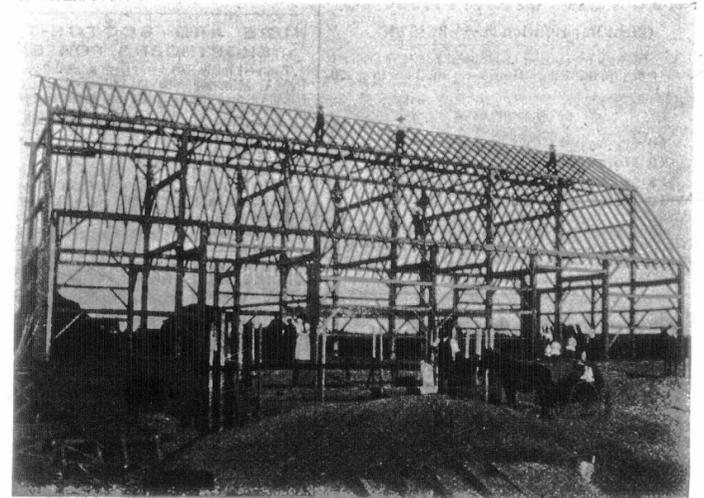
ISALEIGH GRANGE FARM, Danville, Quebec. J. N. GREENSHIELDS, Prop.

Warm, Dry, Comfortable Stabling Secured

BY USING

Battle's Thorold Cement.

A LAMBTON FARMER SPEAKS OF IT.



BASEMENT BARN OF MR. FRED. LAMPMAN, WYOMING.

Dimensions 42x100, with Root Cellar 14x35 under approach. Height of wall 10 feet.

Read the opinion of Mr. Fred. Lampman, Wyoming, Ont.

ESTATE OF JOHN BATTLE, Manufacturers of Thorold Cement, Thorold, Ont.:

GENTLEMEN,—Having this summer erected a barn with concrete basement and floors made with your Cement, I think it only fair that I should express my opinion of your famous Cement for building walls and floors.

To make a long story short, I am entirely satisfied with my wall, which is equivalent to saying I have a wall superior in every respect to one built of either brick or stone, and very much cheaper. My barn is 42 x 100, with root house under the approach, 14 x 35. My wall is a trifle over 10 feet high; the bottom, 18 in. is from 18 to 24 in. thick, and the rest 12 in. One hundred and eighty barrels of your Cement, purchased from your agent, Mr. Alex. E. Wark, did the job. The walls were made one of Cement to five of gravel. The floors were made 3 in., one to six, 1 1/2 in. on top one to two. I might just say that all floors should be put down in August or beginning of September, which gives them ample time to harden before they need to be used. If this point is observed, I consider your Cement equal to Portland for floors. The walls were built under the supervision of your Mr. N. B. Hagar, whom we consider a first-class man.

I don't think I need say any more in regard to the quality of Thorold Cement. My wall is here for inspection, which in reality is the best testimonial for your Cement. In conclusion, however, I might just say that I consider your Cement one of the greatest blessings that has come within the reach of Ontario farmers; as now there are few farmers who cannot, by a small expenditure of money and a little work, have a warm, dry, comfortable stable, which will be the great essential to success during the twentieth century.

FRED. LAMPMAN,

Plympton Township, Lambton Co.

Estate of JOHN BATTLE, Thorold, Ont.

Ayrshire Cattle and Leicester Sheep,

From such noted dams as Snowball and Strawberry, and such sires as Tom Brown, Leicesters—Now offering shearing rams and ram lambs of much merit and first-class breeding.

DONALD CUMMING, Lancaster, Ontario.

Ayrshire Cattle and Berkshire Pigs.

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

D. BENNING & SON, 1 y-o Glenhurst Farm, Williamstown, Ont.

PLEASE MENTION FARMER'S ADVOCATE,

Choice Ayrshires, and Barred Rocks.

A number of cows and heifers in calf to Glenore Sultan. Several choice young bulls.

Plymouth Rocks of both sexes from prizewinning birds.



JAS. McCORMACK & SONS, ROCKTON, ONTARIO.

EUROPEAN ADVERTISEMENTS.

HAMPSHIRE DOWN SHEEP.

SPLENDID MUTTON, GOOD WOOL, GREAT WEIGHT.

THIS HIGHLY VALUABLE

English Breed of Sheep

Is unrivalled in its rapid and wonderfully early maturity, possessing, too, a hardness of constitution adapted to all climates, whilst in quality of mutton and large proportion of lean meat it is unsurpassed. Full information of

JAMES E. RAWLENCE,
SECRETARY HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION,
SALISBURY, ENGLAND.

HENRY DUDDING, RIBY GROVE, STALLINGBOROUGH, LINCOLN, ENGLAND. Breeder of Lincoln Longwool Sheep and Shorthorn cattle. The Riby Flock of upwards of 1,400 Ewes holds an unequalled record for true type, merit, and quality. Its produce and their descendants have won the highest honors at all the principal exhibitions and shows throughout the world; its wool exhibits being unbeaten. Established upwards of 140 years. Its produce leads the way from the fact that satisfaction is given. The Riby Shorthorn Herd of upwards of 300 selected specimens of Booth, Bates, Cruickshank, and Scotch strains, is one of the largest herds in Great Britain. Its principal Stud Bulls are: "Pride of Fortune" 73240, s. "Pride of Morning" 14364, d. "Flora 2nd," by "William of Orange" 50694; "Golden Robin" 63718 (rich roan), s. "Roan Robin" 57392, d. "Golden Sunshine," by "Royal James" 54972; "Prompter" (Vol. XLV.), by "Prefect" 69255, d. "Risington Lass," by "Umpire 13th," 1st and champion at Omsersley, 1898; "Rosario" s. "Wiltshire Count" 69824, out of "Rose Blossom" (G. Harrison). This bull, his sire and dam, won 84 prizes, including first and champions. Telegrams: "Dudding, Keelby." Rail Stations: Stallingborough, 3 miles; Great Grimsby, 7 miles.

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

W. W. Chapman, Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society. Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered. Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepotee, London.

FAMOUS ALL OVER THE WORLD. ALFRED MANSELL & CO., LIVE STOCK AGENTS AND EXPORTERS, SHREWSBURY. BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

Dorset Horn Sheep PARTIES interested in raising early lambs for Easter market will make no mistake in using this breed. We have two good shearlings and a number of good ram lambs for sale at from twelve to twenty-five dollars—two winners at large shows. Our Polled Angus cattle are doing well.

James Bowman, Elm Park, GUELPH.

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.

Farnham Stock Farm Shorthorns—A fine lot of young bulls and heifers; sire, 20th Duke of Devon. Oxford Down—Both imported and Canadian-bred. A few ewes in lamb to imp. Bryan 125. Prices reasonable. **HENRY ARKELL, Arkell, Ont.**

PLEASE MENTION FARMER'S ADVOCATE.

Dorset Horn Sheep

THE largest flock in America. The most celebrated prizewinners at the Columbian Exhibition and Canadian exhibitions. Contains more Royal winners than any other. Awarded 5 out of 8 first prizes at Toronto, London and Ottawa in 1900. Flock of 300. Stock for sale always on hand.

John A. McGillivray, Uxbridge, Ontario.

Present Offering:

Dorset ewes in lamb.
Dorset ewe lambs.
Chester White sows (June litter).
For particulars, write to
R. H. HARDING, THORNDAL, ONT.

IMPORTED SHROPSHIRE SHEEP.

I HAVE just arrived from England with a very choice bunch of yearling ewes. These ewes have been bred to noted rams in England, and would be a capital lot for starting a first-class flock. Have also for sale Amer. Mammoth Bronze turkeys, from two imported gobblers.

W. S. HAWKSHAW & SON, GLANWORTH P. O.
Seven miles south of London, Ontario.

HUNTLYWOOD FARM

SOUTHDOWN SHEEP (IMPORTED AND HOME-BRED), ALSO DEXTER-KERRY CATTLE. A USEFUL LOT OF SOUTHDOWN RAMS NOW FOR SALE. APPLY TO—

W. H. GIBSON, MANAGER.

Hon. G. A. Drummond, Proprietor.
Beaconsfield, G. T. R. & C.P.R.
Pointe Claire P. O., P. Q.

Shropshires...

Ram and ewe lambs, sired by an Imp. Williams ram, for sale.
GEORGE HINDMARSH, AILSA CRAIG, ONT.

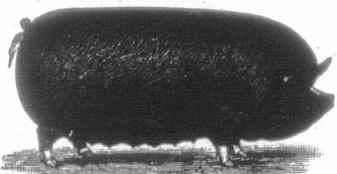
BROAD LEA OXFORDS.

Sheep of both sexes for sale, many of which are bred from the famous imported ram, Royal Warwick 3rd. Correspondence solicited. Visitors welcome.

Henry Arkell & Son, Teeswater, Ont.

Fairview Shropshires.

A few good rams still on hand. A splendid lot of ewes (imported and home-bred), bred to my best stock rams, are now offered at good values. They are the producers of winners.
JOHN CAMPBELL, Woodville, Ont., Can.



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

Large English Berkshires FOR QUICK SHIPMENT.

BACON-TYPE MONEYMAKERS. We have a number of splendid spring sows of the very best breeding, which are of the most profitable bacon type. For years we have bred for this purpose, and can honestly say we have something good. For prices and information address

R. T. FERGUSON, Box 373, Smith's Falls, Ont.
After Jan 1st, J. J. FERGUSON, Agricultural College, Michigan.

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

Summer Hill Herd

HEADQUARTERS FOR THE IDEAL BACON HOG AND EASY FEEDERS.



The largest herd of imported and Canadian-bred Yorkshires in America. Out of 121 exhibits at the leading shows in '99 and 1900, including Toronto and London, we gained 116 awards. Expert judges both at London and Toronto were unanimous in pronouncing our herd far superior to that of our strongest competitors. Won most of the best prizes offered, including first prize for best pen of pure-bred bacon hogs, also grand sweepstakes over all breeds in a class of 13 entries. The foundation of our herd was laid by personally selecting the choicest stock from the most noted breeders in England and Scotland. We have the ideal bacon type—size without coarseness, and easy feeders. Pigs of all ages for sale at moderate prices. Write us for particulars. Telephone, Millgrove, Ont. Telegraph 254 Bay St. S., Hamilton, Ont.
D. C. Flatt & Son, Millgrove, Ont.

LARGE ENGLISH FOR SALE.

YOUNG boars and sows carrying the blood of Baron Lee 4th, Bright Star Teasdale and Snell females, with Allandale Boy 5875 and Royal Lad 3rd 4307 heading the herd.
S. DYMENT, BARRIE, ONT.

FRESH BERKSHIRE BLOOD.

Have secured the first choice of the champion gold medal herd of America (which won over 400 prizes, cups and medals), including the \$400 show sow, Elphick's Matchless (never beaten), and other sweepstakes sows in the United States. Also 15 April, May and June boars, and 15 sows of the same age, and 3 fall litters, selected to meet the best Canadian demand, being long, low, and extra good through the heart. Farm within 10 minutes' walk of electric R. R. terminus on Kingston road.
DURHAM & CAVAN, East Toronto, Ont.

SNELGROVE BERKSHIRES

We have for sale some promising young boars and sows of different ages. Boars fit for service, sows large enough to breed. Young pigs from 4 to 8 weeks old. These pigs are got by the prizewinning boars, Colonel Brant 6950, Court Master 7710, and Gallant Prince 7691. Our herd is bred from the best strains of Large English Berkshires. Write for prices.
SNELL & LYONS, Snelgrove, Ont.

Berkshires.

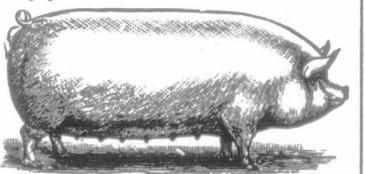
We are offering a fine lot of Young Pigs of the Highclere and Sallie families. Can supply pairs not akin. Two good stock boars for sale, one of them imp. in dam.
JOHN RACEY, Jr., Lennaxville, Que.

Large English Berkshires

YOUNG boars and sows from imported stock. Registered Leicester ewes and ram lambs. B.P. Rock cockerels from prizewinners. Write for prices.
H. BENNETT & SON, St. Williams, Ont.

OAK LODGE

Type of Yorkshires



We have now on hand a large herd of pigs of different ages, and they are as good as we have ever offered. The winnings of this herd have been greater than all other herds combined at the largest Canadian exhibitions. All stock shipped to order, fully guaranteed.
Brethour & Saunders, Burford, Ont., Can.

FOR SALE.

A FEW choice Tamworth pigs, of both sexes, about five months; eligible for registration.
WILLIAM AITCHISON, Erindale P. O., Toronto Township, Ont.

Yorkshires and Berkshires

of the most approved type: sows safe in pig, boars fit for service and sows ready to breed, young pigs ready to ship. Guaranteed as described. Prices reasonable.
JAS. A. RUSSELL, Precious Corners, Ont.

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.

YORKSHIRE SWINE AND POULTRY.

We are offering 20 pigs, from 2 weeks to 2 mos. old, from O. L. White Rose 5th and Summerhill Queen. These pigs are richly bred, and trace directly to imported foundation. All sold out of fowls except B. P. Rock cockerels, M. B. turkeys and Pekin ducks. Summerhill Queen weighs 674 lbs. at 20 mos. old. om
A. B. ARMSTRONG, CODRINGTON, ONT.

Large White Yorkshires.

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

TAFET BROS., importers and breeders of Duroc Jersey Swine. TAFET BROS., RIDGETOWN, ONT.

YORKSHIRE AND ESSEX PIGS for sale, of the most approved type. We are offering young breeding stock of both sexes and breeds, and will be at Toronto Fair with a few choice things. Also have a limited number of imported Yorkshire boars and sows, having exceptional quality and valuable blood in their pedigrees. Correspondence invited.

JOSEPH FEATHERSTON & SON, Streetsville, Ont.

Spring Brook Stock Farm. THE LARGEST and leading herd of Tamworths in America. Stock of best quality from imported prizewinning sires. Stock of all ages for sale. Holdings of the noted De Kol blood. Write at once for prices and catalogue.
A. C. HALLMAN, WATERLOO CO., NEW DUNDEE, ONT.

Maple Grove Yorkshires of the long bacon type. Also a few choice Tamworths and Bronze turkeys. Yorkshires bred from my 40-lb. tom. Hens weigh from 19 to 23 lbs. Prices right.
T. J. COLE, BOX 188, BOWMANVILLE, ONT.

NORTH BRUCE HERD OF **Yorkshire Swine**

Boars fit for service, boars and sows of April and May farrow. Also orders taken for August pigs, singly or in pairs not akin.
WM. HOWE, Pt. Elgin St., G. T. R., NORTH BRUCE, 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.

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.

TAMWORTH AND BERKSHIRE SWINE, Mammoth Bronze Turkeys, and White Wyandotte Cockerels.

Choice Tamworths, all ages, and Berkshire sows, 4 months, sired by Duke of Snelgrove. Pedigrees registered and express prepaid. Write for prices.
D. J. GIBSON, HAZEL DELL STOCK FARM, Bowmanville, Ont.

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.

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PIANOS AND ORGANS
 Built to Last a Lifetime by the
 Largest Makers of Pianos and Organs in Canada.
The Bell Organ & Piano Co., Ltd.,
GUELPH, ONT.

SEND TO US WITH BALANCE WITH ORDER. GOOD FOR \$3.00 WITH ORDER. IN CASH.

YOU CAN MAKE 12 TO 20 PAIRS PER DAY

YOU CAN GET 10, 15, & 20¢ PER PAIR.

Klondike Knitter.

ATTACHMENTS: RIBBER, MACHINE, MAHER

INSTRUCTION BOOK, WINDER, SWIFT

ALL FOR \$20.00

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For Power Knitting Machines and Visible-writing Typewriters, write us. Catalogue free. (Cut out, send to us.) No. 70.

Dr. Hess' Stock Food WILL MAKE Money for You.

7-lb. sack, 65c. 12-lb. sack, \$1.

It is a scientific compound of the essential elements that are lacking in the various foods upon which horses, cattle, hogs and sheep generally subsist. It produces flesh by compelling the system to do its best. It permits no food to pass off undigested. It wards off diseases. It is called a food for want of a better name. It is not exactly a medicine, nor a substitute for hay and grain and other foods. It is both nutritious and curative.

DR. HESS' STOCK FOOD
 FOR HORSES, FOR CATTLE, FOR SHEEP, FOR HOGS

It is not a stimulant, but a tonic. It aids digestion, and thereby gets the most muscle and fat and milk and wool out of the various foods that the horses and hogs and cows and sheep eat. Sold by dealers generally, or address: **THE GREIG MFG. CO., MONTREAL.** For the asking, we will mail you our 64-page veterinary book, which tells how to doctor your own stock.

ADDRESS: **DR. HESS & CLARK, ASHLAND, OHIO, U. S. A.**

FOR SALE—Mammoth Bronze Turkeys. The very best strain for breeding purposes. All heavyweights. **R. G. ROSE, GLANWORTH, ONT.**

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 Cyphers 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.**

Mammoth Bronze Turkeys, S. G. Dorkings, B. P. Rocks, S. C. Br. Leghorns, Black Minorcas.

Over **500** grand young birds from winning strains. Pairs and trios mated not akin.

Thos. F. Shore, White Oak, Ont.

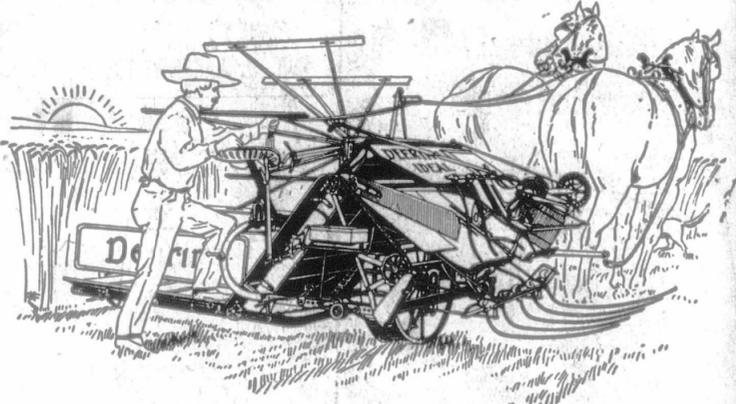
326 FIRST PREMIUMS SEND FOR FREE CATALOGUE. **Prairie State Incubator Co., Homer City, Pa.**

BARRED PLYMOUTH ROCKS and GOLDEN WYANDOTTES.
 For sale: Fine young birds of above varieties—cockereels and pullets. Being short of room, will sell very reasonably to quick buyers. Satisfaction guaranteed. Write **JAMES ROW, Avon, Ont.**

PEKIN DUCKS. Large, heavy, long-bodied birds, and white as snow. Bargains for quick buyers. **H. GEE & SONS, Fisherville, Ont.**

FREE SCHOLARSHIPS
 TO A LIMITED NUMBER
 IN **ELECTRICAL, MECHANICAL, STATIONARY OR LOCOMOTIVE ENGINEERING**
 (Including Mechanical Drawing)
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