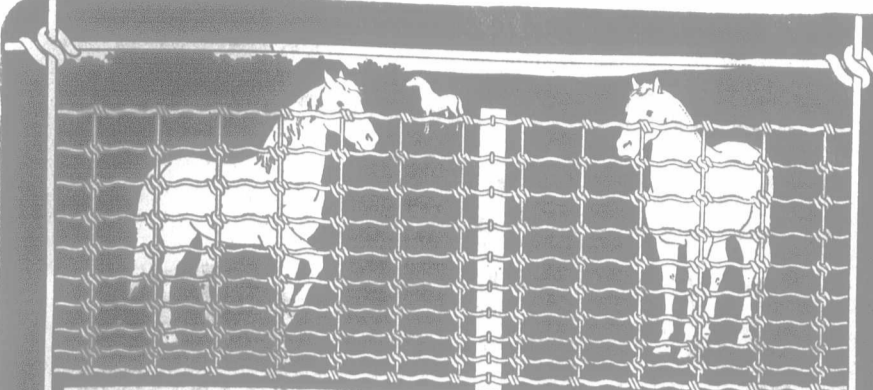


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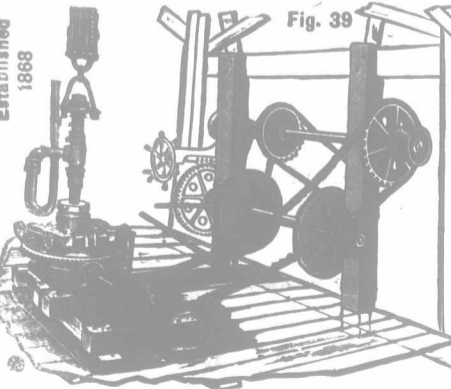
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Why Incubator Chicks Die in the Shell.

There seems to be a wide and varied opinion as to why chicks die in the shell. Many claim, which is true in a sense, that the germ is weak, caused by too close inbreeding. It is true also that we find weak germs at times when the parent stock is not related.

Too close confinement, with little or no exercise, or improper feeding, will also cause chicks to die in the shell, the germ not being strong enough to withstand the various changes during incubation.

The writer is fully convinced after careful demonstrations, that while the above causes are partially true, the main cause is improper ventilation. The system of ventilation in incubators of to-day is such as to cause a draft, drying the eggs too fast, causing the membrane or lining beneath the shell of the egg to become tough, so much so that at hatching time the chick is unable to break through, many even dying in the shell after being pipped; whereas, if this membrane could be kept soft and brittle as when fresh-laid, the chick would easily have picked its way out.

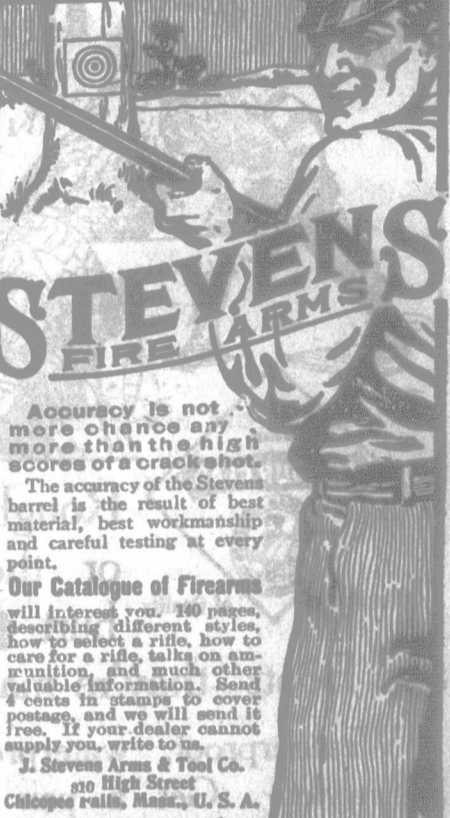
By placing a hygrometer under a sitting hen, the humidity or moisture will register about 60 per cent., while in almost all makes of incubators less than half that amount will be shown. Herein lies the explanation of such poor hatches in high altitudes, the air passing too rapidly through the incubator, taking the moisture from the egg too fast, drying and toughening the membrane until the chick cannot break through.

To demonstrate that chicks die in the shell from lack of ventilation, I have made an incubator in which instead of using a two-inch pipe (the size used by manufacturers) to convey the heat from the heater into the incubator, I used one of four-inch diameter, which furnished me with a much greater volume of pure warm air. Also in addition to the larger pipe I constructed within the outer wall of the heater a reservoir, containing water for evaporation. Hygrometer tests made with the heater without the reservoir showed the degree of humidity to be only 18 degrees, while with the reservoir containing water the humidity registered normal, or about 60 degrees. I am positive that the eggs to retain their natural condition must have added moisture, and some must be taken in with the supply of heat, and not from moisture pans, which affect principally the eggs near them. With the above system the air is moistened to the normal condition of the hen, which by hygrometer test, is shown to be 60 degrees, and by being carried in with the source of the heat, every egg is affected the same.

The machine constructed was of 200-egg capacity, walls 14 inches deep between the top and bottom. I made several hatches with a percentage ranging from 90 to 94 per cent. out of fertile eggs, and the finest, strongest chicks I have ever seen, no cripples, and no weak ones, and why? For no other reason than that the ventilation was right from beginning to end of hatch. These experiments were made in all kinds of temperature, varying from 98 degrees to below freezing. This demonstrates the simple fact that to secure good hatches and to prevent chicks dying in the shell the incubator must be made with more ventilation, and that the eggs must be incubated with the proper amount of humidity.—O. P. Scott, in Farm Poultry.

Few cattle are being bought for feeders, so the Chicago market papers report. Competition has been keen for sheep to go on feed. Prices for cattle to be marketed next spring may be expected to be more satisfactory than latterly.

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 "Any what, aunty?"
 "Haih, boss?"
 "Hair?"
 "Yassuh, haih lak' yo got on you' haid."
 "Oh, hair."
 "Yassuh, haih."
 "Why, no, aunty; this is a dry-goods store, not a hair store."
 "Dat's what Ah 'lowed, boss; but mis-sus tole me to cum yeah an' get free yahds mo' hair lak she done got yis-tiddy!"
 "Oh, you mean mohair!"
 "Yassuh, mo' haih."



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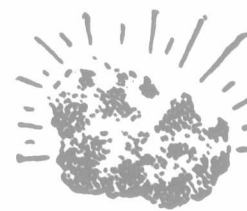
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VOL. XLI.

LONDON, ONT., AND WINNIPEG, MAN., JANUARY 11, 1906.

No. 694

EDITORIAL.

Frenzied Finance in Canada.

The record and recent collapse of the York County Loan Company, of Toronto, is a fair sample of "Frenzied Finance," as we sometimes have it in Canada. The revelations made following the suspension of the Company have not disclosed anything dishonest, so far as the diversion of funds is concerned, but they have demonstrated the fact that President Phillips and the directors of the Company at least lacked foresight, business acumen and financial discernment. The enterprise itself was fundamentally at fault, and it was only a question of time before the inevitable crash came.

Originally, the Company's capital was derived from the sale of terminating or withdrawable shares, and the success of the concern was, to put it in a plain way, based upon the misfortune or carelessness of shareholders. In other words, the Company depended for success upon the lapses, which ran anywhere from \$130,000 to \$140,000 a year. These lapses were large, because of the character of the shareholders, who were mostly of the poorer classes, and while the Company could count on this big income the officers took no heed of future contingencies. By lapses is meant failure to make payments regularly on the shares, resulting in the forfeiture or loss of what was already paid in.

Mr. Phillips explains that he endeavored to conduct the Company on principles that have been so successful in industrial insurance. But he made one fatal mistake. In industrial insurance the companies can "load" the premiums so as to cover expenses. Then the lapses also enter largely into the calculation. When Mr. Phillips applied this principle to a loaning institution, he discovered that it worked well for a comparatively short time, and we find that in 1899, after confining itself to mortgages since 1893, the year in which Mr. Phillips took charge, the Company decided to purchase and develop lands in the city. The forfeitures continued to amount to a very substantial sum annually, but in 1902 the Government stepped in and changed the law so that holders of terminating shares, instead of forfeiting all money paid in when they lapsed, only had to pay in for six months, when they could cease payments, and at the end of three years could draw out their money, less 10 per cent., which was allowed the Company for expenses.

This Act cut off the York Loan's most prolific source of profit, and sounded the death knell of the Company. Even then Mr. Phillips had an opportunity of saving the enterprise, but it was not until the early part of last year that the Company inaugurated the policy of changing the stock over to permanent shares. In the meantime, the expenses of the Company were excessive, the cost of collecting payments ranging from 17 to 22 per cent. That is, the Company received only from \$78 to \$83 for every \$100 they were compelled, under their share agreement, to pay out on maturing stock.

Meanwhile, the purchase of real estate was continued on a large scale in the vicinity of High Park, at the Western limits of the City of Toronto. Immense sums were spent in improving this property, and most expensive houses were erected, one of them costing \$20,000, another \$16,000, and still another \$11,000. It was Mr. Phillips' intention to make this district the finest residential portion of the city. But there was no market for such expensive dwellings, and the Com-

pany soon found itself with enormous unproductive investments on its hands, and heavy expenditures to meet in the way of taxes, amounting, it is said, to \$25,000 a year.

The hope of the Company was that the real-estate holdings would appreciate in value and be sold off fast enough to meet the increasing calls of the maturing shares. But this expectation was doomed to failure, and just at the time when the Company most needed the money to protect and further develop its real estate, large blocks of these terminating shares fell due, and had to be met.

In the meantime a number of subsidiary companies had been formed, including a piano manufacturing concern, a life insurance company and a real-estate company, and several publication schemes on the side. In addition, Mr. Phillips subscribed for \$200,000 bonds of the Southern Light and Power Company, and with all these funds tied up, the president finally discovered the Company to be seriously embarrassed, and as a last resort he suggested the merger with the Permanent Loan, a proposition which, if it had gone through, would have perhaps offset Mr. Phillips' many previous errors of judgment, by transforming the shares of the Company into stock maturing in periods of from three to ten years. This expedient would have removed the immediate burden of the Company, and allowed time for the real estate to appreciate or be transferred to other hands, but at this juncture the shareholders stampeded and commenced to clamor for their money.

These are the facts that have been brought out by the Government investigation, and, when summarized, they indicate that the Company failed, first, because Mr. Phillips endeavored to pay too much for what he received, viz., \$100 to every \$78 or \$83 received, after commissions and other expenses were met; secondly, the profits from lapses, the main source of revenue, was cut off by the Government; and, finally, because its assets were not negotiable, thus leaving the Company without the means of refunding the money it had promised to pay on demand.

Just where the Company stands in a financial way has not yet been clearly shown. However, this much is known, according to the deductions of Mr. Masten, solicitor for Mr. Cross, the Government investigator: Total liabilities to shareholders amount to \$3,178,768; the assets are \$2,040,634, leaving a deficit of \$1,138,134, or nearly one-third of the total indebtedness. With other allowances, the deficit would probably be reduced to \$1,000,000. It is therefore assumed that the Company will pay 66 cents on the dollar, though this will depend upon the disposition of the real estate, the chief asset.

The Company had, in all, 113,740 shareholders, so far as it is known, representing, perhaps, 20 different classes of stock, issued at various times and in various ways by the Company. It will be for the courts to decide how these different classes of stock are to rank when settlement day comes. The finding of Mr. Cross will show a lamentable state of affairs. For example, he will report to the Government that the Company had no system of bookkeeping; that the officers themselves did not know the real liabilities of the Company, and had no clear idea of what had to be earned in order to fulfill their agreement to the shareholders; that the books were not audited, and that what were termed the auditors' reports were untrue and misleading. The case is another warning against investments of money in concerns about which people have no definite knowledge, and on the strength of payments of abnormal dividends, held out as a bait.

Dr. Smale and the Hog Question.

There is a letter in this issue of "The Farmer's Advocate" from Dr. F. J. Smale, Assistant-General Manager of the Wm. Davies Co., Limited, that will make interesting reading, particularly for those who were present at the discussion on the hog-marketing question that took place at the Ontario Winter Fair, in which Dr. Smale took part. Not unexpectedly, he takes exception to our resume of this meeting, and occupies some space in an endeavor to refute our presentation of the case, as brought out on that occasion. We do not see that he brings up any new points, or in any way lays our position open to question. The report, published in our issue of Dec. 28th, speaks for itself. Our readers will do well to re-read and inwardly digest it. For lack of space, simply, the part of the discussion which Dr. Smale thinks we slighted, viz., Prof. Day's remarks on the cost of producing pork, was not printed in the issue in which the rest of the report appeared, but, so far from considering it unimportant, we printed the full typewritten copy in the following issue (January 4th), which, by this time, will have been in Dr. Smale's hands. As for the character of the report published by us, we have only to say that the side of the packers was certainly presented with admirable skill, but, seeing that we were after the real kernel, or truth, of the matter, and seeing that, in our opinion, the farmer has a genuine grievance, our report of the discussion will naturally have the appearance of partiality to those who were espousing the cause of the packers. As for Dr. Smale's letter, we cannot refrain from remarking the meagre reference to the second of the three points, which the author complained he was unable, on account of interruptions, to deal with completely at Guelph. The taciturnity of the packers on the matter of discrimination in price in favor of hogs of the right grade, does not contribute to our estimation of the packers' sincerity regarding the other phases of the subject.

At the beginning of his letter, Dr. Smale denies our charge that the representatives of the packers failed to get down to the root of the question—why they sometimes want to import hogs. He says: "The reason we gave was that rightly or wrongly, farmers believed that it did not pay to raise hogs, and acted upon this conviction." Why they believe it does not pay to raise hogs may be best answered by Duncan Anderson's opening remark that, while the average prices of the past few years had been fairly satisfactory, the occasional slumps in price, which farmers believe unwarrantably extreme, curtailed production unduly, and introduced an element of uncertainty which deterred many a farmer from embarking so freely in the hog business as he otherwise would. This is the "root" of Dr. Smale's cause, and a disposition on the packers' part to deal earnestly with this snag of uncertainty is what farmers are looking for. "The Farmer's Advocate" does not contend for the maintenance of constant values the year round. They must ordinarily be lower in the autumn than in other seasons, else everybody would turn off his hogs then and choke the packing plants. We do not say, although we think that something might be done in that direction—that any arrangement can be made to fix prices absolutely six months ahead; it may be that the "bacon barometer" is not sensitive enough to determine what hog values should be so long in advance, but from a limited though intimate acquaintance with pork-packers, we suspect that the real reason it is so difficult for farmers to approach any

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understanding with the packers, is that the latter don't want to meet us half way. Their attitude—and attitude is tenfold more significant than argument—is unconsciously expressed, "between the lines," in Dr. Smale's emphatic words: "This sentimental talk about partnership—business partners and interested partners—is all in the air. There are three phases to this business—raw material, manufacture, and sale."

However, now that Hon. Mr. Fisher has wisely shut out American hogs, the problem will adjust itself, and the enterprising packers who have shown their confidence in the business by investing money in plants, may, in absolute self-interest, be obliged to adopt a liberal attitude.

Dr. Smale says there has been no combination among packers to depress prices, but Mr. Bowman, manager of the Montreal Packing Company, one of the speakers at the Winter Fair, admitted the fact of occasional telephone consultation among managers, which fact arouses the suspicion that in some seasons, at least, virtual combination does exist in an informal way. But, whether this is the case or not, it is not beyond the bounds of possibility that in the future, consideration for their own vested interests, may induce packers to co-operate among each other and with the farmers to keep the price from slumping disastrously in temporary periods of overproduction. The packers have it in their own hands to gain the confidence and good-will of the farmers, try to keep prices more even from year to year, and thus prevent the periodic shortage of hogs.

We do not say there is no money in hogs, nor do we dispute Prof. Day's figures, although he only gave them as tentative, and did not take account in his calculations of risk, interest on capital invested, labor, and a number of other items. As a matter of fact, we believe there is good money in raising hogs, but if the business is unduly precarious, and less remunerative than it might be, we want those evils remedied. We believe they will be remedied, and until they are, "The Farmer's Advocate" does not purpose to "lie down"; and the solid approbation of the thinking farmers of this country for the past forty years, and its record for fairness, is a sufficient answer for the uncalculated-for insinuation of being a "mischief-monger."

Getting What's Wanted.

The receipt of a number of letters for our Questions and Answers department, from people answering enquiries for a variety of articles, some of them out of the ordinary run of things asked for, prompts us to take our readers candidly into our confidence concerning an important matter of publishers' ethics. There is, perhaps, no paper printed, the subscriptions of which pay for the cost of producing it. "The Farmer's Advocate and Home Magazine," for instance, costs us about \$2.06 for every 52 papers turned out. The commercial advertiser is the man who helps us out; but for advertising, practically every paper in the country would suspend publication, or else push the subscription price away up. To the publisher, additional subscriptions are desirable because they extend the field which his advertisers reach, enable him to sell his advertising space for so much more per column, and with the increased revenue, still further improve his paper and make it more useful to its readers. It is a matter of sheer self-preservation with him to guard jealously his main source of income, and he cannot afford to give away space any more than a farmer can afford to give away his crops. Those who think space costs us nothing, are sadly mistaken; it costs us printers' bills, paper bills, salaries, and a host of sundry other expenses. For this reason we cannot afford to give it away recklessly, though, in every case, we do strain the point in favor of the enquiring reader. If we were to start such a policy we would be besieged on every hand for similar favors, the consequence being we would soon find ourselves on the street. For the accommodation of readers we have special columns for live-stock advertising, and have also a "Want and for Sale" column for the exchange of farm properties, pet stock, help and situations wanted, and miscellaneous farm articles. Realizing that these departments are especially valuable to us from a subscription standpoint, we make the rates in them as low as we can possibly afford, and from a direct advertising point of view, these columns are much less remunerative than the others. The service is cheerfully rendered, however, knowing that our subscribers' interests are ours; but, having established these facilities for the exchange of farm stock and produce, we must, in all cases, decline to print gratis communications directly or indirectly offering articles for sale. We always cheerfully furnish advertising rates on application, and trust that our subscribers will make full use of the privilege accorded in this way, and that none will feel offended because we are unable to make our paper a free medium for the exchange of stock and farm property.

Cash or Credit for Dairy Supplies?

On the subject of the cash system, as compared with buying farm apparatus and other supplies on credit, one of the foremost manufacturing concerns in the Eastern States, in reply to our enquires, declares that, so far as their experience goes, the farmer that pays for his apparatus in notes pays 10 per cent. more than he could get the same goods for in cash. In a good many instances he pays 25 per cent. more. The system of giving notes running one, two or three years, for farm apparatus, particularly dairy apparatus, is a very expensive practice for the farmer, for he invariably pays a big percentage for the use of that money which he is holding back in payment for his apparatus. The writer goes on to say: "We do not take long-time notes. We sell mostly for cash, either in thirty or sixty days. Especially in the United States, the dairy products are cash products, and there is no reason why a farmer buying dairy apparatus should not pay cash for his apparatus, for cream and butter always bring cash. It is the practice of most of the creameries to pay the first of every month for the cream received during the preceding month, but in some places they are getting to pay oftener than that—as often as once a week. A thorough investigation will convince anyone that the practice of giving notes is very expensive, and in many cases ruinous to farmers."

A Progressive System of Advanced Registry Needed.

The matter of a system of advanced registration of pure-bred cows of the dairy breeds, based upon officially supervised tests of milk and butter-fat production, should be dealt with energetically at the approaching meetings of the dairy-breed associations. The idea should be quite feasible in consonance with the national-record scheme, and we understand that Hon. Sydney Fisher, Minister of Agriculture, has agreed to furnish one inspector to begin with.

The day for guesswork in dairying is past. People are learning the great lesson that a cow's producing value cannot be gauged with any degree of accuracy by her appearance. Dairy quality is, to a very large extent, a matter of inherent capacity, and is not reliably indicated by outward evidences. Hence the great importance of weighing and testing the milk of the individual cows and keeping a record thereof, in order to decide which are the profitable cows and which are the ones that do not pay for their keep, and, consequently, are likely to produce calves of the same ilk. There is just as wide a variation among pure-breds as among scrubs, and there is far greater need for selection. The usual premium in price of pure-breds depends upon their supposed greater value for producing males to impress the qualities for which they are bred more strongly upon their get when mated with the common stock of the country than could be done by an otherwise equally good sire of mixed breeding. Therefore, since he pays an enhanced price for a pure-bred bull, the purchaser has a right to expect that the animal bought comes of superior producing ancestry, for what does it profit a man to pay a high price for a prepotent sire to impress mediocrity upon his offspring?

The plain truth may as well be pointed out, that, while prejudice and conservatism, and lack of purpose have helped to retard the dissemination of improved blood of all classes of stock, a greater reason why we have not better herds, of dairy cattle, for instance, is that the rank and file of breeders of pure-bred stock have not aimed straight enough at utility, which is the principal quality that commends a breed for general adoption by business farmers. Then, again, too many ordinary bulls and heifers have been sold on the strength of pedigree affinity to some famous prize-winner, sometimes, unfortunately, more valuable as a show cow than as an economical producer of milk or butter. There are many weeds among the best strains, and the only way to build up or even to perpetuate superior utility strains, is to pursue a relentless policy of knitting every female whose performance does not augur reasonable probability of her dropping extra good producing stock. This plan should be followed in intelligent self-interest by every dairy-stock breeder who hopes to build up a high-class herd, for the time is rapidly approaching when dairy stock will be valued with regard mainly to individual dairy capacity, constitution, and the milking capacity of the female ancestors, the latter point being valuable as going to ensure prepotency in transmission of dairy quality. The leading dairy breed associations have recognized this fact, and have encouraged such testing. Three of these bodies, the Canadian and American Holstein-Friesian Associations, and the American Guernsey Cattle Club, years ago instituted advanced registers, in which are kept the names, numbers and records of pure-bred cows and heifers, which, in official seven-day, thirty-day, or yearly tests, conducted under the supervision of competent and disinterested experiment-station authorities, have given milk and butter-fat yields above a specified minimum. The Canadian Ayrshire Breeders' Association has also established an advanced registry on the basis of yearly records. The American Guernsey Club has done only yearly testing, holding, quite properly, that a weekly or monthly test is no dependable gauge of a cow's capacity for yearly production. To emphasize this point, let us cite one or two examples. In a farm herd, the record of which was being kept by the Illinois Experiment Station, were two cows, Minnie, a grade Shorthorn, and Pet, a grade Jersey, both in the prime of life. In the second year's test, Minnie's best weekly performance was 10.5 pounds of fat, and Pet's was 10.2

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pounds, but at the end of the year Minnie's record was 191 pounds, and Pet's was 320 pounds fat. Minnie's average record for two years was 184 pounds fat, and Pet's was 367 pounds, or nearly twice as much. Minnie had the lowest average yearly record of any cow in the herd, and Pet the highest, yet, had these cows been judged by their best week's records, Minnie would have been classed as the better cow. Like many an overrated milker, she made a good showing in a spurt while fresh, but she was not a stayer. In another herd, Check, a Holstein, gave 12.2 pounds fat in seven consecutive days, a record which entitled her to enter the Holstein-Friesian Advanced Registry. Alfrida, another Holstein of the same herd, at the beginning of her second year, was tested, but failed to qualify, yielding only 11.9 pounds fat in 7 days. Yet, during the year she gave 11,445 pounds milk, containing 389 pounds fat, equivalent to 454 pounds butter. Check gave, during the year she was officially tested, 215 pounds fat, or an equivalent of 251 pounds butter. Alfrida, rejected for registry by the seven-day test, produced 174 pounds more fat in a year than Check, which was admitted; and, furthermore, Alfrida's average record for two years was greater by 118 pounds fat. While the above cases may be regarded as exceptional, the point is that short-period records are very misleading in comparing the producing value of dairy cows. We want long records—the longer the better. But while a weekly is better than a daily, and a monthly better than a weekly, and a yearly better than a monthly test, there is no getting around the fact that even a one-year record is liable to reflect unfairly. This is strikingly illustrated by some further facts, brought out by the Illinois Station. In one herd which they tested a certain cow gave, in her first year's test, 188 pounds, in the second year 97 pounds, and during the third year 283 pounds of butter-fat, though apparently in equally good condition throughout. In the second year she was by far the poorest producer in the herd, and in the third year she was the best. Again, Sweet Briar, a Guernsey cow, owned by the Minnesota Experiment Station, has an average record for ten years of 358 pounds of butter, but in 1898 she made only 206 pounds; in 1899, 306 pounds; and in 1901, 370 pounds of butter. On the basis of her work in 1898 she would have been classed as a very ordinary cow. As all observing dairymen know, cows, for many reasons, vary considerably in their production from year to year, and some-

times with no attributable explanation except that of action and reaction. It therefore behooves us not to be satisfied with any system of advanced registry based on tests of short duration. We make bold to say that, just as yearly tests are supplanting weekly and thirty-day tests in favor of breeders and dairymen, so will the former give way to a system of keeping track of production from year to year, and ultimately we shall find men who are advertising bulls, pointing to the average official tests of their dams and grandams over a number of consecutive years. The yearly record may be all right to commence with, but our breeders may as well make up their minds now not to stop there; the wheel of progress cannot be turned backward, nor will it stand still.

We cannot in this article do more than allude to the immense advantage it would be to the dairy farmer, to the intelligent breeder of pure-bred dairy cattle, and to the useful dairy breeds, if a prospective buyer, particularly of a herd bull, could know just what the individual cows in the herd from which he was about to buy were capable of doing in a year under ordinary herd care. Only authenticated—i.e., officially supervised—records are of any use, and records covering a year or, better still, the lifetime of a cow, are infinitely more valuable than seven- or thirty-day records. It may be objected that such official tests, covering a period of years, would involve prohibitive expense, but why should it? As the A. G. C. C. works it, the owner of the cow weighs the milk daily, and the experiment station expert visits him only for a day or so once a month, and while visiting a herd it would take him no longer to test a dozen cows than one. In a large herd, where many heifers are continually coming on, it is likely that an enterprising breeder would seldom be without one or more individuals undergoing test, even if the test of each covered only a twelvemonth; and it being thus necessary for the inspector to visit the farm, he could, for very little extra expense, continue the tests of previously tested cows into the second, third or fourth years, and the immense economic benefit that would finally result from having official records of cows over several consecutive years, should commend the idea to the careful consideration of every up-to-date dairyman and breeder of pure-bred dairy stock, and we do not know any other way in which a little public money could be spent with more advantage to

dairying and the country generally that in supplying the inspectors to do, at a minimum expense, this work of officially testing pedigreed herds, with a view to improving along utilitarian lines the pure-bred, and through it the common and grade stock of the Dominion.

It "Makes Good."

One year ago I started farming for myself, and found I was in need of a good adviser. I happened to get a sample copy of "The Farmer's Advocate," and it did not take me long to see that that was the paper I was in need of. It has proven itself to be worth many times over the subscription price. I strongly advise every farmer to have it in his home.

Brant Co., Ont. J. HARTLEY SHANNON.

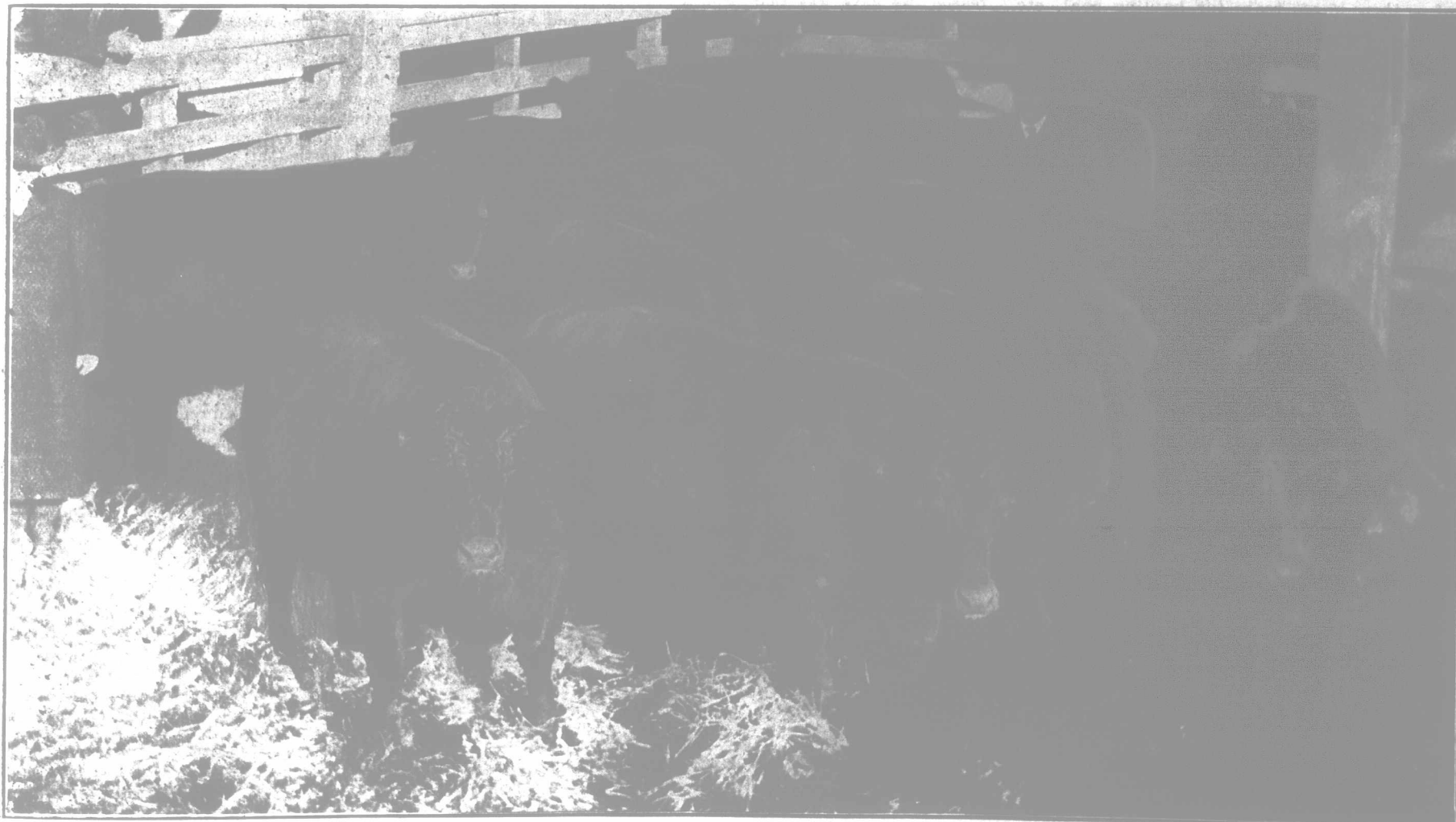
HORSES.

Trimming the Hoofs.

The old saying, "No foot, no horse," is not only true, but should teach the farmer to take the best of care of the feet of his colts. The toe often gets too long, unbalancing the foot, and then come splints, spavins, and other ailments and blemishes, to which the feet and legs of horses are heir. See that the foot is kept rasped off and level. Do not use a knife if it can be helped, as the first blacksmith that shoes the colt will probably cut away enough to last a lifetime. In no part of the horse's anatomy has he suffered so many wrongs or endured so much unnecessary suffering as in his feet. If there is the least excuse, every blacksmith will use a knife. The frog should never be cut away or pared, but left as a cushion to the foot.

Plan to let the colts grow up with such strong feet that there will be no excuse for cutting them. Use the rasp on the underside of the toe, and under no circumstances put the rasp on the outside of the hoof. The entire hoof, from coronet to the sole, is covered by a fine coating of natural varnish, beginning at the upper margin or coronet, and gradually becoming thinner as it descends. Under cover of this varnish the new horn is secreted and protected until it attains maturity. The moisture necessary by the animal economy to the perfection of the horn is retained within it, and the influences of wet and dry are set at defiance. It is easy to see that this most important covering should not be interfered with, and that the foot should be kept level and in good shape from the underside.

Avoid Raising Plugs.—Never in the history of horse-raising has there been a wider difference in price between plugs and good horses. Farmers



Aberdeen-Angus Steers.

Winners of grand championship award in carload competition, International Live-stock Show, Chicago, 1905.

must give as much thought to the selection of both dam and sire as they do to the breeding of cattle and other live stock. Of course, it is not in the power of many to raise champions, but a coach horse that will sell for \$300 is as easily raised as one that will bring \$45. Such a horse is useful on the farm until the time when he is ready for the market, and can be used both on the plow and on the wagon. In case he lacks the style or action necessary to bring a fancy price, he is still a general-purpose horse that will be profitable to the owner. "TRIX."
Norfolk Co., Ont.

Crib-biting and Wind-sucking.

I couple these two together because they often co-exist, but I distinguish between the two, writes a veterinarian. Either may exist without the other, but one (crib-biting) may lead to and end in the establishment of the other. Crib-biting is a habit contracted by idle horses that start by playing with the manger—licking or biting it. It may be copied from the habit of another horse, and therefore a crib-biter in a stable is undesirable, because it may teach other horses the habit. Just how and when it arises is a difficult question to answer. I remember one case in which the habit was contracted in only a few days. A horse may "crib" and not wind-suck, in which state I hold the horse has a vice. When he wind-sucks, he is vicious or unsound? Mere cribbing does not diminish his usefulness. Wind-sucking may not interfere with the working capacity of a horse doing regular, constant work, but should anything occur to prevent his working—as, for instance, a lame leg or a sore back—he will soon diminish his capacity for work. Most horses require some resting place for their teeth or jaws before they wind-suck, but a few are able to do so with no fixed point to rest against. The evil of wind-sucking, I assume, is the distension of the stomach by swallowed air. This leads to gastric defect. I do not believe that the habit has, as a predisposing cause, a gastric affection, nor do I recognize any evidence that indigestion leads to wind-sucking. I consider it merely a bad habit—a vice leading to unsoundness.

Points of the Draft Horse.

In his recent bulletin on "The Principles and Practice of Horse-breeding," Dr. A. S. Alexander, of the University of Wisconsin, very lucidly explains some of the points and characteristics of the typical draft horse.

Height.—A typical draft horse should stand sixteen hands high, or somewhat over that height. Extra tall, leggy drafters, deficient in weight, width and quality, are unlike in the market, and many of them are prone to chorea (St. Vitus' dance). Abnormally tall horses, unless wonderfully good in conformation, so that the height is not ungainly, are difficult to match, and, therefore, not in demand in the market. Such horses are used for single work, or as the middle horse of a three-horse team for hauling coal, etc.

Weight.—A draft horse should weigh sixteen hundred pounds and upwards. Weight is absolutely necessary for the hauling of heavy loads. It enables the horse to derive full benefit from the strength of his muscles and tendons, adds to the effect of his levers in motion, and gives him a firm grip upon the ground. It is a burden and practically useless when not associated with perfectly developed, exercised muscles, so far as actual work is concerned, but is requisite in every draft horse offered upon the market if he is to command a high price. Where the frame shows adaptability in a thin horse to put on flesh, he is bought by the professional feeder, who finishes him for the market. In a well-developed draft horse extra condition is considered worth twenty-five cents per pound in the Chicago market. For practical purposes, the great weight of a draft horse should be made up of large, strong bones and powerful muscles throughout the frame. Fat should be discounted in buying a draft horse for work, and, in judging, one should note development of muscle rather than wealth of flesh and fat. A typical draft horse should still weigh sixteen hundred pounds or over when deprived of the condition referred to.

Form.—The entire make-up of the draft horse should suggest strength for heavy hauling. He should be broad, deep, thick, round, with each part in keeping with its neighboring parts, giving an appearance of symmetry and massiveness. He should be low-down, blocky and compact, on short, strong-boned, clean legs, showing marked prominence and development of tendons, and the legs should be properly placed and set to ensure correct, straight action at the walk or trot.

Quality.—This term applies to evident refinement in character of skin, muscles, bone, tendons and hair. It infers, also, aristocratic breeding and all the attributes of pure blood. It is indicated by high spirits, vigor, sprightly action, endurance, stamina and intelligence, and is plainly indicated when the legs are free from meatiness, appear broad, flat, "clefthy," and, if furnished with "feather," the hair under knees and hocks springs as a silky fringe from the rear of the ten-

dons. Quality offsets grossness, and combines grace with great weight and power in the best types of draft horses.

Action.—A draft horse will have to do most of his hard work at a walking gait. It is, therefore, of supreme importance that he should be able to walk fast without tiring, and, in order to do this, his action must be perfectly straight and level. The joints must be easily and fully flexed, the feet must advance and be set down without deviations from a straight line. The soles of the feet should turn up and show plainly to the judge as the horse goes from him, at both walk and trot. The feet should be lifted quickly, fully and rhythmically, and set down squarely and firmly. There should be no padding, dishing, cutting or interfering; nor should the fore legs roll or the hind legs be carried too close together or too far apart. In judging of action, note the movements of each leg and foot, the handling of each joint, and the carriage of the entire body as the horse walks and trots around an enclosure, from the observer and to him. Lameness should be absent. The hocks should be carried well together. Rolling in front is due to too great width of chest. Stubby, stilty action in front indicates straight or too upright pasterns or shoulders foot troubles or weak knees. Similar action of the hind legs indicates upright pasterns, unsound feet, hock disease, weak stifles, hip weakness or kidney troubles. Knee and hock action should both be free and comparatively high.

Temperament.—A draft horse should have an energetic disposition, but should be free from vice, docile, tractable and intelligent. Sluggishness, associated with obesity, is objectionable, and induces diseases such as "grease," eczema, and "lymphangitis."

LIVE STOCK.

"Marketing Canadian Hogs."

To the Editor "The Farmer's Advocate":

Under the above heading, in a recent issue of your paper, you deal with the discussion which took place at the Winter Fair, in Guelph. Without questioning the accuracy of your report of that meeting, it would, at least, have been only common courtesy to report to your readers that the packers, through unfortunate interruptions to the afternoon's programme, were not given an opportunity to take up with any degree of completeness the three questions raised, namely:

1. The importation of American hogs.
2. The question of selection.
3. The desirability of a more uniform price for hogs.

This at least is true, that the representatives of the packers—your report to the contrary—neither evaded the question nor sought to divert the discussion into other channels. When you state that they failed to get down to the root of the question—the real reason of the shortage of hogs—you state what is not true. The reason we gave was that, rightly or wrongly, farmers believed that it did not pay to raise hogs, and acted upon their conviction. This is the bed-rock of the matter, and the question of interest at the moment is, Why are farmers raising less hogs than twelve months ago? Is it because they have had new light on the cost of raising and feeding hogs, which shows them that during the past few years they have been marketing hogs at a loss? Or is it because of the persistent campaign of misstatement and misrepresentation, carried on by "The Farmer's Advocate" and other farmers' journals, to set farmers and packers by the ears? One need go no farther than your article to obtain an answer to these questions: "The average pork-packer regards the farmer as his particular prey. . . . They will stand it for a while, but . . . a crisis, more or less acute, is bound to come, and when it does, the packer will have much more to lose than the farmer."

By such statements as the above, made without a vestige of proof to support them, you arouse suspicion in the mind of the farmer that he is not having a fair deal, and from that suspicion to the conclusion that there is no money in hogs is but a short step.

Is there no money in hogs? At the Guelph meeting, Prof. Day, of the Ontario Agricultural College, gave some very valuable figures on the cost of raising and feeding hogs, which you apparently thought unimportant, although by most people they were considered the most valuable contribution to the afternoon's proceedings. In tests conducted at the college, in which he was most careful to be conservative in his estimate, Prof. Day showed a cost of producing bacon hogs, under best conditions, of \$4.10, and under worse conditions of \$4.52 per 100 lbs., live weight. Perhaps the average of these two figures (\$4.30) might be taken as close to the actual cost of production. At this cost, does it pay to raise and feed hogs? The average price to farmers in the last six years has been \$5.70 per cwt.; or the average profit upon the above basis of cost has been a little over 32 per cent. The yearly marketings of hogs in Ontario have been, say 1,200,000 hogs, worth \$10.50 each, or \$12,500,000, in round figures. On this sale of product, the farmers of Ontario have cleared, over and above the market value of grain fed, something over \$4,000,000 in cash per year. Under such conditions, is hog raising an industry that farmers can afford to go out of?

But, it is objected, the price has fallen away below \$5.70 per cwt., live weight. Yes, and it has gone away above that figure. Average conditions must guide the farmer in estimating the value of this business to him. For one period of six weeks only, during the past six years, prices dropped to the figure given above, which we take as actual cost. All the rest of the time the market price of hogs showed a profit over the market value of grain used for feed up to 75 per cent., and showing on an average 32 per cent.

Again, it is objected that the bulk of hogs are marketed in the fall of the year, when prices are always lower than the average. It is true that deliveries are, as a rule, heavier in November and December than during the other months. The packers are in nowise to blame for this; neither are they to blame for the lower prices which obtain at that time of the year. The heavier deliveries arise naturally out of a necessitous condition with many farmers. They are not fortunate enough to have warm enough quarters in which their brood sows may litter before April; hence these pigs are on the market in December. Again, feed may be scarce, and the hogs which should have been ready in August or September are not put on the market until a couple months later. This period of heavy deliveries unfortunately coincides with a period of heavy deliveries in other countries supplying the English market with bacon; hence the market is over-supplied, demand is lessened on account of the consumption of poultry at that time of the year, and prices are invariably lower. But, to a large extent, farmers have the remedy in their own hands. As Mr. Simpson Rennie put it at Guelph: "I never have any hogs ready to sell in November or December. I always sell mine when prices are high." All farmers cannot do this. Those farmers who have good accommodation for their hogs can, and if they were to stay out during these months, deliveries would be nearer normal, and prices more regular as a consequence.

But this fact remains, that only for six weeks in six years did prices reach a basis of cost, even in the fall of the year. What about all the months that the hogs were the best profit-earners on the farm?

Again, you state that, "farmers want an understanding whereby prices may be more uniformly sustained." The only answer to this is that the packer would be happy to name such a uniform price, if such a uniform condition of sale of bacon existed on the English market. The English market absorbs 85 per cent. of the product of Canadian hogs. The bacon is mild-cured; deteriorates, if carried, and must be sold upon arrival. Irrespective of cost or of loss, it must be cleared each week. Its value is determined by the quantity of bacon of all kinds offering on the market, and by other factors affecting the bacon market, more or less directly, such as the price of beef, the price of poultry, general trade conditions, etc. There are no average conditions governing such a market. With all available sources of information at hand, the packer endeavors to gauge the course of a market upon which supplies bought to-day will be sold six weeks from now. His point of view is colored naturally by the cables he receives from week to week, showing the sales actually being made for his bacon, and by advices from his agent showing the general market conditions in England. Upon these advices, and his general knowledge of the market, gained by the experience of years, the packer names a price for hogs. But, someone objects: "Why should the packer have the right to determine the price? He should consult the 'interested partner'—the farmer."

Why should he set the price? Simply because he has to protect himself. No one else will. The English market won't protect him. It will sell the bacon at what it is worth that week, no matter what the cost or loss. Will the "interested partner" protect him, if the market goes against him? No. The "interested partner" has the money in his pocket for his hogs, and it is the packer's own business to shift for himself. This sentimental talk about partnership—"business partners" and "interested partners"—is all in the air. There are three phases to the business—raw material, manufacture and sale. They are all independent, but the nature of the business, the thousands of holders from whom the raw material comes, precludes the idea of partnership. What the hog and bacon industry needs is co-operation, not partnership. That co-operation has always existed, in spite of the meddling of mischief mongers. The breed and type of Canadian hogs have been improved; the packers have spent time and money in helping to do it, and continue to do so; hogs are worth more to the Ontario farmers than ever before; packers have shown their confidence in the business by investing money in plants, and creating a healthy buying competition; the reputation of Canadian bacon has improved in England; Canadian packers have done it by care in cure, selection and marketing.

There has also been co-operation in price—the only kind of co-operation which can obtain in this field, namely, the absence of combination or agreement, and the keenest kind of competition among packers. This statement has been challenged, but the absolute facts of the case are that the Wm. Davies Company, buying from 25 to 35 per cent. of the hogs marketed in Ontario, has not now, nor ever has had, any agreement with other packers in regard to the buying price of hogs. We have believed it to be in our interests, and in the interests of the whole industry, to develop the business along these lines, and the price paid each week to the farmers of Ontario for their hogs has been the highest price which we believed we could pay and show any profit to ourselves. We are not in the business for health, neither do we pose as business philanthropists. We do profess, however, to have some sense of business.

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These, then, are the outstanding facts which interest and affect the farmer. Hog-raising pays handsomely, and there is among packers that healthy competition for hogs which insures to the farmer the fullest value for his hogs week by week, no matter what the season or where he may market them.

THE WM. DAVIES CO., LIMITED.
(Per F. J. Smale, Ass't Gen'l Manager.)
Toronto, Jan. 3rd, 1906.

How to Increase Lean Meat.

Lean meat is muscle, and cannot be increased by any system of feeding, writes Mr. John Wrightson in the Agricultural Gazette. It is a desideratum that carcasses should be full of lean meat, and it is important to study how this can be secured, as it no doubt can be. There is one point which must be kept in mind, namely, that, although the absolute muscle cannot be increased, it can be so interlarded with fat, distributed between the bundles of muscular fibres as to be greatly enlarged in volume and weight. In this sense lean meat can be increased and rendered more palatable and digestible. Muscle, or lean, appears to be a matter of breeding rather than of fattening, and no doubt is affected by exercise, as in the case of wild animals. Patchy fat cattle are never admired by butchers. They lay on fat in lumps which destroy the symmetry of the carcass, and often leave gaps or hollows which want filling up. Firm handling, and a level, well-proportioned carcass, free from gaudiness, indicates fat well interspersed with lean, and are features which always command the attention of judges. To say that animals should be bred for lean meat, means that they should be bred to lay on fat in the proper places, so as to produce an economical carcass, or to develop what was termed by the early breeders utility of form. Like milk, this is more a matter of breed than of feeding, but, like milk, it depends a good deal upon feeding and management, as well as breeding. A young growing animal is more likely to increase in muscle than an adult animal, and hence the preference for young steers. Neither should exercise be forgotten. Pigs which are allowed to roam freely during their growth always develop hams abounding in lean meat; whereas closely-confined pigs yield hams which are often a mass of fat, with very little lean. Similarly, Welsh and other mountain sheep, and Down sheep, are full of lean meat, while the lowland breeds are disposed to accumulate fat in undue proportion on the loins and back. This may be said to be a matter of breed, but it is also a matter of activity. It may be lost by long-continued breeding under conditions which encourage indolence. Just as truly as exercise and freedom encourage muscle in horses, so must it with young cattle, and a natural free life and plenty of wholesome food, no doubt, encourage the formation and full development of lean flesh. On the other hand, confinement and fattening from birth must lead to atrophy of the muscles, fatty degeneration of the tissues, and an accumulation of fat instead of lean.

Animals should be bred for lean meat—that is, for the disposition to lay on fat in the right places—and this is within the powers of breeders, as it is indicated by the touch or handling.

Nitrogenous foods are called flesh-formers, and starchy or farinaceous foods are called fat-formers. For an adult animal flesh-formers are less necessary than for growing animals, because in youth the muscles are still growing. An adult animal uses nitrogenous or flesh formers for producing fat, as his flesh is already formed, and all he requires of nitrogenous food is sufficient to repair the waste of the system. This he can find enough of in barley meal, which, although farinaceous, contains a fair proportion of the nitrogenous element. Bearing in mind the fixed and anatomical character of muscle, it is difficult to see how any system of feeding can greatly alter it. Also, remembering the accidental, trivial and unorganized character of fat, it is easy to see how it can be encouraged at will, so that, as Sir John Lawes long ago stated, fattening is actually the accumulation of fat in the animal body. It would be evidently erroneous to say that it is the accumulation of lean in the animal body, and it never can be. We may, therefore, give up the idea that any special dietary can materially increase the amount of lean meat in an animal.

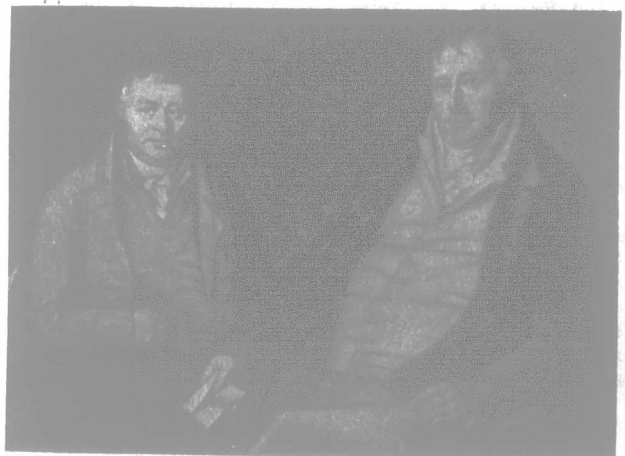
I like your paper very much indeed, and think it is constantly improving. I do not know of a general farm paper that is its equal. I can show it with pride to my friends here.
V. A. HOOPER.
University of Arkansas, U.S.A., Agricultural Experiment Station, Dairy Department.

The Four Great Beef Breeds.

IV.

SHORTHORNS.—Continued.

Favorite (252), a light roan bull, born in 1793, died in 1809, the greatest of old-time sires, and the most potent in improving the breed, has been described as "a large, massive bull, of good constitution, with a fine, bold eye, remarkably good loins, and long, level quarters. His shoulder-points stood wide, and were somewhat coarse, protruding into the neck; his horns were long and strong. Coates, the first editor of the herdbook, called him 'low in the back.' Waistell said he was a grand beast, with a good coat, and as good a handler as ever was felt." He was sired by Bolingbroke (86), called by Coates the best bull he ever saw, and the dam of Favorite (252) was Phoenix, daughter of Lady Maynard, by Fol-



Charles and Robert Colling.

gambe (263), a white bull with a few red spots. It was in the breeding of Phoenix that the Bakewell system of inbreeding was first tried, and Favorite, having a double infusion of the blood of Foljambe and of Lady Maynard, represented the first fruits of the application of that system in Shorthorn breeding. So nearly did Favorite meet with Mr. Colling's views that he began with this bull a most extraordinary course of inbreeding, using the bull for years indiscriminately upon his own offspring, often to the third, and in one or two instances to the fifth and sixth generations. His get were the most celebrated Shorthorns of their day, and his descendants constitute a large percentage of the foundation stock upon which the herdbook record stands. He was bred back to his own dam, the produce being the heifer, Young Phoenix, who was then bred to her own sire, and the issue of that doubly incestuous breeding was the famous bull Comet (155), the first bull to sell for \$5,000.

The first calf got by Favorite was dropped by "The Duchess Cow," and the second was a bull that was afterwards castrated, and became famous as "The Durham Ox" (a roan, like his sire) who was prepared for exhibition. His dam was a grade cow, probably not highly bred, as her color was black. This steer was fed up to his greatest flesh-taking capacity, until, at nearly five years old, he had attained a reputed weight of 3,024 pounds, when he was purchased to be exhibited and carried throughout the country in a large van, making his owners much money, owing to the crowds coming to see him at an admission fee. After five weeks travelling, he changed hands at the price of £250 (\$1,250), and it is said, could have been sold a few months later for \$10,000, which was refused. He was travelled for six years, when he met with an ac-

cident, and was slaughtered soon after, his flesh, tallow and hide weighing a total of 2,620 pounds, at the age of eleven years, and after eight weeks of painful lameness.

"The White Heifer that Travelled," born in 1806, and reared by Robert Colling, was another of the get of Favorite (252). She was twinned with a bull, and failing to breed, was also placed on exhibition, her live weight being given as 2,800 pounds, and her dead weight 1,820 pounds. Her portrait shows her to have been very heavy in the front quarters, considerably lighter behind, and quite patchy on the rumps, but of great size and substance.

THE KETTON AND BARMPTON SALES.

The dispersion sale, in 1810, of the Ketton herd of Charles Colling, occurred at a time of extraordinary agricultural prosperity, and the sale, which was well advertised, marked an era in Shorthorn history, twenty-two cows and heifers selling for an average of £40 4s. 7d., or \$745 each, and eighteen bulls and bull calves for an average of £169 8s. (360). Three-fourths of the cattle were got by Favorite (252) and his son Comet (155), and a large proportion of the females were in calf to Comet, who sold for 1,000 guineas (\$5,000). The highest-priced female was one of his daughters; Lily, a white three-year-old, sold for 410 guineas. Comet was the great attraction of the sale, and his close breeding, being by Favorite (252), dam by Favorite (252), out of Favorite's (252) dam, it is said, did not detract from his value or appearance. He was a light roan, with red neck, and it was admitted by eminent breeders that he was the best bull they ever saw. He was purchased by a syndicate of four breeders.

Robert Colling, of Barmpton, in 1815, made a partial sale of his stock, at which 61 head of cattle sold for an average of £128 14s. 9d., the top price being 621 guineas for the bull Lancaster (360). While the Shorthorn history of this early period deals mainly with the work of the Colling brothers, there were many other breeders of the same period that were doing intelligent work in improving the breed. "Whether the Collings really earned the right to be called the first great improvers of the modern Shorthorn, or whether they gained their fame mainly by reason of the novelty of their methods and their superior enterprise as advertisers, the fact remains that more pedigrees in the English and American herdbooks trace to the Colling herds than to any other dozen herds of the same period combined, and their superior judgment and skill as breeders was generally acknowledged and admitted by contemporary breeders of their day.

Outlook for Sheep Industry.

A decline in the world's supply of sheep has been going on for a quarter of a century. Statisticians have been preparing figures regarding the number of sheep in various countries, which, in nearly every case show a falling off in recent years. That this decline can be suddenly arrested is not at all probable. It must naturally take time to restock. The demand for mutton and lamb is growing in this country, and will offset any tendency towards an oversupply for some time. Therefore, in spite of the pessimistic view taken by those who think it is high time to get out of the sheep business, we consider it a good time to stay with it. To those who intend to make a start in the sheep business, we would say: Begin on a good foundation, and stick to it through thick and thin. The sheep industry, like every other, has its ups and downs, but every "up" is higher than the previous one, and no "down" goes as deep as the one that went before. With very few exceptions, sheepmen have made money this year, the extensive flockmasters



Royal Hero 2nd and Victor's Favourite.

First-prize yearling Shorthorn steer and first-prize grade steer under one year. Ontario Winter Fair, Guelph, 1905. Bred and exhibited by Israel Groff, Alma, Ont.

of the West being especially fortunate. Those who have been in the sheep business for any considerable time, who have seen the day when they could not part with their sheep as a gift, and were obliged to sell wool at less than one-third of its present value, are most deserving of congratulation. This unprecedented period of prosperity has awakened a world-wide interest in sheep, and has helped to break down the barriers of prejudice which have prevented them from being estimated at their proper value. Among farmers a new life has been infused into the sheep husbandry. The high price of wool, the increased demand for mutton, and the value of sheep as a soil restorer, have convinced these tillers of the soil that the sheep is the most profitable of farm animals. From every section of the country, especially from the corn-belt region, come reports of an all-devouring demand for breeding ewes. Anything which could be considered capable of bearing a lamb has been placed at a premium. It must be admitted that a good deal of stuff which should have been fed off has gone to swell the number of small flocks which have been started this season. The wisdom of this policy is questionable, but we have no desire to dissuade those who can afford to make the experiment, though it were to be wished that the desire to increase the number of sheep were less persistent than the efforts made to improve the quality.

The demand for long-wool lambs has been a feature of this year's Western lamb trade. The desire to produce a dual-purpose sheep is doubtless a strong factor to be reckoned with in explaining this demand. Many flockmasters have expressed a wish to produce early lambs, and choose medium-wool rams for this purpose, while others are on the lookout for Cotswolds, Lincolns or Oxfords, as a means of improving the size and frame of the finer-fleeced types.—(Shepherd's Bulletin.)

Breed as a Factor in Feeding Animals.

By Prof. G. E. Day.

Nearly every farmer who feeds stock has his favorite breeds, and is firmly convinced that certain breeds are more profitable to feed than others. While there is little doubt that some breeds of stock are better adapted to certain conditions of climate, systems of management and environment than others, it is a significant fact that when different breeds of flesh-producing animals have been fed side by side under the same conditions, no constant difference in favor of any one breed has been discovered, so far as ability to make economical gains is concerned. Even in such extreme cases as where steers possessing considerable dairy blood have been fed in comparison with steers of the purely beef breeds, no marked advantage in economy of gains on the part of the beef breeds has been found to exist. Such a statement seems almost incredible, yet investigators have never been able to show that cattle of the beef breeds produce flesh more cheaply than those of other breeds. It is only when it comes to marketing the cattle that the difference between the different classes becomes apparent, the beef breeds producing much superior beef, and consequently selling for a much higher price per pound.

Comparisons of the breeds of sheep have not been very fully worked out, but, so far as they have gone, the indications are that the same rule practically holds true.

In swine, experiments with breeds have been conducted by the Ontario Agricultural College. At this institution six breeds of swine were compared as to the cost of producing 100 pounds gain live weight, and the table which follows shows the standing of the breeds with regard to economy of production in each experiment:

Breeds arranged in order of economy of production.

1st Exp.—1, Berkshire; 2, Tamworth; 3, Poland China; 4, Duroc-Jersey; 5, Chester White; 6, Yorkshire.

2nd Exp.—1, Berkshire; 2, Tamworth; 3, Poland China; 4, Chester White; 5, Yorkshire; 6, Duroc-Jersey.

3rd Exp.—1, Yorkshire; 2, Berkshire; 3, Duroc-Jersey; 4, Tamworth; 5, Chester White; 6, Poland China.

4th Exp.—1, Berkshire; 2, Tamworth; 3, Yorkshire; 4, Chester White; 5, Duroc-Jersey; 6, Poland China.

5th Exp.—1, Berkshire; 2, Yorkshire; 3, Duroc-Jersey; 4, Chester White; 5, Tamworth; 6, Poland China.

If we considered only the Ontario experiments, we would come to the conclusion that the Berkshires, Yorkshires and Tamworths had scored a decided advantage; but when we refer to the Iowa Experiment Station's tables, in similar experiments, we find the Duroc-Jersey and the Yorkshire taking a leading place, while the Tamworth and Berkshire occupy a much less prominent position.

If there is anything in the breed to which swine belong which influences their ability to turn food into flesh, how is it that some one breed did not maintain a position at or near the top of the list throughout these experiments? There is only one logical answer to this question, and that is, breed is not a factor in influencing the economy of production. Further, there

is only one way of accounting for the variations which occurred in each experiment, and that is on the ground of the individuality of the animals. There is little doubt, therefore, that animals possessing good constitution and quality will make economical use of their food, no matter what breed they may belong to.

When it comes to the question of marketing, we find that, as in the case of cattle, there is a marked variation in the kind of meat furnished by some breeds as compared with others. The carcasses from swine used in the Ontario experiment were sent to the slaughter-house and critically compared by experts, and the following tables show the breeds arranged in order of their suitability for the manufacture of bacon for the English market:

Breeds arranged in order of suitability for the manufacture of Wiltshire sides.

1st Exp.—1, Yorkshire; 2, Tamworth; 3, Berkshire; 4, Duroc-Jersey; 5, Poland China; 6, Chester White.

2nd Exp.—1, Yorkshire; 2, Tamworth; 3, Berkshire; 4, Chester White; 5, Duroc-Jersey; 6, Poland China.

3rd Exp.—1, Yorkshire; 2, Tamworth; 3, Berkshire; 4, Poland China; 5, Chester White; 6, Duroc-Jersey.

4th Exp.—1, Yorkshire; 2, Tamworth; 3, Berkshire; 4, Chester White; 5, Duroc-Jersey; 6, Poland China.

5th Exp.—1, Yorkshire; 2, Berkshire; 3, Chester White; 4, Tamworth; 5, Duroc-Jersey; 6, Poland China.

6th Exp.—1, Yorkshire; 2, Tamworth; 3, Berkshire; 4, Duroc-Jersey; 5, Poland China; 6, Chester White.

A mere glance shows that there is much more constancy about these tables than about the preceding ones. The Yorkshires and Tamworths hold their place at the top of the list in each of these tables, except one, where the Tamworths were placed as low as fourth place. The Chester Whites, Duroc-Jerseys and Poland Chinas appear at the bottom of the list in nearly every case, being essentially fat-producing breeds, and suitable for the production of the type of hog popular in the United States, but entirely unsuitable for supplying the markets to which Canadian packers cater. The Berkshire, it will be noted, holds a sort of intermediate place between the bacon and fat type. Though unsuitable on the whole for making the best Wiltshire sides, at the same time it comes nearer to meeting the requirements of the packer than the three American breeds.

How Should Breed Associations' Grants be Divided?

[From our Manitoba and Western edition.]

There seems to be some misapprehension in the minds of many as to the principle underlying the giving of grants by breed associations. That principle is to advertise each particular breed as much as possible, and to stimulate emulation among breeds and breeders. Some breeders, intensely loyal to their Province or locality, would have the grants divided pro rata, based on their contribution to the association's funds, which, if followed out to its logical conclusion, would mean the dissipation of the grant into a lot of small prizes at local fairs, with no corresponding benefit to the breed association contributing.

We are entirely in accord with the idea that the Provinces should each receive a share of the association's grants for shows, the size of that grant to be based on the membership and registration fees paid, and that the members of the association in each Provincial live-stock association should advise the executive of the breed association as to how such grants might be distributed, but believe that the final allotment should be in the hands of the Dominion executives, which, of course, should be representative of the Provinces.

If the methods advocated by some were followed out, the Provincial associations would have the handling of the moneys, which would then be divided among the smaller shows, and might go into the pockets, via the show-ring, of course, of the breeders happening to be on the live-stock associations' executives, and the advertising results for the breeds would be nil!

At present, the Dominion Shorthorn Breeders' Association gives annually from five to seven hundred dollars to Manitoba, which has generally been allotted to Winnipeg and Brandon. The suggestion has been made by some interested people—men enthusiastic for the success of their local fairs—that Killarney, Neepawa, Saskatoon, Carberry, and shows of that class, should participate in these grants, a suggestion that is ridiculous when the basic principle—advertising the breed in competition with other breeds—underlying such grants is clearly understood, and also that such shows are merely county shows, and local in their patronage, although striving to do good work in their respective districts.

Time brings a good many changes in its train, and five years hence opinions may, by the logic of events, be forced to change, but from an experience of the various shows in the prairie country, we consider it would be inadvisable for the breed

associations to make grants, bearing in mind the interests of each breed, and not of individual breeders, to shows other than Winnipeg, Brandon, Regina, Calgary and Edmonton. The breed associations would do well, however, to stipulate to the quintette of shows mentioned, that the size of the grant would depend somewhat on the amount offered by each fair board from its funds, so as to ensure a strong prize-list for the breed and to prevent the recipients from pruning down their own list and substituting the breed association grant therefor. Further, we would suggest to the Shorthorn, Hereford, Clydesdale, and other associations, that the major grant be alternated between shows, so as to get the maximum amount of advertising, by giving the big end of the grant allotted to each Province, or all of it to Winnipeg in 1906, to Brandon in 1907, and similarly to Calgary and Edmonton. By such a method the best herds would move around more, and bring the breeds mentioned to the attention of people who are not yet interested but have the money to invest, and only require their attention to be drawn.

THE FARM.

The Farm Labor Question.

To the Editor "The Farmer's Advocate":

That the scarcity of farm help is hampering farm operations, is a fact apparent to all familiar with the agricultural conditions of this country, and it must be confessed that the quality of a considerable portion of the available supply is far from satisfactory. Now, we are facing a knotty question, and it rests with the farmers to find the solution.

A recent writer suggests that the source of the trouble lies in the common schools, wherein most of what is taught alienates the child's thought and ambition from rural life, and imbues him with the idea that manual labor is degrading. The remedy suggested by this man is reform of the rural schools, and we are pleased to see that some reforms are being made which we hope will prove to be effective. While I believe he struck close to the mark, there are other reasons. The remarkable development of manufacturing industries that has taken place during the past few years has attracted thousands of men away from farm life to places where they secure increased wages.

It is true that the Canadian farmer is conservative in his business methods, oftentimes to his detriment, and in the methods employed we can find a key to a partial solution of the problem. We find that the work is generally so planned as to keep men employed only about eight months in the year, and the rest of the time they have to find some other employment. They find it in some industrial concern at increased wages, and when spring comes do not feel obliged to return to farm life, so the farmer loses his men. Such being the case, does not one remedy lie in increasing the earning power of farm labor by the use of more intelligent business methods? We should put more brains into our work, and plan so as to economize labor in our stables and fields. Much manual labor can be saved by the use of larger and faster-working implements thereon, by the saving of unnecessary plowing and other work, by the culture, in suitable sections, of some hardy perennial forage plant like alfalfa. Then, the work should be so arranged as to find employment for a man during the whole year, and at a profit. To put it concisely, the solution of the question, at present, seems to lie in the adoption of more businesslike methods, thereby increasing earning power of farm labor, and the use of machinery operated by steam or horse power, or any power other than hand labor, wherever possible.

Missisquoi Co., Que. C. A. WESTOVER.

How to Reach the People.

To the Editor "The Farmer's Advocate":

I have not seen your admirable paper for some time, but there must have been a reference in it recently to Children's Aid Work, as I have received in the last three days fifteen letters, inquiring if I can supply a girl ten to fifteen years of age, and mentioning "The Farmer's Advocate." Now, girls are always in demand, and I regret to say, are very scarce, but I know of several bright, attractive little boys, from six months to five years, for whom I would be exceedingly pleased to secure adoptive homes. If anyone would write me on this subject, I certainly will be glad to hear from them. The agreement is a very simple one, and there is no difficulty about returning a child if it should prove unsuitable.

J. J. KELSO.

Supt. Children's Aid Societies,
Parliament Buildings, Toronto.

Soil Fertility.

Before the Association of the American Agricultural Colleges and Experiment Stations, in convention at Washington in November, Dr. Cyril G. Hopkins, of Illinois, read a valuable paper on "Soil Fertility in Relation to Permanent Agriculture," saying in part:

"Are there fields in Virginia where once great crops of corn were grown, and now no one cares to pay the taxes? Are there farms in the famous Mohawk Valley that can be purchased for less than the farm buildings once cost? Are there agricultural lands in the Western Reserve which were sold a half a century ago for \$100 an acre, now bought for \$50 or less? Are the wonderful prairie soils of the West producing less and less? To all these questions men who know the facts answer, yes.

Without agriculture America is nothing. Intensive agriculture may be supported by large cities. Europe may support her farms from the feeds and phosphate rock sent from America. The United States can never hope to draw from its colonies for supplies of foods and fertilizer. The dairy system of farming, where only butter is sold, will nearly support itself, but we cannot all live on butter. If meat and milk are sold, and feeds are purchased, fertility is maintained, but meat and milk are not sufficient.

"Eighty per cent. of the farmers sell wheat, corn or cotton, and probably always will. Let no man presume that he had found a permanent system of agriculture that will not produce bread and clothing.

"I am not unmindful of a fundamental principle promulgated by the Bureau of Soils that soils contain sufficient plant food for good crop yields, and that to-day pot cultures show results from non-nutrient substances like carbon-black; but it is not yet proved, and I prefer to accept the evidence of chemistry and mathematics and the experience of ages regarding soil depletion. A quarter-section is one-fourth mile square, and four thousand miles deep in theory. In practice, however, it is limited to a few feet in depth, and the process of nitrification is limited to a few inches. Given six to eight feet of soil, open and retentive of water, with a rich surface, and we can grow crops, but of what use is a rich subsoil if the surface is gone? The Rothamstead experiments went to show that we could not depend on capillary rise of soil solutions. They also found that the main loss of nitrogen was from the surface soils. The mixture of sub- and surface soil by earthworms is another theory, but the facts are that little mixing is done. We are investigating in Illinois to determine how deep different plants feed, and I urge assistance in this matter. From our meagre data at hand, I doubt about using fertility much below eighteen inches.

"I start with the premise that we cannot grow the great staple crops upon commercial nitrogen. The general farmer may buy water, but he should never buy nitrogen. In our Illinois soils, to a depth of seven inches, there is less than twelve hundred pounds of phosphorus, and more than thirty-six thousand pounds of potassium. One hundred bushels of corn an acre would exhaust the phosphorus in fifty years. The potassium would last nineteen hundred years, and the next seven inches of subsoil has enough for another such term. Our potassium is, therefore, permanent, and our nitrogen we can supply. The problem, therefore, first, is to utilize the potassium. We hope this may be accomplished through the use of manure, green crops, etc.

COMMERCIAL FERTILIZERS.

"Next comes the problem of commercial plant food. The truck farmers of New Jersey will do well to follow the teaching and advice of Director Voorhees and use liberally of commercial nitrogen, but for the farmers of America to try to raise the 2,500,000,000 bushels of corn upon commercial nitrogen is not only absurd, but impossible. There is no great nitrogen problem. It was solved by Hellriegel and Atwater fifteen years ago. Limited areas of swamp lands need potassium, and German salts may be used. The analysis of forty-eight samples of Maryland soil gave practically the same determinations of phosphorus and potassium found in Illinois. It seems, therefore, that the single key to American agriculture is the element phosphorus. From available information, its absence limits the production of fully 80 per cent. of our soils. The supply is at present drawn from basic slag, bone, and the natural phosphate deposits of the Central South; but at the present rate of exhaustion they will not last fifty years.

A WOFUL WASTE.

More than one and one-half million tons are mined, and more than two-thirds is exported. Is not this exportation America's greatest crime against her prosperity? And what is being done with this 500,000 tons of rock? It is mixed, ton for ton, with sulphuric acid, and that which costs \$4 at the mines is reduced to 60 per cent. hard plaster and 125 pounds of phosphorus a ton. A filler of two tons more is further added, and the 2-8-2 goods of the market are reproduced. This four tons will cost \$80 or more, and will contain

no more phosphorus than the original ton of raw rock. It is said that raw rock is not available, but I say it is the business of the farmer to make it so by the free use of organic matter. I am grateful to Directors Patterson, of Maryland, and Thorne, of Ohio, for planning systematic, long-termed experiments with raw rock. Patterson found, when turned under with crimson clover, it was as valuable as bone-meal; and Thorne found, when used with stable manure, it was more profitable than acid phosphate. In Illinois the results are essentially the same. So far as I can learn, those who have used the raw rock with an abundance of decaying matter have been rewarded beyond their expectations. How long will American farmers pay \$80,000,000 a year for fertilizers containing less total phosphorus than we export to Europe for \$4,000,000 at the mine, and which for \$8,000,000 could be delivered at the farms.

Two dollars an acre is not counted a large bill for complete fertilizers, but \$2 an acre would pay for a ton of raw rock every four years, and this would actually double the phosphorus content of the Illinois corn soils in twenty years. The following experiment is interesting:

	1902.	1903.	1904.	1905.
	Corn. Oats. Wheat.			
Plant food applied	37	60	61	29
Nitrogen	35	60	70	31
Phosphorus	42	73	73	39
Potassium	38	56	63	33
Nitrogen-phosphorus	44	78	85	51
Nitrogen-potassium	40	59	66	30
Phosphorus-potassium	50	75	70	38
Nitro-phos. potassium	53	81	91	52
Average gain for phosphorus	1	4	11	6
Average gain for nitrogen.....	10	18	15	14
Average gain for potassium.....	6	0	0	1
Value of increase	\$3.85	\$7.00	\$5.00	\$14.70
Average gain for phosphorus when added to nitrogen.....	11	20	20	21
Average cost of 25 pounds phosphorus—				
In rock phosphate				\$0 80
In steamed bone-meal				2 50
In acid phosphate				3 20
In complete fertilizer				8 00

Cattle versus Chemical Farming.

To the Editor "Farmer's Advocate":

To one practically engaged in agriculture, the best means of increasing and maintaining the fertility of the soil is an interesting subject, and it is becoming more important as labor becomes scarcer. Most farmers of middle age in Ontario Province have known of no kind of fertilizing but by animal manure and plowing under such crops as clover. The temptation to use chemicals is not strong where live stock is raised, but where animals have been dispensed with chemicals have been tried instead.

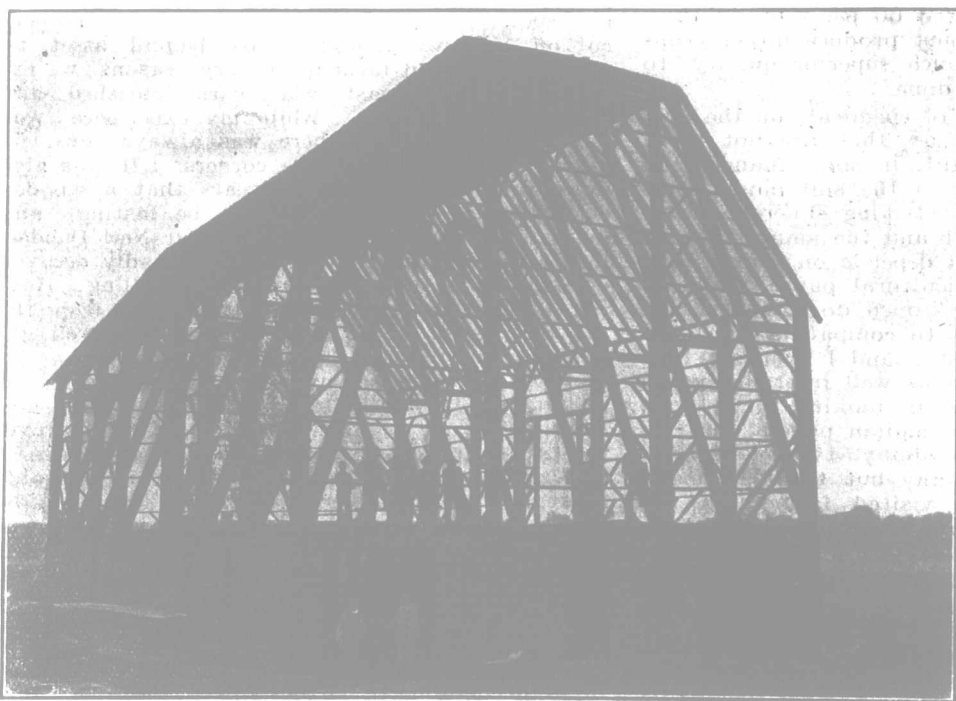
I was raised in the central part of Ontario, and have worked on and known of some good farms there these last forty years. About 1894 I began to make my home on the west end of Long Island, N. Y. State.

The soil around my early home is varied, such as clay, sandy, and even gravelly soil. The soil of Long Island, where I have been dwelling, is mostly of a sand and gravel kind. The fertilizer used in Central Ontario is animal manure and any roughage from surplus vegetable matter. The chief means of enriching the Long Island soil was by chemicals. There are sections of New Jersey State where chemicals are used with sod and manure, but the most convincing comparisons are by the use of either animal and vegetable products on one hand, or chemicals on the other, irrespective of the kind of soil.

Having been taught that animal manure and clover sod were absolutely necessary to the fertility of the soil, it was strange to see people sprinkling a dusty powder in a row, or putting a handful in a hill. A kind of intuition gave me an impression that the theory and practice were wrong. However, I took time to watch and consider results during seven years. I did not force conclusions on the advocates of the chemical theory, but let results speak for themselves. The two claims put out by the chemical-fertilizer agents were, first, the cost of putting on the animal manure; second, there would be no need of help to care for them. It was said that the cost of putting on animal manure would buy the chemicals for the land, irrespective of the size of the ground to be fertilized. The better to understand Long Island conditions, it must also be said that peavines and potato-tops, etc., are all carried off the ground where they are produced, as they interfere with the working of the land for a second crop the same season. The green-pea season is over by the first of July, and early potatoes by the middle of August. The combined cost of fertilizer and rent forbid the sod condition; all the land must be cropped every year. The least amount of fertilizer allowed is half a ton per acre every year. With these requirements and conditions, the following are some of the results, and they may be taken as a fair average where the conditions were similar.

The resulting condition of the land was that of sun-dried brick. Every particle of humus seemed to be completely absorbed. Constant stirring was necessary to retain moisture and enable the rootlets to permeate the soil. An eleven-acre field of hard corn, which was considered very good, and would yield nearly 50 bushels of shelled corn to the acre, was produced at a loss; the returns, including stalks, would be about \$35, and the fertilizer, rent, seed and labor would be fully that amount.

The best and most reliable crop is potatoes. A good average crop of marketable tubers is 150 bushels per acre, at 50 cents per bushel. The cost of producing is, fertilizer, \$30; seed, \$10; rent and marketing, \$12. This leaves less than \$25 per acre for work and a surplus to help other crops. Last summer I saw a crop of potatoes which had been well fertilized, but did not yield 50 bushels per acre. Now it is a general practice to put soda onto crops which have been put in with fertilizer in which there is soda. The final statement about chemical-fertilizer farming is that the amount of fertilizer needed increases each year, and both the land and the tiller become poorer. As to the results to the fertilizer producers, we ask them to be honest enough to open their books. The list of farmers who are



Plank-frame Barn.

A Plank-frame Barn.

To the Editor "The Farmer's Advocate":

In answer to your request, I send you photograph of our plank-frame barn. I might say that there is not a stick of square timber in the frame. The basement posts are three pieces of plank, 2 x 10, spiked together.

The beams are made of five pieces of plank, spiked together, breaking joints every four feet, spiked every 20 inches, spikes being 4, 5 and 6 inches.

The main posts, purline posts, are 3 x 10. The deck plank 2 x 12 center, 2 x 8 ends.

The end posts are made of plank 3 x 12, with a block 3 x 4 between every 4 feet; the same in the main posts. False rafters and beams, 2 x 10; girts and rafters, 2 x 6; braces, 2 x 4; 70 bolts 3/4 in., 10 in. long; 100 bolts 1/2 in., 4 1/2 in. long; 2 kegs 6-in. spikes; 1 keg of 7-in. spikes; 2 kegs of 4-in. spikes; 2 kegs 5-in. spikes, were used in putting up frame.

The barn was raised with a movable scaffold, piece by piece. JOHN C. ASHTON. Elgin Co., Ont.

hopelessly in debt to the agents is a large one, and carries with it some very tragic stories.

A look at the affairs of the live-stock farmer gives a much brighter picture. I have gone over a dozen farms here which have been cropped these last sixty years, and they are steadily increasing in fertility. While chemicals will fail to produce good yellow turnips, cattle and clover will produce a crop of generally 600 and sometimes 1,000 bushels of turnips to the acre. Wheat ranges from 20 to 30 bushels per acre; barley, peas and oats, from 30 to 60 bushels. While Long Island tenants are being put off farms because they cannot pay their fertilizer bills, and have years of debt before them, the same class in Ontario are steadily becoming proprietors.

There are two substantial factors in favor of live-stock fertilizing. One is that the fertilizer-producer is a permanent, sure investment; and the other is that the fertilizer produced lasts more than one year. The chemical kind is principally useful for only one season. Another thing about the cattle means is that half of it—that by both pasturing and plowing down clover—can be applied even more cheaply than the chemical kind. A serious objection to the chemical farming is the lack of intelligence applied. Repeatedly have I seen a man drive to a field in the morning with a load of bags, distribute them along the end, begin to plow, and before night the crop was in—and this on land which the man had never seen or known of before; and in more than half such instances the crop did not pay the cost of the chemicals. How different this is from the intelligent manipulating of soil by the use of clover, and manure. The chemical treatment of the soil is in line with the precarious dependence on specifics. The one who depends on patent medicines for health is on a doubtful path to health; so it is with tonics in animals' feed, and chemicals for soil fertility in pursuing a doubtful course. Even chemists themselves are not agreed about the truth of the theories advocated. The poverty of the land so treated, and of the farmers who use the chemicals, both prove that there is something very erroneous in such farming. Much more should be done in testing by experiment stations before any farmer can depend on this method. Three important results must be produced, yet, by chemicals as fertilizers, they must produce more permanent results, they must be lowered 60 per cent. in their present cost, and they must produce larger crops and vegetables of very much superior quality to what they have hitherto done.

The results in the use of chemicals on the land point to the inference that they are not plant food, but are instrumental, in some manner, in rendering the plant food in the soil more available. One of the most striking differences between the chemical farmer and the manure farmer is that the chemical man depends on chance, and few read or take an agricultural paper, while 90 per cent. of the live-stock men do take such a paper. I have been able to compare a Canadian paper with the Yankee ones, and I must say that Canada farmers are being as well informed as the Yankees are. I am still looking for a good chance to compare two Canadian papers, but, although I have visited about twenty farmers' homes, I have not seen any but the "Farmer's Advocate," and I have visited farmers in the vicinity of Brantford, Paris, Galt, Ayr, and in Oxford County nearly as far west as Woodstock. The conclusion to a publisher is that the "Farmer's Advocate" man must have been a hustler, or the "Farmer's Advocate" fills the bill so well that "no other need apply." If the "Farmer's Advocate" has been instrumental in producing the conditions which are here, it is entitled to its patronage. ARCHIBALD CUTHBERTSON, Springfield, L. I.

[Note.—The above contrast between the effects of a prolonged dependence on chemical fertilizers on the one hand, and live-stock manure and clover on the other, is not, we believe, overdrawn, and our correspondent's comparison of the effects of the two systems upon the husbandmen is borne out by not a few instances within our own knowledge. For the great majority of farmers, reliance upon purchased manures leads to shiftlessness and poverty. It may be just as well in passing to correct a possible misimpression some might gather from the above letter, that chemical fertilizers are mere stimulants. The standard brands of fertilizers are not stimulants in any sense of the word. They contain considerable quantities of the necessary elements of plant food, but they lack humus, so necessary to maintain the proper physical conditions of the soil, without which plant food is applied to little purpose. While we do not believe the general farmer requires to use much or any purchased fertilizer, still, if any is employed it should be as a supplement to and not as a substitute for farmyard manure. Depending on fertilizers without also furnishing humus in the form of manure or clover, or some other way, is agricultural suicide.—Editor.]

Cement Silo Satisfactory.

To the Editor "The Farmer's Advocate":

You ask some questions about wooden and cement silos. Silos are gone well past the experimental stage, so that in any district where corn matures, no one who winter feeds cattle for either dairy or beefing purposes can most profitably do so without corn silage. I am fully convinced of this, not from observation alone, but from actual experience as well.

Nine years ago my first silo was built, a round stave one, 16 feet by 30 feet, at a cost of \$80, for material which to-day could not be obtained for less than \$120. For a few years nothing could keep ensilage better, and there was not a particle of waste, but the last two years staves have been decaying, and possibly another year will end its usefulness. Where gravel can be obtained, I would strongly recommend building cement silos. With the steel rings now in use, any one accustomed to cement work can erect them, and they keep silage satisfactorily. I have one 14 feet in diameter, 2½ feet below and 35 feet above ground. The wall is 18 in. thick to the surface of the ground, then beginning with 1 foot, it tapers to 8 inches at the top. To the inside was applied, with a brush, a coat of thin cement. This makes it air-tight, and while a coating applied with a trowel leaves a smooth surface, it requires a very much greater amount of material and labor. In the center of the bottom a hole was dug down to sand, and filled with stones. This carries away any excess of moisture in cases where the corn is put in wet or too green. The cost of building this silo was \$5.00 for every foot in height, and I had to supply gravel on the ground, 2 horses and 2 men. This help, with three men supplied by the contractor, filled two rings, or five feet a day.

The chief advantages of a cement over a wooden silo are that it is practically everlasting, it won't collapse or blow down in dry weather, it is always ready for filling, and in the end it is the most economical to build.

Middlesex Co., Ont.

ROBT. McEWEN.

Cement Silo Experience.

To the Editor "The Farmer's Advocate":

With regard to my experience with wooden and cement silos, cost of construction, etc., I must say it is a duty which I can most cheerfully perform. My first silo (a wooden one) was built in 1890. It was a square silo, with the corners cut off. It was indeed a most helpful asset to a heavily-stocked farm in the dry seasons we experienced in the past, when corn flourished and other things wilted. While my experience was most gratifying, yet there was always considerable waste and loss in the corners. It was also quite noticeable in a few years that a wooden structure for silage would not be lasting, and when I sold my old stock farm near New Dundee, in 1901, the inside lining was very badly decayed—so much so that it required remodelling. Having once experienced the benefits derived from the use of a silo, I felt that I could not well get along without one.

When I purchased my present farm there was no silo on it. I built one the first year, considering it one of the most important improvements required on a well-regulated stock farm. I had gathered considerable information of value in regard to the different constructions of silos, and I felt fully convinced that a round cement silo was the most satisfactory and lasting. I have now filled my silo for the fourth time; am more than pleased with the results, and have no regrets to offer. The chief things in the building of a silo are permanency and convenience; if located at the right place, the cement silo combines everything to be desired. "Neither moth nor rust will corrupt it." It is storm, fire, decay and vermin proof, and if properly constructed it will last almost an indefinite time. There is not a particle of waste anywhere, except, as in all silos, a little at the top, not the slightest along the sides; there being no corners, there is none there, and none at the doors if put in right. The main thing in building a cement silo is to have good material and a good foundation. The cost of construction will depend somewhat on local conditions, such as convenience to good gravel, small stone, price of cement, etc., but in any case, will not be much higher than a good wooden silo, and there is no comparison in durability.

My silo is 14 feet in diameter (inside), by 30 feet high. The concrete is 12 inches thick at the bottom and 8 inches at the top, with the batter on the outside. The foundation or inside of the silo is 2½ feet lower than the basement of the barn and in the bank, which kept it low and very convenient for filling. We used first-class Portland cement, which we have mixed one part cement to ten parts good clean, gritty gravel. We put in a layer of concrete, and then followed with a layer of small field stone, being careful that the stone did not touch the sides, and leaving room between so as to bind it together. This was followed in alternate layers,

till we reached the top. Every 2½ feet a ¼-inch iron rod was put in to prevent cracking. We used 28 barrels of cement in the 30-foot wall; about 33 barrels in all, including cement floor and plastered on the inside. It will generally take from 30 to 36 barrels for a silo the size of mine, unless small stone are used, which lessens the cement needed considerably. I used a Hodgert mixer and steel rings 2½ feet wide, which makes a very complete outfit, and you can build a silo any size, from 10 feet upwards. A person should never stop short of thirty feet high, rather go higher. I have put a wooden top on mine, 6 feet high, and a round roof, which makes it very neat and attractive. I would rather go higher with the cement and no wooden top. The cost of the concrete wall was \$150, without top. It will take from six to seven days to put up a 30-foot silo. It requires four men for a gang; more can work at it, but you can build only 5 feet a day, unless in very exceptional weather; it must have time to set.

Nobody will ever make a mistake in building a cement silo, if properly constructed. Where cement silos have not given satisfaction it is not the fault of the silo, but the fault is in construction.

A. C. HALLMAN,

Waterloo Co., Ont.

Cement Silo Construction.

An occasional contributor who has, by experience and observation during several years past, become very familiar with the subject of cement-concrete silos, believes that these are past the experimental stage, and constitute the proper solution of securing efficient and permanent structures for holding ensilage. He recommends using one part Portland cement to 12 of good sharp gravel, bedding in plenty of stones; using steel rings; size of silo varies according to capacity in tons wanted; walls 12 inches thick at bottom, 6 inches thick at top; with an 18-inch footing down to below frost; every 2½ feet bed in 5-16 round iron bars; five openings for taking out ensilage, 20x30 inches each, and 2½ feet apart; give a coat of pure cement whitewash inside or plaster, with a mixture of cement and sand, 1 to 2½ parts, respectively; roof flat, made of matched lumber in sections, so that it can be removed for filling; properly built it may be filled in ten days after construction; bottom should slope to center, where there is a hole made for drainage. The danger of running tile drains to silos is the risk of rats getting in, causing great waste.

Cement Silo Approved.

To the Editor "The Farmer's Advocate":

Replying to your letter of recent date, would say that on our farms we have displaced two wooden silos with cement, and we find the cement gives altogether better satisfaction, giving no trouble in shape of repairs. The ensilage is quite as good. The initial cost is more, but the cement being more durable, makes it cheaper in the long run. THE T. EATON CO., LTD., Toronto, Ont.

Friend of the Power Windmill.

To the Editor "The Farmer's Advocate":

"The Farmer's Advocate" is the most useful and highly-prized agricultural paper in Canada. I have admired its editorials, and generally agree to the wise and wholesome counsel given to those propounding questions through its columns. Some time ago one asked advice as to what power you would recommend for general use on the farm. The answer given was, after summing up the evidence for and against, that, after all, the power windmill was the cheapest and most desirable for farm purposes, to which my own experience of three years heartily agrees. I am convinced that harnessing the wind which a wise Creator causes to pass over every farm in sufficient power and frequency to discharge every reasonable duty is not understood or appreciated as it should by the Canadian farmer.

Looking around for a substitute for the horse-power, I confess I did not meet with much success or encouragement to go in for wind power. All sorts of rumors were afloat, as to barns burned with heated machinery or wrecked with the windmill. I turned with fear from these dangerous powers and set my affection on the gasoline engine, but upon making careful investigation I concluded that for my purposes the gasoline engine was not what I wanted. To be brief, about three years ago I purchased a 13½-ft. power windmill, with grinder and pumping outfit, to which I have added cutting-box, circular saw, root pulper, etc., etc. To every attachment it has proved quite successful—many winds equalling a ten-horse power, and easily controlled. I have ground over 3,000 bushels of grain, cut feed for about 50 head of cattle and horses, pumped water from a well some distance from the barn into a tank in the basement, which can be utilized inside or out.

True, the wind does not always blow, and the

THE DAIRY.

An Improved Cheese-curing Room.

The Spring Creek cheese factory is owned by a joint-stock company, which is managed by a board of nine directors, elected yearly by the shareholders. During the last four years the summer cheese has been cured at the Woodstock, Ont., cool-curing station. The value of the shrinkage

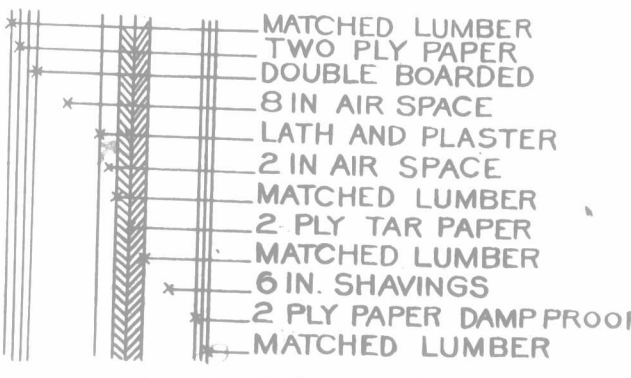
manufacturing, which, after paying all other expenses, leaves a balance each year for repairs. The yearly make ranges from 135 to 150 tons; this year it is about 138 tons of cheese and about four of butter.

A. McKAY, Sec.-Treas.

man who has no patience to wait, nor energy to keep everything in readiness to put on the belt when the wind blows, had better not invest in a wind power. But to the energetic man, who looks ahead, holds himself in readiness for any emergency, lubricates, cares for and overhauls machinery, although high and lifted up and out of sight, the same as he would his binder in the field, will rarely be disappointed.

How Timber is Handled in Temiskaming, Ont.

To the Editor "The Farmer's Advocate": I will explain how the timber is handled here. I described in my last letter how the main draw-road was cut. If this is well done the work is well begun. I will now describe how the men are placed at work. Assuming that you have ten teams of horses ready for work, you will require about 85 men to keep your teams busy. The first work will be to get the camps and stable in readiness, comprising good solid floors, and stalls and mangers for the horses, and also good comfortable floors for the camps, and sufficient sleeping berths for the men. Generally they place those in tiers of three, one above another. The bulk of the best men had better be put at this job at once, and the rest get up sufficient wood for the winter. It will require about three stoves—one cook stove and two heaters—to properly heat up all the rooms. The best burning wood here is dry cedar and tamarack, using as a starter a small piece of birch bark. With this a very hot fire can be started quickly. You must have engaged a first-class cook, who commands \$60 a month wages, and also a foreman to see that every department of work is proceeding along rightly. When everything is ready to begin he orders them out, and then he selects each gang in order. There must be two sawyers, two trail cutters, two skidders, and one chain-bearer. Besides the teamster, in each gang you must have at least one expert timber man also in each gang—one that knows all there is in it. He must direct where the best skidways should be cut—they generally cut those skidways out first, and then the trail cutters are cutting the trails to get the teams into the woods. When the teams arrive, the sawyers being active, have a good start, and they soon have up a fine large skidway. The tools required for each gang will be an axe for each man except the teamsters and the foreman, two canthooks and one pevie, two log chains, and also a pair of skidding tongs, and the most useful of the lot will be a steel line about 100 feet long, and a block or pulley. I might mention that all those skidways must be placed so there can be cut a draw-road to connect with the main draw-road. If this is well done, you will have, if you have started in time, a large quantity of logs ready. If you have enough to keep the teams busy from about New Year's till the last week in March, that period comprises the best months for drawing to the river or to the local mills. You can then discharge the bulk of your men; you will just need two rollers to load the sleighs and two to unload, three men to keep the draw-road in good repair, and a teamster for each team. Besides, you must still retain the foreman and the cook. The timber here is drawn on very heavy sleighs. You would think, by looking at the sleigh, that it would be a very heavy load itself, but it is surprising what a large load of timber can be drawn, apparently quite easily, if the road is well kept up. Although I have drawn an example of quite a large camp, I think that a smaller number of men and horses can make more profit in proportion. I know one man who cut and drew eight hundred dollars' worth of timber to the river himself last winter. I will explain in my next letter how we clear this good agricultural land of its heavy timber.



Plan of Insulation of Curing-room.

saved on our cheese in that time by cool-curing amounted to \$927.66. The experiment has proved so satisfactory that the company decided to remodel their curing-room on a plan somewhat similar to the illustration station at Woodstock.

Our dry-room consisted of a frame building 52 x 32 feet, with a wooden floor. The walls were, on the outside, double-boarded with inch lumber, air space 8 inches, lathed and plastered, stripped and double-boarded with matched lumber and two ply of tar paper between. The ceiling consisted of joisting 2 x 16 in., supporting a jointed floor, and lined underneath with matched lumber. This constituted the old curing-room. In remodelling it, the shelf posts and floor were taken out, and the filling up done by the patrons free gratis. From that point we estimate the total cost of repairs. Now, the roof is re-shingled, the floor is cement-concrete about 5 in. thick, laid slightly lower than the ground surrounding the factory; 12 1/2 feet of east end is partitioned off for an ice-chamber.

The walls of the curing-room, commencing from the outside, are constructed as follows: Double-boarded with inch lumber, air space 8 inches, lathed and plastered, air space 2 inches, matched lumber, two-ply tar paper, matched lumber, 6-in. space filled with shavings, two ply of damp-proof paper, matched lumber. It is intended to put an additional two-ply of paper and one-ply of matched lumber on the outside when finally completed.

The ceiling consists of matched lumber, 10-in. space filled with shavings, matched lumber. Two galvanized ventilators, 9 inches in diameter, rise from the ceiling through the roof, having closing slides; this is a very important fixture, as without the ventilators the room is subject to become so moist that the cheese mold. There are six windows, with double sash, and board shutters on hinges. The door is constructed of three-ply of matched lumber, two of damp-proof paper, and one-inch air space, and padded around the edges with felt; another outside door is made of matched lumber. Two air flues, 1 x 2 feet, run along the ceiling, to convey the warm air into the ice-chamber. The inside measure of the room is 28 x 36 x 10 feet, which has a capacity of curing about 880 cheese.

ICE-CHAMBER.

The walls of the ice-chamber are the same as the curing-room, except there are 8 inches of shavings instead of 6, and a double ply of lumber on the inside, instead of one.

The ceiling consists of matched lumber, one-inch air space, two ply damp-proof paper, matched lumber, ten-inch space filled with shavings, matched lumber, two ply paper and matched lumber. The floor has four cedar pieces 6 x 6 inches running lengthwise on the cement, the spaces between filled with coal cinders; then, ten-inch joists run across the cedars, and it is floored with matched lumber and galvanized iron, above which racks are placed for the ice to rest on; two openings at the bottom convey the cooled air into the curing-room. The inside measure is 10 ft. 7 in. x 27 x 9 ft., which gives a capacity of about 80 tons of ice.

The make-room is supplied with six vats and fixtures for stirring the milk, the press-room with four gang-presses, and both rooms laid with cement floor. The press-room is utilized during the winter for the manufacture of butter.

COST OF REMODELLING CURING-ROOM AND ICE-CHAMBER.

The cost of cement and labor was \$97.55; 150 bundles of shavings and freight, \$35.93; teaming and labor, \$29.70; ventilator pipes, \$16; material for woodwork and labor, \$403.46; making a total cost of \$582.64. The company raises the funds by charging \$1.76 per cwt. of cheese for

English Dairy Shorthorn Men Draw Up Rules.

Many who are accustomed to hearing people deride such a thing as the dual-purpose cow, and questioning the possibility of the Shorthorn being a good milker, will be reassured by the following from the Farmer and Stock-breeder. The new association is made up of men owning English Shorthorn-Herdbook cattle:

The rules and by-laws of the association, as drawn up by the committee appointed for that purpose, were approved of, subject to a few alterations, and the following conditions, applying to prizes to be given by the association, were unanimously agreed to, viz.:

All cows and heifers competing in any class in which this association offers all or part of the prize-money, shall be clean milked out to the satisfaction of the stewards at six p. m. on the evening previous to the show.

On the first evening of the show all cows and heifers are to be milked in the ring in the presence of the judge, who shall also see each animal's milk weighed; and any animal that does not yield up to the following standard when milked in the ring shall not be awarded a prize:

Standard.	If She has Calved within Three Calendar Months of the First Day of the Show.	If She has Calved more than Three Calendar Months before the First Day of the Show.
Cows, 4 years and upwards, not less than.	25 lbs. of milk.	20 lbs. of milk.
Cows, 3 years old and under 4, not less than.	20 "	15 "
Heifers, under 3 years old, not less than...	15 "	10 "

Judges, in awarding prizes, are also to pay great regard to the size, shape, and general appearance of the udder, both before and after milking, as the prizes are only intended for animals suitable for dairy purposes.

And it was also agreed that a list of gentlemen who the council consider qualified to act as judges of Dairy Shorthorns be printed and sent to all agricultural societies, who must agree to select one of these gentlemen to judge any classes to which "The Dairy Shorthorn (Coates' Herdbook) Association" contributes prize money.

The aims and objects of the association are to promote the breed of the pure-bred Dairy Shorthorn by the giving of prizes, recommending judges, publishing milk records and other information, and by any other means, from time to time, as may seem desirable to the members of the association.

N. B.—It is not intended to establish any separate herdbook.

Ice Supply at Creameries.

The season is now at hand when the creameries must lay in a stock of ice for use next summer. The reports of Mr. C. E. Mortureux, Mr. F. A. Knowlton, and other members of the Dairy Commissioner's staff, show that many creameries have in the past been out of ice before the season is finished. No creamery has a right to solicit the support of milk producers unless they are prepared to take proper care of the butter by keeping it at a sufficiently low temperature to prevent undue deterioration in quality. The age of butter is to be calculated more by the temperature at which it is kept than by the number of days that may have elapsed since it was made. Creamerymen must get rid of the idea that no harm results from a high temperature, say 50 degrees, when the butter is held only for a few days. If the butter was consumed in that time it would not be so important, but it is weeks after the butter is shipped before the bulk of it reaches the consumer, and it cannot be exposed to a high temperature one hour, to say nothing of days, without shortening its life; or, in other words, the period during which it will be in its best condition.

When the writer was in England last summer he was continually reminded that one of the weakest points of Canadian butter is that it does not keep well. Too high a temperature at the creamery is one of the principal reasons for this very serious defect. Butter, unlike cheese, is at its best when newly made. Any further fermentation tends towards rancidity, staleness, or other objectionable flavors. Fermentation is checked by reducing the temperature. The temperature in every creamery cold storage should be kept below 40 degrees—the lower the better—and the patrons have a right to know if this matter is being attended to. Our records show that very few of the creamery cold storages are kept below 40 degrees.

Creamery owners are sometimes satisfied with results if the buyer of the butter finds no fault with the temperature at which it has been kept, but they forget

English as She is Heard.

A keenly observant Irish New Brunswicker, who has travelled into every State of the American Union, every Province of the Dominion, and almost every country of Western Europe, sojourning for a considerable time in England, Ireland, Scotland and Wales, says the best English pronunciation, according to the Dictionary Standard, is heard in Dublin, Ireland, and the next best in Upper Canada. The Maritime Province people are close rivals of the Ontarians, but there is a more common tendency among them to slur the long U, in words for instance like "endure," which is frequently pronounced "endoor." The worst mispronunciation, he says, is heard in England, and the next worst in the New England States. Although living for years in the latter region, he never became reconciled to the Yankee's unaccountable penchant for slurring the R in words where it should be accentuated, and burring it out in words where by no license or analogy of orthography does it belong. It was as puzzling to him as the persistent English habit of misplacing the H.

that it is not the business of the buyer to point out these things. It is his business to purchase the butter and to sell it again at a profit. When he has done that he has no further interest in the matter. It is not so with the creamery owner or the patrons, whose real interest in the butter does not cease until it is finally consumed, because the condition of the butter at that time will determine whether the demand for it will be increased or not; and demand for any article on account of its superior quality is a most important factor in determining the price that will be paid for it. Creamery owners should make sure of having an ample supply of ice for all purposes during the season of 1906.

J. A. RUDDICK,
Dairy Commissioner.

The Dairy Stable.

At this season of the year, when farmers are making plans as to building new stables or remodelling the old ones, a few general ideas might help some to avoid mistakes which would be hard to rectify. A stable to be healthy should be light and well ventilated. The stable should have as much of a southern exposure as possible, and the upper two feet of the wall should be at least half glass; that is, if the stable is sixty feet long on the south side (I like the south-west better, as it gives more afternoon sun) there should be four windows eight feet long by at least twenty-four inches deep.

Do not depend on the windows and door for ventilation; the foul air should be carried off above the stable by means of ventilator chutes. These should be not less than two feet square, and should run directly to the cupola above the peak of the barn. They should not open into the upper part of the barn where the hay is stored, or if they are to be used for hay chutes as well as ventilators, they should be fitted with tight doors, which should never be opened except when hay is being put down; of course, if they are to be used as hay chutes, they should be thirty-two inches square. Ventilators should be supplied with slides or doors at the lower end (i. e., the ceiling of the stable), so that one or more may be closed in cold weather. The windows should be so arranged that the upper sash may be lowered to admit fresh air, especially in warm weather. I have found it a good plan to have two or three sashes arranged with a stick, 1½ inches square and eighteen or twenty inches long, fastened to the upper part of the upper sash by a hinge, and having notches to fit onto the lower sash, so that the sash may be lowered two, four or six inches, as desired. My experience is that we do not need to worry very much about how to let the fresh air in if we will provide plenty of ways to let the foul air out.

Care should be taken that there is no draft under the cow stable, and this is one of the greatest objections I have to a manure cellar under the stable. If cold air is allowed to come up through the cracks in the floor there is danger of milking cows taking cold in their udders, and I have known cows that have been milking for months to have their udders become very badly caked from this cause.

Some of the other things that should be considered are convenience, warmth and water supply. Try to have the roots as near the stable as possible, and on the same level, so that they will not have to be carried up from a cellar. I like a good stone or concrete stable wall the best, but if one has a good foundation there is no reason why a good enough wall may not be built with lumber and building paper.

The water supply is one of the most important of all things to be considered, for cows will nearly always milk in proportion to the amount of water they drink. Certainly, the best way is to have the water always before the cows in basins, so that they may drink whenever they wish; but if this cannot be easily managed, the water should be brought to the stable in some way (pump or windmill or pipe), and provision should be made for watering the cows in the stable most of the winter season, even if they are turned out in the yard for half an hour every day for exercise and air.

Cumberland Co., N. S.

C. H. BLACK.

A Good Milk Record.

To the Editor "The Farmer's Advocate":

The following is a record of five Holstein cows in my herd, for one year, ending Dec. 31, 1905. I would be pleased to see it printed in your excellent paper:

Rank.	Name of Cow.	Age.	Lbs. of Milk.
1	Polly Tensen	6 yrs.	10,314
2	Jean Tensen	4 "	8,518
3	Loretta Springbrook	3 "	8,414
4	Nelly Tensen	6 "	7,422
5	Nettie Staple	3 "	6,688
Average			8,271

FREDERICK STEWART.

Wentworth Co., Ont.

I beg to acknowledge with many thanks the knife which you sent me as a premium. I am well pleased with it, and also with your paper. Every farmer should take "The Farmer's Advocate and Home Magazine." Wishing you every success.

S. A. CUNNINGHAM.

Dufferin Co.

GARDEN ORCHARD.



J. C. Gilman, Fredericton, N. B.

President New Brunswick Fruit-growers' Association.

Apples Suitable for New Brunswick.

Following is an extract from a letter received a short time ago from Mr. J. C. Gilman, of Fredericton, N. B., who is President of the New Brunswick Fruit-growers' Association, and one of New Brunswick's pioneer fruit-growers. He is a very careful orchardist, and a view of his orchard shows clean cultivation with cover crops as his system for obtaining best results:

"We have had a fine fall for work in the orchard. The crop, though not large, improved greatly the last month of growth. The Duchess, Wealthy and Alexander are most generally grown to supply the market with cooking apples till the holidays. Perhaps we have no one variety that is more generally planted than the Fameuse. Hardy in tree, fairly early bearer of showy fruit, and very fine quality; with so many good points we will have to look far to get a better variety for our fall and Christmas trade. The McIntosh is a great favorite with many buyers, and on some soils grows very clean. It generally scabs more or less, in spite of good spraying, but it is too good to drop for that one fault, and must be counted as one of our best varieties. The Ontario has disappointed us, being too tender in tree; top-grafting appears to be the only chance for it here. We are very much in need of one or two good kinds to supply the market after January, for while there are many that do fairly well in a local way, we cannot think of any that would be generally satisfactory. New ones are being tested, and we hope to see some good hardy kind that will fill the bill. With all its drawbacks, cold climate, etc., New Brunswick still offers good chances for many to grow apples, if they will go at it in the right way."

Mr. Gilman raises a very pertinent question, i. e., a variety suitable for winter that will be of good quality and perfectly hardy. No one variety has so far been developed that is equal to McIntosh Red in quality, will keep until April, and prove hardy too. The Milwaukee is a good-looking apple, that will fill the bill for cooking until March, and it will sell readily, no doubt. It, however, is not a dessert apple. It could quite properly be called a winter Duchess. The tree is perfectly hardy. The Northwestern Greening is another excellent hardy winter apple. As grown at the Experimental Farm, Nappan, N. S., however, it had a tendency to go bad at the core after January, something after the fashion of the Gideon in its season. This trouble is not noticeable in this variety grown in this section, consequently that may not be a fault when grown in New Brunswick. The Blue Pearmain is not thought much of, on account of being a shy bearer. There seems to be a wide difference in the bearing habit of trees of this variety. One tree on the Experimental Farm, Nappan, N. S., planted in 1890, has fruited only in 1903 and 1904, yielding 11 pecks. Another one, planted in 1890, has fruited in 1903, 1904 and 1905, and yielded 56½ pecks of excellent fruit. Trees of the latter stamp would be profitable as a winter sort for New Brunswick. Finally, the American Golden Russet is hardy, of excellent quality, and we find a fairly good cropper. The trees are hardy. Care, of course, is necessary in storing the russet fruits to prevent wilting. This can be overcome by barrelling tightly and placing in a cellar not too dry.

Again, it is well when considering apple-growing in New Brunswick to bear in mind that

varieties suitable and hardy for some of the counties along the St. John River valley and Grand Lake districts will not stand the low temperature farther up the river; consequently the good work being done by the New Brunswick Department of Agriculture, in planting out commercial illustration orchards in the different counties of New Brunswick, will be productive of very great good. I would, therefore, advise those who are starting out in orcharding to communicate with Mr. Thos. A. Peters, Deputy-Commissioner for Agriculture, and Secretary of the New Brunswick Fruit-growers' Association, as to what varieties are most suitable for their respective sections. He is always glad to give what information is available, and information on this point is rapidly being accumulated by his department. W. SAXBY BLAIR, Macdonald College, St. Anne's, P. Q.

Cover Crops.

"Cover Crops: Their Relation to the Fertility and Moisture Content of Orchard Soils," was the title of an instructive paper read before the Fruit-growers' Association of Ontario, Nov. 16th, by Prof. F. T. Shutt, Chemist of the Experimental Farm, Ottawa. While much of the information is contained in his annual reports, a number of points brought out will bear emphasis. Leguminous cover crops sown in July, and plowed under the following spring, are the most economical means of adding to the nitrogen and humus content of the soil. They not only appropriate nitrogen from the air through the bacteria on their roots, but they take up soluble nitrates that would otherwise be lost by leaching, and they also make considerable quantities of mineral elements more readily available by converting them into organic form, to be utilized by the trees in future seasons. Cover crops take up excess of plant food and moisture in the late summer and fall, and thus tend to an earlier maturity of the new wood of trees, greatly lessening the danger of winter-killing. The presence of the cover crop in winter also does much to protect the tree roots.

Not the least advantage of the cover crop is that it lends itself to many adaptations. If the orchard is making too much growth of wood, the crop may be left for a year, being moved a couple of times during the summer. If the climate is a dry one, the crop may be plowed down in April or early May; or, when desired, it may be left till late May or early June. In most climates cultivation is necessary in June or July, but clean cultivation from year to year without some such crop would rapidly dissipate the humus content of the soil.

Why should we enrich the orchard soil? Some determinations made to answer this question showed that an acre of apple orchard containing 40 trees in full bearing, removed from the soil in fruit, leaves and wood growth, 600 to 650 pounds of nitrogen, 135 to 150 pounds of phosphoric acid, and 700 to 730 pounds of potash. While apples are not so exhaustive as some other crops, it will appear from the above analyses that they require rather generous fertilizing with soluble plant food, and it is unwise to attempt to harvest another crop besides fruit from the land. In taking off two tons of timothy hay per acre there is more plant food removed by the hay than by the trees. On the other hand, orchards continuously under clean cultivation lose more fertility than they would under judicious cropping. Under all ordinary circumstances there ought to be a continual return of plant food to the soil, and this can be secured most economically by plowing under legumes. By the growth of clover we can, in one season, add 1½ to 2½ tons of organic matter per acre, and as much nitrogen as is contained in 8 or 10 tons of barnyard manure.

On some soils alfalfa does very well as a cover crop, excelling clover, and one important point in its favor is that half its nitrogen is found in the root system. Hairy vetch has given 147 pounds of nitrogen per acre, as compared with 118 pounds by red clover, and it is a very promising cover crop despite its rather light root system, and the dearth of its seed. Crimson clover seldom survives the winter at Ottawa, hence cannot furnish any spring growth.

Not the least virtue of the cover-crop system is that the clean cultivation in early summer conserves the moisture, and thus affords the trees a generous supply during May and June when it is needed to enable the trees to make growth. Later—in July, August and September—the cover crop utilizes considerable of the moisture, dries the soil out to some extent, checks growth on the trees, and gives them a chance to mature the new wood growth before winter.

He believed that the character of the autumn as to rainfall and temperature had much to do with the immunity of trees to winter-killing. A dry fall gave the trees a chance to mature, and the exhaustion of the soil moisture by a cover crop in late summer and fall had the same effect. He preferred a cover crop which would live through the winter and make some additional growth in the spring.

Varieties of Apples for the Ottawa Region.

Following is the latest revised list of varieties of apples recommended by Prof. Macoun, of Ottawa, for that portion of Province of Ontario between latitudes 45° and 46°, and along the north side of the St. Lawrence river in the Province of Quebec, to about Three Rivers:

Summer—Yellow Transparent and Duchess of Oldenburg.

Autumn—St. Lawrence, Wealthy and Alexander.

Early Winter—McIntosh Red and Fameuse (snow).

Winter—Scott's Winter, Milwaukee, Northwestern, Greening and Canada Baldwin; and Golden Russett in the more favored localities.

Additional varieties suggested for home use are:

Summer—Lowland Raspberry, Early Joe, Russell and Dyer.

Winter—Swazie, Pomme Grise and Grimes' Golden.

POULTRY.

How to Improve the Laying Capabilities of a Flock.

Owing to the results achieved in the various egg-laying competitions, both at home and abroad, in the United States and in New South Wales, poultry-keepers who breed hens for economical purposes are realizing that it is possible under certain conditions to obtain 200 or more eggs from a single hen in the course of a year. The correspondent in question having learned that this is the case, asks where he can obtain such hens, and expresses his willingness to purchase at a fair price a number of birds of a remarkable laying type, even though the number of eggs they produce is smaller than the figures which have been suggested. It is remarkable how little practical knowledge many poultry-keepers possess. A man who owned hens which had laid an average of 150 eggs per annum or more, as the case may be, could not possibly sell them with any guarantee that they would produce the same number in a succeeding year. As a matter of fact when a hen lays a large number of eggs it is within her first year—i. e., from the time she commences laying as a pullet to the expiration of twelve months—after this she commences to moult, and when laying again, as a rule, produces a much smaller number of eggs than before. A buyer, therefore, would be disappointed, for a hen is not like a cow which increases her milk supply year by year until she has attained her zenith, for the older she grows, the smaller do her producing powers become. On the other hand, it does follow that a hen having laid a large number of eggs in her first year may to a large extent be relied upon to produce pullets, if she is properly mated, which will do as good work as she herself has performed. As a matter of fact, it is impossible in practice to buy remarkable layers which will continue to lay as before, but we can utilize their services in the breeding pen, and thus secure in future what is actually needed.

Those who have exhibited hens which have laid large numbers of eggs, or who compete for prizes with considerable success in the same direction, have in most instances produced these birds in the process of selection. If the owner of race horses desires to obtain the highest speed in his foals he employs sires and dams which are themselves the swiftest within his reach. If the dairy farmer desires to increase the quantity of butter or milk produced in his herd, he selects the deepest milkers or the best buttermaking cows for the purpose, mates them with a sire whose blood is that of a milking or buttermaking family, and, in consequence, naturally expects to obtain heifers which in their turn will produce large quantities of milk. And so it is with the poultry-keeper; if he will obtain a large number of eggs from the hens he owns he must discard every bad layer, and by the aid of a recording nest ascertain which of the remaining hens in his possession lay the largest number of eggs, and these he must retain as his breeding stock for the forthcoming year, taking care to mate them with a male bird which has been produced from an egg laid by the best laying hen within his knowledge. The poultry fancier has produced his most perfect specimens from the point of view of color, feather, form, symmetry, and the like, by adopting this same method of procedure. Like produces like, and whatever quality we require we must look for in the parents, and if we are patient, and strive to reach a particular standard, we are certain to do so in the long run.—[Farmers' Gazette.

Farmers, I find, prize your valuable paper. It is full of good information. H. C. HOAR. Sec. Farmers' Institute, Hampton, Ont.

"Better late than never." Send in your renewal now, so that we may change your label.

Strain Necessary to Improve Egg Yield.

In breeding poultry, an effort should be made to breed with a definite object in view. Among the different objects sought for, viz., size, color, shape and eggs, the last mentioned stands pre-eminent as a financial proposition. Notwithstanding that eggs of the desired color and shape are the most coveted prize in poultrydom, yet breeding to improve the flock in egg production is more difficult than for the improvement of any other point. If we want well-shaped birds, we breed from well-shaped ones, and if we want eggs we must breed from producers and the descendants of such. When breeding for all the other qualities, the points considered are prominently before the breeder's eye, and all he has to do is to use good judgment in selecting his matings; but not so in mating for heavy laying strain. No man can select the best laying hens from merely looking them over. Frequently a favorite in appearance is seldom found at the nest if watched. Non-production, to a great degree, accounts for her fine appearance. There are some claiming to know the points which go to make a layer, yet they can only talk and speculate. The only way of knowing is to make an actual record of the produce of each hen, and in that way the profitable ones will be found.

There are hens which lay as many as 200 eggs in a year, and a very few do better, while some don't exceed two dozen. In fact, some specimens have been found never to lay an egg.

If one could secure a male from a 200-egg hen (or better), he would be worth from five to ten times more to put with a flock than one from the two-dozen-egg hen. Often the low-producing hen will only lay a few eggs during the most favorable season—in the spring, when any old scrub strikes up for a few days. This, also, is the time for hatching, and if the hen has been resting for six or eight months, she will likely lay a few very fine eggs, and so these find their way to incubation. A cockerel from a chance of this kind will outdo the rest in the flock, and, of course, be kept for breeding purposes. Well, what can be expected from his pullets? The traits their ancestors possessed, and nothing better. Is it any wonder, then, that, where there is no system whereby we can breed from the best, we are not making the progress we would wish for. This accounts for so many flocks degenerating so rapidly.

Trap-nests, records and pedigrees may not be practicable with busy persons, but these should take advantage of every opportunity to secure breeders or eggs from those who have used time, patience and money, and have produced a first-class strain of layers.

Wentworth Co., Ont.

Poultry Feeding.

Fowls should be given a breakfast, consisting of ground grain and any available vegetables, as soon as they are awake and active in the morning. It is best that the food be mixed and mashed together, with a little salt added, and fed warm. One should be careful to see that the feeding troughs are kept clean.

During cold and stormy weather, a little ginger or red pepper mixed with the food will aid digestion. But condiments should, of course, be used sparingly. A suitable variety of wholesome food is the best tonic. A regular system in feeding, with frequent changes of diet, will keep fowls in a healthy condition—always provided their apartments are warm, well lighted and ventilated, and kept clean.

In feeding, the object to be obtained should be considered, whether it be for eggs or for the market. An excess of fattening food will injure the laying qualities. Give no more food at a time than the fowls will eat up clean. Better let them go a little hungry and make them scratch—especially when feeding for eggs—than have them mope around and become lazy and inactive. The larger breeds, such as the Partridge Cochins, being rather quiet, are more apt to become too fat; while smaller and more active breeds, as the Leghorns, are less liable to excessive fat. With a little care and judicious observation, it is not difficult to regulate the food supply. In cold weather a greater amount of food is required to sustain the vital force. Plenty of pure water must always be supplied to the fowls. On account of the high percentage of water in eggs (64 to 65 per cent.), laying hens particularly need an ample allowance.

Galvanized iron drinking vessels, placed a little above the feeding floor, so that they will not become filled with litter, are a satisfactory watering arrangement.

For the noon-day meal, allow the fowls what they will eat quickly of a mixture of ground grain and sour or skim milk. The evening feed should consist of whole grain, preferably corn, oats or barley, scattered on the floor of the scratching shed.

Poultry should have access to some form of vegetable food at all times. Cabbages, turnips, beets, etc., are all relished by them, and all contribute to keep them in healthy condition. To give the birds exercise, we feed these vegetables whole. For egg production, some animal food is needed every day, as meat scraps, beef heads or livers, either raw or boiled. This can be cut up and fed to the hens, or hung in their feeding place. A cheap and nutritious food can be made from a piece

of liver or meat scraps boiled in water. Add to a gallon of water a pint of soaked beans and the same of linseed meal. When cooked, thicken with bran, middlings or corn meal to make the mixture a stiff dough. Crumble and feed.

Charcoal should be placed where the fowls can get at it, as perhaps no one thing is more conducive to their health. Also, lime or old plastering, and broken oyster-shells, for egg-shell material.

As poultry masticate their food by a grinding process in the gizzard, the grit box must not be neglected. Let it be supplied with small broken stones or coarse coal ashes. Broken crockery or granite and gravel are also used.

When breeding fowls have free range, much less food need be given. Scatter the small grains through the litter in the morning.

For fattening, give a ration that will produce white-colored flesh; such as equal parts ground oats, ground barley and ground buckwheat. Corn-fed fowls have yellow-colored flesh of inferior quality.

Whitewashing, with the addition of a little carbolic acid, and the sifting of air-slaked lime about the poultry-house occasionally, will destroy parasites and keep down unhealthy odors.

The better the care, the more varied the food, the greater the profits. W. J. WAY. Co. Kent, Ont.

Good Results from Our Ads.

Our thanks are due to Mrs. M. Howard, Sutton West, Ont., for an interesting photo of three enthusiastic readers of "The Farmer's Advocate." We shall certainly make these a feature of our columns. Re our advertisements, Mrs. Howard writes: "Am happy to tell you I have had excellent results from an 'ad.' in the poultry columns of your valuable paper." Will others who have anything to advertise kindly take note of this.

APIARY.

Running a Wax Press.

There are some things about the operation of a wax press that do not appear very often in print, and a few words on the subject may help some readers of "The Farmer's Advocate" who are operating one of these machines for the first time, or who have just been trying to, and have not obtained as good results as they should have. The writer had considerable trouble the first time or two, caused by the wax "freezing" before it ran out of the press, and clogging up everything, so that it had to be cleaned up with boiling water before the work could be continued; and this is the trouble which causes many people to condemn this method of rendering wax. Now, the fault is not in the machine at all, but in the conditions under which it is worked.

In the first place, it must be borne in mind that wax will stick to wood, or anything else that is dry, and that it will not stick to a wet or damp surface. In the second place, get acquainted with the fact that wax will "freeze" when it strikes a cold object, or when a cold current of air strikes it, and that it will not freeze so long as it is hot. These two facts are known by nearly everyone who has anything to do with beeswax, and yet it is because conditions are not as they should be that the wax press gets bunged up and makes trouble.

To have everything run fast and smoothly, it is necessary to have the room where the work is being done very warm. A temperature of 85 or 90 degrees will do away with most of the trouble from freezing. The press should be in a warm room for a couple of hours before commencing operations, so that every part of it may become thoroughly warmed up. Take out the follower and the slatted bottom, and stand everything up so the warm air of the room can get all around it, and it will warm up much more quickly. Just before putting in the first "go" of melted wax, have ready a kettle of boiling water, put the press all together, with the bottom and follower in place, and the burlap to hold the melted combs between them, plug up the spout of the pan, and then pour your boiling water slowly into the press. Don't forget to give the corners their share, and let it stand long enough for everything to get thoroughly hot and wet. Now let out the water, remove the follower, open up the burlap, dip in the melted combs (you will soon learn how much you can handle at a time), fold the burlap over the wax, put in the follower, and screw it down slowly. Be sure the screw presses fairly in the middle of the follower, or it will not press evenly. When it is down nearly as far as you can turn it, and you think all the wax is out, ease it up a little, and then turn it down as far as it will go. Give it time to run out; then turn it down some more, and give it more time to run out. You will be surprised how much wax will come out after you think it must be all out. Don't be afraid of breaking the machine, but squeeze it down for all you are worth. If it bursts, gets a new one—stronger. When you cannot persuade any more wax to come out, release the screw, take out the follower, remove the

burlap, and dump the refuse (and burn your fingers, until you discover how hot it is). Then repeat the process until you are done. Have your boiler for melting the combs on the stove boiling, and have a kettle of water boiling to replace what is dipped out with the boiling wax; and have a pail of cold water handy in case your boiler takes a notion to boil over; and have a few dozen old newspapers spread around on the floor; and have your press right up close to the stove for convenience; and have a tap in the vessel into which the wax and water from the press flow, so that the water may be drawn off as the vessel fills up. When you have finished, run some boiling water through the press to remove any little bits of wax that may be in it. It is generally advisable to melt the wax again after it comes from the press to get it into a solid, clean cake before selling it or sending it away to be made up into foundation. To prevent wax cracking when cooling, wrap an old piece of carpet or something around and over the vessel to make it cool as slowly as possible. It is cooling too rapidly that causes it to crack.

E. G. H.

How about the date on your label? Has it been corrected? If not, kindly advise us at once.

Bees and Football.

To the Editor "The Farmer's Advocate":

I appreciate and would commend your list of New Year's resolutions, and would suggest that you add the following: "I regret the way in which those hives of bees have been neglected. They are of no profit, and may be a seed-bed of foul brood and a menace to my neighbor's bees. I will either see that they are got into a profitable, healthy condition, or else dispose of them." Let me also commend your attitude towards recreation at O. A. C. While it is agreeable and all right for those having an indoor life, it should be possible to make the farm work so attractive to the student who is in earnest as to reduce football, etc., to a minimum.

MORLEY PETTIT.

Norfolk Co., Ont., January 6th, 1906.

NEWS OF THE DAY.

President Phillips Arrested.

As the last form of "The Farmer's Advocate" goes to press, Mr. Joseph Phillips, President of the York County Loan and Savings Co., was arrested at Toronto, charged with conspiracy to defraud the public, by false statements published and returns to Government. The arrest was the result of the report just made of the Government investigation. An outline of the history of this concern appears on our editorial page.

Canadian.

Nelson, B. C., was, on January 2nd, shaken by an earthquake, which lasted for ten seconds.

St. Paul's Industrial (Indian) School, near Winnipeg, has been destroyed by fire. Loss, \$30,000.

Premier Tweedie, of New Brunswick, has announced at St. John that the Legislature will introduce a compulsory Education Act in the near future.

The G. T. R. has placed orders, chiefly with Montreal and Toronto firms, for the building of 81 new locomotives. The entire cost will exceed \$1,000,000.

It is expected that the Macdonald Institute, in connection with the Agricultural College, at Guelph, Ont., will become affiliated with the University of Toronto in the near future.

British and Foreign.

It is announced that Russian Premier Witte will resign after the meeting of the Duma in April.

Hon. Edward Blake has again accepted the nomination as Nationalist candidate for South Longford.

A terrible earthquake has been reported from Nicaragua, where the volcano San Diego is in eruption.

A London, Eng., firm has been entrusted with the preparation of mourning decorations and the erection of a mortuary on board the battleship which is to convey the body of the late Hon. Raymond Prefontaine from France to Canada.

The Government of New Zealand has appointed a representative who will endeavor to induce Canadian manufacturers to exhibit at the New Zealand International Exhibition, which will be opened at Christchurch, N. Z., next spring.

Revolutionary riots have been reported from the Irkutsk district, Eastern Siberia, during the past week. Affairs are complicated by the fact that the Russian Government has been without communication with General Lenevitch for almost five weeks.

Mr. Walter Wellman, a newspaper correspondent of Washington, has been commissioned by the Chicago Record Herald to find the North Pole, by using an airship, which is to be constructed and navigated by Santos-Dumont, of Paris. Continuous reports of the trip will be made by wireless telegraphy and submarine cables. The airship will, it is calculated, be completed by the end of April, and the expedition will set out in July or August.

THE FARM BULLETIN.

Did you notice your label? If it is not correct, we would like to know about it. Look it up.

Mr. H. Noel Gibson, of Delaware, Ont., leaves this week to assume the management of a large farming enterprise, known as "Tuleyrick Farm," owned by Mr. Graham F. Blandy, in the celebrated Shenandoah Valley, near Winchester, Virginia. The pure-bred stock on the farm at present consists of a small herd of Hereford cattle and Shropshire sheep. The best wisps of Canadian stockmen and live-stock showmen go with Mr. Gibson to "The South."

Evidences of Progress.

The present season here is almost the exact antithesis of the same of a year ago. October and November were very wet, followed by a light snowfall for December, so light that, as yet, the sleigh runners have not been brightened. As a result of this condition of the weather, farm work is being conducted with greater facility and comfort. The mild temperature results in the saving of feed, of which there is an abundance, especially the bulky fodders. Some cattle and sheep are still picking a partial subsistence on the good pastures, which are better than the average this year. This is good for the stock, but hard on the pasture. From close observation, the writer is inclined to believe that our modern basement stables are entirely too warm for young growing stock in a winter like the present one, and that more exercise and fresh air would result in better wintering for all but milk cows and fattening cattle.

It is interesting to notice how the increased profits of these better times are being spent by the farmers, who, as a class, are the first and almost the only producers of wealth in the country. When they receive their share (which, by the way, is a very small portion of the total amount which they produce), the question is what will each one do with it. As a rule, now, most of the earnings go into improvements on the farm, and, consequently, the scale of improvement of a farmer's "place" is generally a sure indication of the state of his finances. Another pretty sure indication of his prosperity is the presence of "The Farmer's Advocate" on the kitchen table; for, without any thought of flattery, I have no hesitation in saying from actual observation that, as a rule, I find the wealthiest and most up-to-date of our farmers and stockmen are diligent readers of "The Farmer's Advocate." The frequent presence of the county engineer is another indication of the prosperity of the farmer, as it shows that he is prepared to put his surplus profits into the most economic permanent improvement that he can make, and certainly the past two summers would appear to have been record-breakers in this respect. From all parts of the county and bordering counties, the writer has heard of engineers' ditches being put through, and in fewer instances of mutual agreements by farmers without the expert's aid. But the extent and nature of most cases usually prevents this plan being adopted. The intelligence and education of most communities is as yet too little developed to counteract the frailties of human nature.

In ways like these, the progressive farmer is slowly but surely adding to the permanent wealth of the country, but there is still too much of his hard earnings going into liquor, tobacco, and frivolous amusements which yield no permanent benefit, and are often positively injurious.

J. H. BURNS.

Ferth Co., Ont.

Some Distinctive Expressions in Eastern Parlance.

It is surprising, remarked an Ontario journalist, whose newspaper work had engaged him for some months in the Maritime Provinces, how little difference there is between the colloquial English of the Ontario people and the "Down-Easters." Considering the distance they are apart, the presence of the buffer French-speaking Province between, and the little intercourse that consequently results between the Ontario and Maritime people, one would expect to find quite a peculiarity of local vernacular. However, it is not so. The language is almost identical, even to expletives and slang. There are, though, a few words used by the Easterners that were, to me at any rate, new.

Soon after I went to the New Brunswick country office where I worked, I had occasion to read a proof, and among the list of vehicles and implements noticed "pung." I stopped, looked at it the second time, and referred to the copy, but there it was plain as day—pung. I vaguely guessed that perhaps it had some connection or other with the bung of a barrel. Calling a native, I exclaimed, "What should that word be?" "Why, pung," he said, glancing at it. "Pung! What on earth is a pung?" "What is a pung?" he exclaimed, astonished at such an exhibition of stupidity.

"Why, a pung is a sort of light sleigh, like that," pointing out of the window at a passing cutter, for it was December. "Oh, is that what you call a pung? We call it a cutter in Ontario." "No, that's a pung; a cutter is built lighter than that. There's a difference between the two." "Is that word in the dictionary?" I said. "Cert, you Ontario people must be squirrels." I looked up Webster's International and read, "Pung, n (Etymol. uncertain), a kind of plain sleigh drawn by one horse; originally a rude oblong box on runners [U. S.]." The Standard Dictionary defines it: "Pung, n. [New Eng. and Canada], a low box sled for one horse, sometimes with two long poles, one on each side, which serve for both shafts and runners." This, then, was what a pung ought to be—a sort of rough knock-about sleigh. In the part of New Brunswick where I was, though, the term seemed to be used with widely varying significance, but nearly always to designate what we would call a cutter. For months I tried to get at the precise local significance, but every one of the forty or fifty people I asked gave me a more or less different meaning. One would contend the distinction between the cutter and pung lay in the dashboard, another found it in the runners, but nearly all had a different idea from the dictionary. The word cutter was not often used at all, it was generally sleigh or pung, with elastic distinction to suit the opinion of the speaker. I finally gave up the job of trying to crystallize the usage of these words, finding that I generally got what I wanted by asking for a light one-horse, single-seated sleigh.

Another word employed without special concern as to Webster's opinion, is "team." Go into a livery and ask for a team, and "Single or double?" will be the first question asked. Whether the rig is supposed to make up the second party of the "single" team I never learned.

An expression heard frequently in the great Maritime marsh districts, where those immense areas of rich, low-lying meadows have been built up from the ocean flats by means of a system of dikes or embankments, is "English hay," which is the way they have of distinguishing the timothy and clover hay from that made of other grasses growing on the marsh.

Another expression that I have heard remarked by others, though I confess I have not noticed it so much myself, is the habit of greeting people in the evening with "Good night." One man in particular, a native New Brunswicker, who had lived a good while in the States, used to speak of this frequently. "Good-night," he always maintained, should be used as a parting word, but never as a salutation. I'm not sure but that we often use it loosely in Ontario too.

Canadian Jersey Cattle Club.

The annual meeting of the Canadian Jersey Cattle Club was held in Toronto, December 30th. The gathering, although not large, was a fairly representative one, and what it lacked in numbers was more than made up in enthusiasm over the queen of the dairy breeds.

The President, Mr. R. J. Fleming, not being present at the opening, Mr. D. O. Bull, Vice-President, took the chair and reviewed the work of the past year, showing that the Jersey cow has become an almost absolute necessity in every high-class dairy, and as a family cow, for milk, cream and butter, is unsurpassed. The outlook for the breeders of this "mortgage lifter" is very encouraging indeed.

Messrs. D. Duncan and R. Reid were a committee appointed at the last annual meeting to visit the O. A. C., Guelph, and inspect the Jerseys and report. They did so, and reported that there was only one typical Jersey in the herd, and an effort will be made to have an excellent representation of Jerseys at our agricultural college.

The greater part of the time was taken up with the by-laws governing the registration of cattle in the National Herdbook.

Mr. F. W. Hodson, Live-stock Commissioner, was present, and showed the necessity for the step taken by the Government in this matter, and clearly outlined the work that had been done towards the formation of the various herd records. The by-laws were finally passed, and the question of the Advanced Registry taken up. The feeling of the meeting seemed to incline towards a higher standard of milk and butter production, for admission to the Advanced Registry. However, the matter was left in the hands of a committee, consisting of the President, Secretary, D. O. Bull and Geo. Davies, with power to act.

Officers for 1906: Hon. President—F. W. Hodson; President—R. J. Fleming; 1st Vice-President—D. O. Bull; 2nd Vice-President—D. Duncan; Sec. Treas.—R. Reid, Berlin. Board of Directors—F. L. Green, T. Porter, Geo. Davies, H. C. Clarridge, H. G. Clarke, Representative to Fair Boards—Toronto, D. Duncan, D. O. Bull; London, J. O'Brien, W. J. Humpidge; Ottawa, P. Clark, J. B. Spencer; Winnipeg, L. J. C. Bull, J. A. Gregg; Quebec, J. H. Martin, F. S. Wetherall. The following were recommended as auditors: Toronto, C. T. Graves, with R. Reid and J. L. Clarke as reserve; London, H. C. Clarridge; Ottawa, F. L. Green; Quebec, H. G. Clarke; Winnipeg, D. Duncan.

After adjournment, the breeders were the guests of Mr. W. P. Bull to luncheon at the National Club, where a very enjoyable time was spent in a social way, discussing the merits of their favorite breed.

Through the kindness of the owners of the Brampton Jersey Herd, a cordial invitation is extended to all owners of Jersey cattle to a social gathering at "Hawthorn Lodge" next June, of which further notice will be given.

Lumbering and Dairying in Quebec.

Work on the land being at a standstill, nearly everybody is cutting logs for lumber and for fuel. Wood choppers are so scarce, that many men who own large wood lots are unable to get as much cut as they would wish in order to supply the demand; but, after all, perhaps it is just as well that help is scarce, because some men are so concerned with the present that they would cut down all their wood without any thought of the future.

The good prices that dairy products brought during the past summer, and are bringing now, have encouraged not a few dairymen to feed more grain than usual in order to keep up the flow of milk as long as possible, and where the feeding is done intelligently, it pays well. Very few of the farmers here understand the compounding of balanced rations, and most of them feed what they raise on their own farms—principally timothy hay and oat straw. Stos are more popular than they were a few years ago, but many people still look on them with disfavor.

This is not a horse-raising county, scarcely enough being raised to supply the local demand, and consequently those who have to buy are forced to go into the market and pay good high prices. There has been a more active demand lately for beef cattle, and prices have advanced. New milk cows are selling at from \$20 to \$35 each, the price depending on the age and apparent quality of the animal. Live hogs are being bought for \$6.25 per cwt. Hens are beginning to lay again, but very slowly, and there is no danger of flooding the market for a few weeks at least.

Missisquoi Co., Que. C. A. WESTOVER.

Short Courses at Truro in February.

One of the strong features of the Nova Scotia Agricultural College at Truro, is the short courses of a fortnight or so in the winter months, by means of which inexpensive education of the most practical kind is made available to those who cannot spare the time or money to take the regular two-year courses. Even for young men who contemplate entering the extended course later on there is no better preparation, so far as it goes, than the short winter courses; while for the son or father who wishes to inform himself regarding the scope, character and value of the work carried on at this institution, the short course affords the best possible opportunity for getting an insight into it at first hand. The short courses that have been undertaken in the past two years have been a great success, and an inestimable benefit to those who have attended—a statement which will be heartily confirmed by almost everyone who took advantage of them. The lectures and discussions in field husbandry; the talks on animal husbandry; and, better still, the practice in judging stock which is one of the strong features; the lectures and demonstrations in dairying, horticulture, poultry and veterinary practice, in all of which the faculty will be prepared to give courses this year, assisted by prominent representatives of the Dominion Department of Agriculture, as well as by a number of the most successful local farmers and stockmen—all this is worth many times the cost of attending. The course this year will commence on February 1st, lasting till February 16th. Tuition will be free; board is always obtainable at reasonable rates in Truro, and single-fare rates may be obtained on the railways. Write for further particulars to Principal Cumming, Truro, N. S.

Thirty-five Per Cent. to the Combines B-fare Breakfast.

To the Editor "The Farmer's Advocate":

I am not greatly in favor of the embargo being taken off our cattle. The cattle should be fed here; our soil is not inexhaustible. What is grown on the land should be consumed on the farm, if we are to keep up the fertility of our soil. If the embargo was taken off, we who have to buy stockers would have a miserable lot of the dairy breeds to select from. The beef breeds would all be picked up and shipped, with the exception of what we raise, which is not sufficient.

I hope you will use your influence against these combines, which are in evidence all over the country. They soon will have the last straw on the farmer's back. The "plumbers" investigation has let a little light on a system of fraud which no right-thinking man could countenance. The oatmeal millers have a combine; and when, after paying for a certain number of mills to stand idle, have a good rake-off to divide among the operators. The poor man with a big family has to pay his 35 per cent. tax to these barnacles before breakfast. J. G.

United States Cattle in Bond.

Do Canadian customs officials keep any record of the number of American cattle that are bonded in the Western Cattle Market, Toronto, and the dates of arrival and departure of each carload? What is the regulation governing such cases? DEALER.

The Canadian customs officials keep no record of the cattle feeding in bond at the Western Cattle Market, Toronto. The only record is kept by the railways, and the necessary information is only furnished to the Government if a request to that effect is made. The cattle arrive at Toronto to feed, and are in charge of the railways. They are accompanied by the veterinary's certificate and other necessary papers, and when again loaded into the cars the American Government seal is affixed by the railway authorities, who, in the regular way of business, keep a record of the arrival and de-

parture of cars, the date, numbers, etc. So far as the Government is concerned, we believe the only record kept is at the place of entry and the port of departure from Canadian territory.

Electric Lighting of Farmhouses and Barns.

With the advent of the gasoline engine upon the farm, and due to its easy manipulation, and being always ready for immediate use, many farmers have been asking whether it is feasible or not to light their houses and barns by electricity.

It has occurred to them, that whilst they are running the engine for chopping or other purposes, that the surplus power of the engine might be employed for storing up electricity sufficient for their lighting requirements. That this can be done there is not the slightest doubt, whether by the use of steam or gasoline, but as to its being an economical means of obtaining light is very doubtful.

The very best of storage batteries upon the market to-day are very ticklish things to deal with; their efficiency is low, their upkeep high, and skilled attention is necessary to keep them in good condition. Even then the wear and tear in connection with the plates in the cells is very considerable, besides the first cost of the installation being no small item. An outfit complete would consist of a generator, countershaft, bearings and pulleys, belt, switch-board, batteries, cables, wires, lamps, and cell-testing appliances. Further, it is important that the battery should, if possible, be placed apart from the generating plant; in many instances a disused room or loft in outbuildings can be utilized, or a small building or lean-to erected. In either case the room should have as many windows as possible, to allow of easy inspection of the plates, substantial shelves or trestles erected, and the room should also be cool and well ventilated. As to the size of the plant, this will be regulated by the number of lights that are required, and the hours they are in use per day.

We will, however, assume that a plant capable of supplying 25 lights is required, but that not more than 10 are generally in use, and those for, approximately, five hours per day. Such an installation would cost complete, and fixed in position, in the neighborhood of from \$450 to \$500; not, of course, including the engine, which it is assumed would have sufficient surplus power to drive the generator charging the storage battery—from 2 1/2 to 3 horse-power would be required.

If the battery were of sufficient capacity so as to be able to supply current for 25 lamps, burning during five hours when fully charged, but only 10 lights were in use, then, of course, the battery would supply current sufficient for possibly three days of five hours, after which it would be necessary to recharge the cells, which might take 8, 10 or 12 hours, according to the condition of the battery.

From this it will be seen that in order to have light for seven days it would be necessary to run the engine two whole days per week, and possibly more. If a smaller battery were employed, then it would mean running the engine three or four days per week, and possibly no chopping or other work required, so that the engine would be running specially to store up electricity. On the other hand, a larger battery might be used, and one that would be capable of storing sufficient current to run the 10 lights a week from one charging. This would increase considerably the first cost of the battery, and not only that, the expense in connection with wear and tear, depreciation and interest would add considerably to the cost of the light obtained. The writer is of opinion that it would be far preferable, and certainly much more economical, to simply have a generator from the engine as long as light is required. After starting the engine little or no attention would be required, and if so desired, an appliance might be fixed in the kitchen, so that the engine might be stopped without having to leave the house.

By adopting this system any ordinary man could, after a little instruction, operate the plant.

An installation of this description would include the generator, resistance, countershaft, pulley belt, wires and lamps, and the cost complete and fixed in position would be about \$200 to \$225.

Seeing that at most not more than three horse-power would suffice to drive the generator producing current sufficient for 25 lights, the amount of gasoline used would be but a small matter, and in connection with this it must be remembered that in the case where a storage battery was employed, extra gasoline would be consumed over and above that which was necessary to develop the power required for chopping, etc.

The chief advantages to be derived from the use of storage batteries are that in case of a breakdown in connection with engine, dynamo, belting, etc., the lights would not be interfered with; light could be obtained at a moment's notice, a convenience sometimes in the night, and generally it is more convenient, but there is just as much chance of the battery going out, and possibly more so, than the engine or generator, unless, of course, a skilled man be employed, and in that case his wages would almost pay for the gasoline consumed when running the lights direct from the generator.

Possibly when Mr. Edison has perfected his new cells that he is now working upon, and provided they are not too costly, the storage system upon the farm may become more applicable, but the writer is of opinion that with a gasoline engine the direct system is the

one most suitable to meet the farmer's requirements at the present time.

So far we have been considering the question of generating current for electric light by the aid of a gasoline engine. This might, however, be accomplished by steam, but certainly not more economically.

If storage batteries were adopted and were charged at the same time that the engine was being run for chopping or other purposes, then there would possibly be a little in favor of the steam engine, as far as fuel consumption is concerned, and especially so if straw were burnt in place of coal, then the economy in fuel realized would be in the same proportion as between the gasoline and steam engine when threshing, but it is when we have to produce the light direct from the generator that the use of the steam engine becomes prohibitive, for it would be necessary then to keep two men employed, an engineer and fireman, during the whole of the time that the lights were in use; that is, if straw were being burnt. If coal were used one man would suffice, but even then the wages of the engineer, assuming he was paid at the rate of only \$1.50 per day, would amount to about 75 cents, and possibly the same amount would be expended in coal, so that without taking anything into account for interest, wear and tear and depreciation, the cost for supplying only 10 lights would amount to \$1.50, or 15 cents per light per day. An average cost of lighting by electricity is about 50 cents per month per light, running 24 hours per day.

It will be readily understood that the cost given can only be approximate, since circumstances will naturally vary considerably, but they may suffice to enable the farmer to judge for himself as to whether or not the adoption of electricity for lighting the farmhouse, etc., is feasible.

Of course smaller sizes than 25 light generators are made, but as is the case with all classes of machinery, as time goes on more and more is demanded of it. It is therefore wise to commence with a machine with power sufficient to meet probable extra requirements, and especially so if the extra cost does not exceed, say, \$40 to \$50.

The ideal motive force for generating electricity is, of course, that of water-power, but, unfortunately, there are not many farms in the West where this is available, but if it is, there can then be no doubt that the generating of electricity for farm purpose can be carried out at a very small cost.

Windmills can be employed for generating purposes, and in connection with storage batteries might give satisfaction in some districts, but in connection with the direct lighting from the generator, it would be somewhat awkward if a calm set in at dusk, which often happens, and in which case the dazzling light of our old friend, the oil lamp, would be necessary for rescue from utter darkness. A. BURNES GREIG.

Go to Guelph.

The January short courses in stock and seed judging at the Ontario Agricultural College have come to be looked for as an annual event. Hundreds of men and boys attend, including not a few experienced breeders, who find the judging pavilion a congenial and invaluable place to exchange opinions with each other, to get hold of the latest ideas in stock-breeding and husbandry, to get rid of fads and prejudices, and to brighten up their faculties of perception and comparison by competitive scoring and judging of animals. The course this year commenced on January 8th, and continues till the 20th. On January 8th there also commenced a practical short course in poultry, which is intended to run until February 3rd. The dairy course began January 2nd and concludes March 23rd, and in April there is to be a special course from 10th to 20th for milk producers and milk dealers. Fuller particulars, regarding any or all of these, may be obtained by writing President G. C. Creelman, O. A. C., Guelph, Ont.

Live Stock and Grain Growers' Annual Meeting.

The annual meetings of the Manitoba Live-stock Associations may be held in Brandon in 1906. Secretary George H. Greig was in consultation with Brandon civic authorities recently, as the holding of such meetings is conditional on the accommodation afforded for the educational work to be done.

The date of the holding of the show will be February 27th, 28th and March 1st. The Manitoba Grain-growers will take advantage of the other gatherings, and convene the latter part of the week at the Wheat City. The rough draft of the programme is as follows: Tuesday, a.m., annual meeting of the S. and S. association; p.m., regular class and stock judging; evening, convention and lectures. Wednesday, a.m., annual meeting of Cattle-breeders' Association; p.m., stallion shows; evening, convention. Thursday, a.m., Horse-breeders' Association; p.m., grain fair and stock judging; Thursday night and Friday, Grain-growers' annual convention.

Not in the Big Combination.

In a recent newspaper interview dealing with floating rumors, Hon. Melvin Jones, President of the Massey-Harris Company, declared: "We have not had, nor ever will have, any connection with the International Harvester Company, or any other implement company in the United States or elsewhere. Our company is absolutely independent, and runs its own affairs."

Renew! Renew! Renew!
Have you forgotten to renew?

MARKETS.

Toronto.

LIVE STOCK.

Export Cattle—Demand for exporters brisk, and trade active. Prices rather firmer. Choice, \$4.60 to \$5; good to medium, \$4 to \$4.50; others, \$3.75 to \$4; bulls, \$3.50 to \$4, and cows, \$2.75 to \$3.50.

Butcher Cattle—Picked lots, \$4.10 to \$4.50; good to choice, \$3.75 to \$4; fair to good, \$3 to \$3.50; common, \$2.50 to \$3; cows, \$2 to \$2.75; bulls, \$1.75 to \$2.25, and canners, \$1.75 to \$2.50.

Stockers and Feeders—Short-keep feeders, \$3.60 to \$4; good feeders, \$3.40 to \$3.65; medium, \$2.50 to \$3.50; bulls, \$2 to \$2.75; good stockers, \$2.80 to \$3.50; rough to common, \$2 to \$2.70, and bulls, \$1.75 to \$2.50.

Milch Cows—Active. \$30 to \$60 each. Calves—\$4 to \$12 each, and 4c. to 6c. per lb.

Sheep and Lambs—Trade steady to firm. Export sheep, \$4.25 to \$4.40 per cwt. for export ewes, \$3.25 to \$3.50 for bucks, and \$3 to \$3.50 for culls. Lambs firmer at \$6 to \$6.30 per cwt. for ewes and wethers, and \$5.50 to \$6 for mixed culls, etc.

Hogs—Market very firm, with deliveries light. \$6.25 for choice lightweights, and \$6 for heavies.

HORSES.

The New Year's trade in the local horse market has started off well, and dealers report a fair volume of business last week, though the unseasonable weather conditions had a tendency to curtail transactions. However, commercial lines continue to reflect activity, particularly heavy drafters, which are in good demand for out-of-town points. A number of private sales of carriage horses and drivers are reported, but nothing unusual in the way of prices has been paid for these classes of late. Delivery horses and expressers have been a slow sale, but fortunately the offerings have not been excessive, and prices, on the whole, are well maintained at the previous level. The average prices obtained during the week in the sale-rings follow:

Single roadsters, 15 to 16 hands	\$125 to \$160
Single cobs and carriage horses, 15 to 16.1 hands	125 to 170
Matched pairs and carriage horses, 15 to 16.1 hands	300 to 400
Delivery horses, 1,100 to 1,200 lbs.	125 to 175
General-purpose and expressers, 1,200 to 1,350 lbs.	125 to 175
Drafters, 1,350 to 1,750 lbs.	140 to 180
Serviceable second-hand workers	50 to 80
Serviceable second-hand drivers	50 to 80

BREADSTUFFS.

Wheat—Ontario—78c. for No. 2 white, and 77c. for red and mixed, outside; goose and spring, 73c. to 74c.

Milled—Ontario—Bran, scarce, at \$15.50 to \$16 per ton, in car lots, outside; shorts, \$17 to \$18. Manitoba—Bran, \$17 to \$17.50; shorts, \$18.50 to \$19.50, at Toronto and equal freight points.

Oats—Offerings very light, and the market firm at 35c., outside.

Barley—Little demand, 46c. for No. 2, 44c. for No. 3, extra, and 41c. for No. 3, outside.

Peas—Firm, with fair demand, 77c. to 78c., outside.

Rye—Firm, at 70c., outside.

Buckwheat—Nominal, 51c. to 52c., outside.

Corn—Canadian—44c. asked, Chatham freights, 42c. bid; American No. 3 yellow, 50c. to 50½c., at Toronto, and 2c. to 4c. more at outside points.

COUNTRY PRODUCE.

Butter—Is steady, with a good demand for all lines. Creamery, 24c. to 25c.; solids, 23c. to 24c. Dairy lb. rolls, good to choice, 21c. to 22c.; dairy tubs, 21c. to 22c.; medium, 20c. to 21c.; inferior, 19c. to 20c.

Cheese—13c. for large, and 13½c. for twins.

Eggs—New-laid are quoted at 30c., fresh and cold-storage at 21c. to 22c., and lined at 20c.

Poultry—Fat chickens, 8c. to 9c.; thin, 7c. to 8c. Fat hens, 6½c. to 7½c.; thin, 5½c. to 7c. Ducks, 11c. to 12c.; thin, 6c. to 8c.; geese, 10c. to 11c.; turkeys, 13c., with 13½c. for choice small lots.

THE CANADIAN BANK OF COMMERCE

Paid-up Capital, \$10,000,000. Reserve Fund, \$4,500,000

HEAD OFFICE, TORONTO

B. E. WALKER, General Manager ALEX. LAIRD, Asst. Gen'l Manager

BRANCHES THROUGHOUT CANADA, AND IN THE UNITED STATES AND ENGLAND

BANKING BY MAIL

Business may be transacted by mail with any branch of the Bank. Accounts may be opened, and deposits made or withdrawn by mail. Every attention is paid to out-of-town accounts.

Potatoes—The demand for choice stock is good. Ontario, 65c. to 75c. per bag, on track, here; 75c. to 80c., out of store; Eastern, 75c. to 80c., on track, and 90c. to 95c., out of store.

Honey—There is a fair demand, and the market is steady at \$1.25 to \$2 per dozen for combs, and 7c. to 8c. per lb. for strained.

Beans—\$1.75 to \$1.80 for hand-picked, \$1.65 to \$1.75 for prime, and \$1.25 to \$1.50 for undergrades.

Baled Hay—\$8 per ton for No. 1 timothy in car lots here, and \$6 for No. 2.

Baled Straw—Quiet and easy at \$6 per ton for car lots, on track here.

HIDES AND TALLOW.

E. T. Carter & Co., 85 East Front St., wholesale dealers in wool, hides, calf skins and sheep skins, tallow, etc., quote: Inspected hides, No. 1 steers, 11c.; inspected hides, No. 2 steers, 10c.; inspected hides, No. 1 cows, 10½c.; inspected hides, No. 2 cows, 9½c.; country hides, flat, 9c. to 9½c.; calf skins, No. 1, selected, 13c.; sheep skins, \$1.20 to \$1.25; horse hides, \$3 to \$3.25; tallow, rendered, 4c. to 4½c.

FARMERS' MARKET.

(Retail Prices.)

Dressed hogs, light, cwt., \$9; heavy, \$8.50. Butter, 26c. to 27c. Eggs, 35c. to 45c. Spring chickens, dressed, 7c. to 8c.; live, 5c. Old, dressed, 7c.; live, 4c. Turkeys, dressed, 14c. to 15c.; live, 12c. Geese, live, 8c.; dressed, 10c. to 12c. Potatoes, per bag, \$1 to \$1.10; apples, bbl., \$1.50 to \$3; Turnips, bag, 50c. Beef, hind quarters, 6½c. to 7½c.; fore quarters, 4½c. to 5½c.; carcasses 6c. to 7c.; lambs, 10c. to 11c.; mutton, 8c. to 9c.; veal, 7½c. to 9c.

Montreal.

Live Stock—Private cables received from Liverpool quoted the market for Canadian cattle steady. Local market last week was rather flat. A few choice steers may have brought 5c., but for the most part, 4c. to 4½c. has been the range for finest cattle. Good ranged from 3½c. to 4c., medium from 3c. to 3½c., and common from 2c. to 3c. Calves were scarce, and choice animals were dear, being as much as 4c. to 5c. per lb.; common being, however, about 3c. Sheep and lambs were also scarce, and prices ranged from 4c. to 4½c. for sheep, and up to 6c., and over, for lambs. Live hogs were again firmer, selects being in good demand at around 7c.

Cheese—Stocks have gradually drifted into the hands of large exporters, and, as a consequence, are firmly held. Ontarios, 13½c. to 13¾c.; Easterns, nearly all disposed of by this time, the few remaining being quoted at 13c. to 13½c.

Butter—Notwithstanding the fact that receipts have been heavy of late, prices of butter in Montreal show very little change. 23½c. to 23¾c. for finest creamery, and 22½c. to 23c. for good to fine. Dairies continue scarce, and fairly firm at 20½c. for dairy tubs, and 21c. to 21½c. for fresh rolls.

Eggs—Cold-storage, wholesale, 21c. to 22c.; Montreal lined, 20c. to 21c. Select held eggs range from 40c. to 45c., up to 50c., or perhaps 60c. if specially nice.

Poultry—The produce markets, particularly the poultry markets, are always dull the week following New Year's.

Nothing has such a bad effect upon poultry prices as bad, sloppy weather, such as prevailed towards the end of the year. Even though it may not affect the quality of the birds, it affects their appearance, and holders are unable to get nearly so much as they otherwise could. Prices were on the verge of a break week before last, and with the lower temperatures that came in with the New Year the market was unable to bear up against the general dullness. Turkeys, 13c. to 15c.; geese, 8c. to 10c.; ducks, scarce and firm, at 12c. to 13c.; chickens, 9c. to 11c.; fowl, as low as 6c.; general range, 7c. to 9c. Probability of demand picking up again if weather remains cold.

Dressed Hogs—Demand for dressed hogs has not been very active of late, consumption running rather in the direction of poultry and even beef. Yet the high price of live hogs necessitates firmness in the market for dressed. Fresh abattoir-killed are selling at 8½c. to 9½c., country-dressed being 8c. to 8½c., demand for the latter not very brisk.

Vegetables—Dealers paying 65c. per 90 lbs. for finest, carloads, on track, and reselling in broken lots at 75c., in store. Inferior quality, 5c. less.

Onions—Canadians were in slow demand at \$3 per bbl. and \$1.25 per bag for reds or yellows, the market being firm.

Turnips—The market is quiet, and prices steady at 55c. per bag, or \$12 per ton.

Grain—The market is next thing to dead. An occasional car of oats is changing hands, quotations being 37c. for No. 4; 38c. for No. 3, and 39c. for No. 2, carloads, in store. It is not thought that trade will show any great improvement or take any settled shape for some weeks to come. Occasional cars of corn are being sold also, these ranging from 53c. to 53½c. for No. 3 yellow and mixed.

Beans are \$1.65 to \$1.70.

Flour—Large rival Manitoba mills are again in competition with each other, apparently, for we hear of considerable cutting going on, notwithstanding that prices have been reduced some 10c. per bbl., at \$4.30 to \$4.40 for strong bakers', and \$4.80 to \$4.90 for patents, in bags. It is said that the cutting may occasion further reductions in list prices.

Hay—The market holds remarkably steady. Receipts from the country are fairly liberal, and demand seems to just about absorb them. The heavy shipments to the English market, which go on from time to time, do not seem to have any permanent effect upon prices. Quotations are \$5.50 to \$6 for clover per ton, on track, \$6.25 to \$6.50 for clover-mixed; \$7.50 to \$8 for No. 2 timothy, and \$8.50 to \$9 for No. 1.

Chicago.

Cattle—Prime steers, \$3.25 to \$6.25; cows, \$2.90 to \$4.40; heifers, \$2.25 to \$5; bulls, \$2 to \$4.10; calves, \$2.50 to \$8.25; stockers and feeders, \$2.40 to \$4.25. Hogs—Choice to prime, heavy, \$5.40 to \$5.45½; medium to good, heavy, \$5.35 to \$5.40; butcher weights, \$5.35 to \$5.45; good to choice heavy, mixed, \$5.30 to \$5.40; packing, \$5.15 to \$5.35. Sheep and Lambs—Sheep, \$4 to \$6.25; yearlings, \$6 to \$6.75; lambs, \$7.50 to \$8.

Buffalo.

Hogs—Heavy and mixed and Yorkers, \$5.60 to \$5.65; pigs, \$5.65 to \$5.70; roughs, \$4.75 to \$5; stags, \$3 to \$3.50. Sheep and Lambs—Lambs, \$6.25 to \$8.15; yearlings, \$6.50 to \$7; wethers, \$5.50 to \$6; ewes, \$5.25 to \$5.50; sheep, mixed, \$3 to \$5.50; Canada and Western lambs, \$7.50 to \$7.75.

British Cattle Market.

London.—Cattle are quoted at 10c. to 11½c. per lb.; refrigerator, 8½c.

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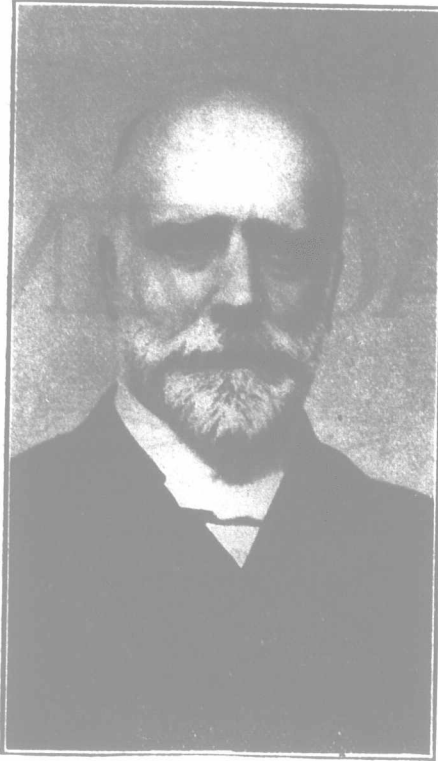
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A New Moody and Sankey.

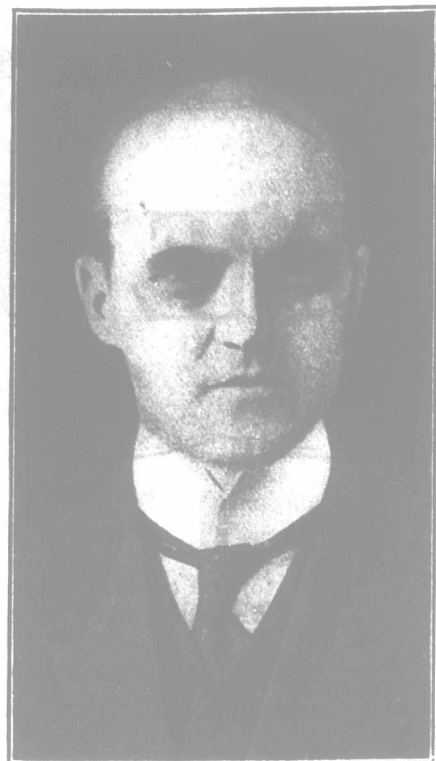
The pessimistic complaint that the world is growing every year more material, more indifferent to religious things, would seem to meet disapproval, in Canada, at least, in the reception given in all of our towns and cities to any man who comes with an earnest message and marked with the stamp that rings no counterfeit; and that the ministry of Messrs. Torrey and Alexander, the evangelists who have just visited Canada, following their great tour in the Antipodes and in England, is well standing the fire of the "white light" that beats, in these matter-of-fact days, no less upon the pulpit than upon the throne, may be judged from the crowded houses which have marked the progress of these noted men.

In the lives of both these men the influence of a godly home training is strikingly exemplified. Dr. Torrey was born at Hoboken, N. J., on the 28th of January, 1856, the son of a New York banker. In early life he was filled with the ambition to become a great lawyer; but, like our own Dr. Grenfell of the Labrador, and many others who have heard the especial "call," he met a power sufficient to turn the whole tenor of his life at a Moody and Sankey meeting. Afterwards he became pastor of a small Congregational church in Garrettsville, Ohio, and, after a short time spent in study in Germany, assumed the pastorate of



Rev. R. A. Torrey, D. D.

charges in Minneapolis and Chicago, in each case choosing a small church which he might build up, in preference to accepting a position of much greater emolument.



Mr. C. M. Alexander.

In 1893 he assisted Moody in the great World's Fair campaign, and, for a time, when Moody was taken sick in Kansas City, carried on the work himself. In 1898, accompanied

by Mr. Alexander, he set out on a world-wide tour, in which meetings were conducted in Australia, Tasmania, New Zealand, India and Great Britain, with such success that 100,000 persons have professed conversion as a result.

Charles McCallon Alexander is 38 years of age, and was born in Tennessee, the son of poor but intensely religious and intensely musical parents. This musical talent was fully inherited by the boy, who started the singing in Sunday School when only nine years of age, and, at fifteen, became fired with an ambition to organize a great choir, an object towards which, for some years, all his energies were directed.

His first step was to attend a college of music. Later he became Director of Music in the same institution, but, with the resolution of devoting his life to sacred song, he gave up this work to start out with John Kittrell, the Quaker blacksmith evangelist, in a tour of the South. He also took part in Moody's campaign, and at different times found himself in charge of just such choirs as had figured in his boyhood dreams. Mr. Alexander has been with Dr. Torrey throughout his world tour, and has become especially noted through his "Glory Song," which has already gone before him like a herald across the continent. Upon these men, it would seem, has strikingly fallen the mantle of their noted predecessors, Moody and Sankey.

GLENGARRY SCHOOL DAYS.

A STORY OF EARLY DAYS IN GLENGARRY.

By Ralph Connor—Rev. C. W. Gordon.

CHAPTER VI.—Continued.

How Thomas could have brought this disgrace upon him, he could not imagine. If it had been William John, who, with all his good nature, had a temper brittle enough, he would not have been surprised. And then the minister's sermon, of which he had spoken in such open and enthusiastic approval, how it condemned him for his neglect of duty towards his family, and held up his authority over his household to scorn. It was a terrible blow to his pride.

"It's the Lord's judgment upon me," he said to himself as he tramped his way through the woods. "It is the curse of Eli that is hanging over me and mine." And with many vows he resolved that, at all costs, he would do his duty in this crisis and bring Thomas to a sense of his sins.

It was in this spirit that he met his family at the supper-table, after their return from the Gaelic service.

"What is this I hear about you, Thomas?" he began, as Thomas came in and took his place at the table.

"What is this I hear about you, sir?" he repeated, making an effort to maintain a calm and judicial tone.

Thomas remained silent, partly because he usually found speech difficult, but chiefly because he dreaded his father's wrath.

"What is this that has become the talk of the countryside and the disgrace of my name?" continued the father in deepening tones.

"Not very great disgrace, surely," said Billy Jack, hoping to turn his father's anger.

"Be you silent, sir!" commanded the old man, sternly. "I will ask your opinion when I require it. You and others beside you in this house need to learn your places."

Billy Jack made no reply, fearing to make matters worse, though he found it hard not to resent this taunt, which he knew well was flung at his mother.

"I wonder at you, Thomas, after such a sermon as you. I wonder you are able to sit there unconcerned at this table. I wonder you are not hiding your head in shame and confusion." The old man was lashing himself into a white rage, while Thomas sat looking stolidly before him, his slow tongue finding no words of defense. And indeed, he had little thought of defending himself. He

was conscious of an acute self-condemnation, and yet, struggling through his slow-moving mind there was a feeling that in some sense he could not define, there was justification for what he had done.

"It is not often that Thomas has grieved you," ventured the mother timidly, for, with all her courage, she feared her husband when he was in this mood.

"Woman, be silent!" blazed forth the old man, as if he had been waiting for her words. "It is not for you to excuse his wickedness. You are too fond of that work, and your children are reaping the fruits of it."

Billy Jack looked up quickly as if to answer, but his mother turned her face full upon him and commanded him with steady eyes, giving herself, no sign of emotion except for a slight tightening of the lips and a touch of color in her face.

"Your children have well learned their lesson of rebellion and deceit," continued her husband, allowing his passion a free rein. "But I vow unto the Lord I will put an end to it now, whatever. And I will give you to remember, sir," turning to Thomas, "to the end of your days, this occasion. And now, hence from this table. Let me not see your face till the Sabbath is past, and then, if the Lord spares me, I shall deal with you."

Thomas hesitated a moment as if he had not quite taken in his father's words, then, leaving his supper untouched, he rose slowly, and without a word climbed the ladder to the loft. The mother followed him a moment with her eyes, and then once more turning to Billy Jack, held him with her calm, steady gaze. Her immediate fear was for her eldest son, Thomas, she knew, would in the meantime simply suffer what might be his lot, but for many a day she had lived in terror of an outbreak between her eldest son and her husband. Again Billy Jack caught her look, and commanded himself to silence.

"The fire is low, William John," she said, in a quiet voice. Billy Jack rose, and from the wood-box behind the stove, rekindled the fire, reading perfectly his mother's mind, and

resolving at all costs to do her will.

At the taking of the looks that night, the prayer, which was spoken in a tone of awful and almost inaudible solemnity, was for the most part an exaltation of the majesty and righteousness of the government of God, and a lamentation over the wickedness and rebellion of mankind. And Billy Jack thought it was no good augury that it closed with a petition for grace to maintain the honor of that government, and to uphold that righteous majesty in all the relations of life. It was a woeful evening to them all, and as soon as possible the household went miserably to bed.

Before going to her room the mother slipped up quietly to the loft and found Thomas lying in his bunk dressed and awake. He was still puzzling out his ethical problem. His conscience clearly condemned him for his fight with the master, and yet, somehow he could not regret having stood up for Jimmie and taken his punishment. He expected no mercy at his father's hands next morning. The punishment, he knew, would be cruel enough, but it was not the pain that Thomas was dreading; he was dimly struggling with the sense of outrage, for ever since the moment he had stood up and uttered his challenge to the master, he had felt himself to be different. That moment now seemed to belong to the distant years when he was a boy, and now he could not imagine himself submitting to a flogging from any man, and it seemed to him strange and almost impossible that even his father should lift his hand to him.

"You are not sleeping, Thomas," said his mother, going up to his bunk.

"No, mother."

"And you have had no supper at all?"

"I don't want any, mother."

The mother sat silent beside him for a time, and then said, quietly,

"You did not tell me, Thomas."

"No, mother, I didn't like."

"It would have been better that your father should have heard this

from—I mean, should have heard it at home. And—you might have told me, Thomas."

"Yes, mother, I wish now I had. But, indeed, I can't understand how it happened. I don't feel as if it was me at all." And then Thomas told his mother all the tale, finishing his story with the words, "And I couldn't help it, mother, at all."

The mother remained silent for a little, and then, with a little tremor in her voice, she replied: "No, Thomas, I know you couldn't help it, and I—here her voice quite broke—"I am not ashamed of you."

"Are you not, mother?" said Thomas, sitting up suddenly in great surprise. "Then I don't care. I couldn't make it out well."

"Never you mind, Thomas, it will be well," and she leaned over him and kissed him. Thomas felt her face wet with tears, and his stolid reserve broke down.

"Oh, mother, mother, I don't care now," he cried, his breath coming in great sobs. "I don't care at all." And he put his arms round his mother, clinging to her as if he had been a child.

"I know, laddie, I know," whispered his mother. "Never you fear, never fear." And then, as to herself, she added, "Thank the Lord you are not a coward, whatever."

Thomas found himself again without words, but he held his mother fast, his big body shaking with his sobs.

"And, Thomas," she continued, after a pause, "your father—we must just be patient." All her life long this had been her struggle. "And—and—he is a good man." Her tears were now flowing fast, and her voice had quite lost its calm.

Thomas was alarmed and distressed. He had never in all his life seen his mother weep, and rarely had heard his voice break.

"Don't, mother," he said, growing suddenly quite himself. "Don't you mind, mother. It'll be all right, and I'm not afraid."

"Yes," she said, rising and regaining her self-control. "It will be all right, Thomas. You go to sleep." And there were such evident reserves of strength behind her voice that Thomas lay down, certain that all would be well. His mother had never failed him.

(To be continued.)

Bishop of Oxford's Riddle.
A BRIGHT GAME FOR WINTER EVENINGS.

1. I have a trunk?
2. It has two lids?
3. It has two caps?
4. Two musical instruments?
5. Two poetic measures?
6. A score of articles carpenters cannot do without?
7. A couple of good fish?
8. A great number of small shell-fish?
9. Two lofty trees?
10. Two spring flowers?
11. Two playful domestic animals?
12. A great number of small wild animals?
13. A fine stag?
14. A number of whips without handles?
15. Some weapons of warfare?
16. A number of weather-cocks?
17. An entrance to a hotel?
18. Two students?
19. At a political meeting, on a division of votes?
20. A number of Spanish grandees?
21. A big wooden box?
22. Two fine churches?
23. Product of camphor tree?
24. A piece of English money?
25. An article used by artists?
26. A boat used in racing?
27. Used for crossing a river?
28. Pair of blades without handles?
29. Twelfth letter of the alphabet, finished with bows?
30. Instruments used in church?
31. Fastenings for the whole?

ANSWERS TO ABOVE.

1. The body.
2. Eyelids.
3. Kneecaps.
4. Drums of the ears.
5. Feet.
6. Nails.
7. Soles.
8. Muscles.
9. Palms.
10. Two lips (tulips).
11. Calves.
12. Hairs (hares).
13. Heart (hart).
14. Lashes.
15. Arms.
16. Veins (vanes).
17. In-step.
18. Pupils.
19. Eyes and nose.
20. Tendons.
21. Chest.
22. Temples.
23. Gum.
24. Crown.
25. Palate.
26. Skull.
27. Bridge.
28. Shoulder blades.
29. Elbows.
30. Organs.
31. Cords.

Where Babies are not Washed.

A traveller from Russia says that Russian babies in Siberia are not very attractive. And when he tells us one of the reasons, we do not wonder at his thinking so. He says that one day he noticed in one of the houses a curious bundle on a shelf; another hung from a peg in the wall, and a third hung by a rope from the rafters; the one in the swinging bundle was the youngest. The traveller looked over at the little baby, and found it so dirty that he exclaimed in disgust: "Why do you not wash it?" The mother looked horror-stricken and ejaculated: "Wash it? Wash the baby? Why, it would kill it!" What a happy country Russia must be for some boys! They never hear "Wash your face and hands," nor "Have you brushed your hair?" But, O, how they would look!—[Lutheran Observer.

I received the knife, reading-glass and microscope for obtaining two new subscribers to your most valuable farm journal. They were all far above my expectations, both in quality and finish. I will try to send more subscribers. THOS. WATSON. Springvale, Dec. 25th, 1905.



The Four Sunbeams.

Four little sunbeams came earthward one day,
Shining and dancing along their way,
Resolved that their course should be blest.
"Let us try," they all whispered, "some kindness to do,
Not seeking our own pleasures all the day through,
Then meet in the eve in the west."



Progressive Farmers.

Photo sent by Mrs. M. Howard, Sutton West, Ont.

One sunbeam ran in a low cottage door
And played "hide and seek" with a child on the floor,
Till baby laughed loud in his glee,
And chased with delight his strange playmate so bright,
The little hands grasping in vain for the light
That ever before him would flee.

One crept to a couch where an invalid lay
And brought him a dream of the sweet summer day,
Its bird song and beauty and bloom,
Till pain was forgotten and weary unrest,
And in fancy he roamed through the scenes he loved best,
Far from the dim, darkened room.

And one, where a little blind girl sat alone,
Not sharing the mirth of her playfellows, shone
On hands that were folded and pale,
And kissed the poor eyes that had never known sight,
That never would gaze on the beautiful light
Till angels had lifted the veil.

At last, when the shadows of evening were falling,
And the sun, their great father, his children was calling,
Four sunbeams sped into the west.
All said, "We have found that in seeking the pleasure
Of others we fill to the full our own measure,"
Then softly they sank to their rest.

The Paper Dolly's Petition.

Come hither, little maiden fair,
Don't look so sad and melancholy!
If you have any change to spare,
Pray buy me for your Paper Dolly.

My name is Mary, Mary Hill;
But call me May or Moll or Molly,
Or even Polly, if you will,—
But buy me for your Paper Dolly!

Kitties will scratch and tea-sets break,
And jackstraws, they are naught but folly;
But how much comfort you might take
In cutting clothes for Paper Dolly!

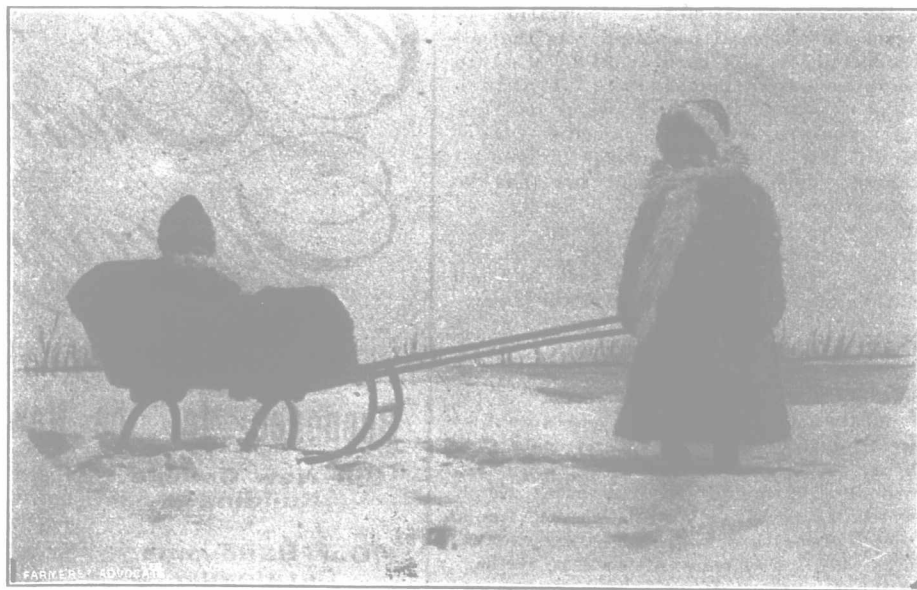
When winter flings his snows about,
And nothing's green but pine or holly,
And girls are kept from going out,
How nice to have a Paper Dolly!

But when the summer skies are fair,
And summer birds are blithe and jolly,
And summer flowers are everywhere,
O, don't forget poor Paper Dolly!

Your money is all gone, you say?
Don't look so sad and melancholy,
But go ask grandma; she will pay;
Then I shall be your Paper Dolly.

Young Canucks.

All our young Canucks greet eagerly
A splendid fall of snow.
Their warm coats and caps are donned
With glee,
Then out of doors they go.
'Tis little they care for the "zero" mark,



Young Canucks.

One stole to the heart of a girl that was sad
And loved and caressed her until she was glad
And lifted her white face again.
For love brings content to the lowliest lot,
And finds something sweet in the dreariest spot.
And lightens all labor and pain.

And if the mercury drops
To "twenty below," do you really think
That they indoors will stop?

Their cheeks are like apples—as round and firm
And red as a "Northern Spy."
They pity the children who have no snow
And who play 'neath a southern sky.
COUSIN DOROTHY.

Winter in St. Petersburg.

The people run so fast in the streets that you would think they were running for their lives; and so they are, for if they were to stand still, they would be frozen. Little children cannot go out at all in the midst of winter, but boys who are fast runners can. The people wrap themselves up in fur, with only noses and eyes peeping out. Sometimes you will see a man's nose grow very white indeed. He feels nothing, but some kind person passing by will call out, "Father, mind your nose!" and then the man will take up some snow, and rub it.

There are large rooms in St. Petersburg, where poor people may always go and warm themselves. The rich people keep themselves very warm in their houses. They have double windows, and they put salt or sand between. In the sand, flowers are planted, and so little gardens bloom in the winter, between the windows. The salt is made into the shape of little houses, trees and hills. Which would you put between your windows, sand or salt? There are two or three doors to each room, one behind another, to keep the cold from getting in, and there is a large stove in the middle of the room.

How the Professor Apologized.

Professor Blackie, of Scotland, was lecturing to a new class, some of whose members he did not know very well. A student rose to read a paragraph, his book in his left hand.

"Sir," thundered Blackie, "hold your book in your right hand!"—and as the students would have spoken—"No words, sir! Your right hand, I say!"

The student held up his right arm, ending piteously at the wrist. "Sir, I have nae right hand," he said.

Before Blackie could open his lips there rose a storm of hisses, and by it his voice was overborne. Then the professor left his place and went down to the student he had unwittingly hurt, and put his arm around the lad's shoulders and drew him close, and the lad leaned against his breast.

"My boy," said Blackie—he spoke very softly, yet not so softly but that every word was heard in the hush that had fallen on the class-room—"my boy, you'll forgive me that I was over-rough? I did not know—I did not know!"

He turned to the students, and with a look and tone that came straight from his heart, he said, "And let me say to you all, I am rejoiced to be shown that I am teaching a class of gentlemen."

Scottish lads can cheer as well as hiss, and that Blackie learned.

Do the work that's nearest;
Though it's dull at whiles,
Helping when we meet them
Lame dogs over stiles;
See in every hedgerow,
Marks of angels' feet,
Epics in each pebble
Underneath our feet.
—Charles Kingsley.

The One-talent Man.

He couldn't sing and he couldn't play,
He couldn't speak and he couldn't pray.
He'd try to read, but break right down,
Then sadly grieve at smile or frown.
While some with talents ten begun,
He started out with only one.
"With this," he said, "I'll do my best,
And trust the Lord to do the rest."
His trembling hand and tearful eye
Gave forth a word of sympathy;
When all alone with one distressed,
He whispered words that calmed that breast,
And little children learned to know,
When grieved and troubled, where to go.
He loved the birds, the flowers, the trees,
And, loving him, his friends loved these.
His homely features lost each trace
Of homeliness, and in his face
There beamed a kind and tender light
That made surrounding features bright.
When illness came he smiled at fears,
And bade his friends to dry their tears.
He said, "Good-by," and all confess,
He made of life a grand success.

I received the hanging safely, and I am well pleased with it. It is a beauty. Accept thanks. JAMES SHELLEY. Powassan, Dec. 21st, 1905.



**"Where There's a Will
There's a Way."**

The soul of the sluggard desireth, and hath nothing: But the soul of the diligent shall be made fat.—Prov. xiii.: 4.
Then Jesus answered and said unto her, O woman, great is thy faith: be it unto thee even as thou wilt. And her daughter was made whole from that very hour.—St. Matt. xv.: 28.

Never be idle, find something to do;
Water grows stagnant when still,
Tools, if neglected, will rust—so will you;
Work, while you can, with a will,
With patience and zest,
And hope for the best,
Whate'er the position you fill;
Men who were poor
Have pushed to the fore,
And toiled to the top of the hill:
What they have done
You may do if you try:
What they have won
You may win by and by!

Man is a wondrous self-acting machine,
Made with unmatched skill;
Sloth clogs and injures him, work keeps
him clean,
And potent for good or for ill,
Man needs no oil
Other than toil,
Labor-oiled works do not creak;
Action ne'er clogs
Cranks, pistons, or cogs;
Labor gives strength, sloth makes weak.
Be this your plan:
To persistently try
To work when you can,
And to rest when you die!

If you should call on another farmer and find him standing gossiping with a chum over the fence, and then if you noticed that his fences and barns were tumbling to pieces and his fields were overgrown with weeds, you would probably make up your mind to two things. The first, of course, would be that, as he set out to farm, he "desired"—like the sluggard—to make his farming pay. But the second thing that you would know without being told would be that he did not "will" to be a good farmer. There may be exceptions to the rule—"where there's a will, there's a way"—but they are scarce. The Syrophenician woman obtained her "desire" because she strengthened it with the whole power of her "will." Strange, indeed, is that one record in the life of the Good Physician, when He apparently turned a deaf ear to unselfish, earnest, faithful prayer. Over and over again she pleaded, until—like Jacob wrestling with his mysterious opponent—the blessing she had set her heart on was poured out richly on her head. And not only to her is the promise given: "Be it unto thee, even as thou wilt." I suppose we all "desire" to be good, but do we all "will" it? "If any man willet to do His will, he shall know," says our Lord—I am quoting St. John vii.: 17, R. V.—and how many sit down contentedly under the burden of doubt and uncertainty, when the path to light is so clearly pointed out. He does not say it is enough to "desire" to do the will of God, we must bring the whole force of the "will" to the pursuit of holiness. No one ever does that persistently for years without having enough light to walk by. If the prayers are careless and hurried, Bible-reading almost entirely neglected, and no daily attempt made to conquer sin and grow in holiness, it does one little good to say, hopelessly: "I wish I was as good as so-and-so." You would know it was folly to look at another's farm or house, and say: "I wish mine was as well-ordered as that!" unless you went to work to improve matters; and the law of cause and effect is supreme in the spiritual world. A man who not only "desires" but "wills" to be a good farmer will surely become one, if he should live long enough; and men or women who not only "desire" but "will" to become like

Christ—who has set us the one perfect Life to copy—will continually reflect more and more of His image. Failing over and over again to obtain their heart's desire, like the poor woman of Canaan, they will follow Him and plead with Him until they win the rich reward of His commendation. "Well done, good and faithful servant. . . . enter thou into the joy of thy Lord." About 300 years ago a strange, mystical doctrine was preached, which has been called "Quietism." The chief business of the Quietists was to attain a state of passive rest or "quiet," in which total inaction of will and intellect was supposed to bring the soul into the best condition for becoming one with God through the operation of the Holy Spirit. Perfect prayer was considered to be a state of absolute quiet, with no thought or wish or hope. Any word of confession, petition, or even of praise, was considered a hindrance. Probably most of us ordinary people would go to sleep if we tried to pray in that mystical fashion, and this is too practical an age for "Quietism"—as it was taught in those days—to gain much ground. But too many seem to think that goodness is like a self-propagating weed. Like the "Quietists," they leave their souls in a state of inaction, and then wonder, in great surprise, that they are no better than they were a year ago. Better! the wonder is if they have not lost ground. Our life may be "victory all along the line," but it certainly will not be unless we fight; really make a steady effort to conquer our own besetting sins; unless we sow seed of high ideals and holy thoughts; and grow the fruit of love, joy, peace, long-suffering, gentleness, goodness, faith, meekness, temperance." These will not grow of themselves, and they will be a very poor crop unless we live a life of prayer—communion with God. Prayer is no more altogether "petition" than communion with an earthly friend is altogether asking favors from him.

Mind, I am not raising the vexed question of salvation by faith or works. I am not talking about salvation, but about holiness. The penitent thief was saved, just as he was; but he was hardly what would be called a "holy man," or he would never have declared that the terrible punishment of crucifixion was a just reward for his misdeed. St. Paul, in his first letter to the Corinthians, explains that some will be saved, "yet so as by fire." If their work cannot stand the fire—for "the fire shall try every man's work of what sort it is"—then the work shall be burned, but the worker, if he have built on the foundation of Jesus Christ, shall be saved. Is that all the salvation you care about? Just to be rescued from punishment! If that is all you want, then it is waste of time for you to ever look at the "Quiet Hour," for I have no message for you. I cannot understand a soul that has no aspirations after holiness. Surely any man who is made in the image of God must, sometimes at least, try to be like Him. But let us never rest satisfied with high ideals. Hear St. Paul's warning to some who made their boast of God, approved the things that are excellent, were not only instructed in the law, but quite willing to be instructors of the ignorant. He declares that because they were untrue to their own ideals, and broke the commandments of God, they brought dishonor on His great Name, which, as he says, "is blasphemed among the Gentiles through you." One who has high ideals and rests satisfied with them, without putting them into practice, can do more harm to the cause of Christ than an open enemy.

Marden says: "Whoever evades the burden, misses the blessing. True living is never easy; there never comes a day when a noble life can be lived without effort." The soul is like the body, it needs food, pure air and exercise to keep it healthy. The food may be obtained in the Lord's Supper, study of the Bible and other good and helpful books, hearing of sermons, etc. The air which it should breathe continually is holy communion

A-2-05

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Bone
No
Waste
.. IN ..

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Open the tin and serve. No cooking. No bother. Excellent. Yet the cost per pound is but little more than what your butcher charges for uncooked beef with bones and waste. TRY IT.

It is Canadian Beef, packed in Canada.

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Write for free catalogue about the new and better way to wash clothes at home.
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Drawings made to a scale, so that any gardener may carry them out. Correspondence solicited.

IS INVALUABLE TO SUFFERING WOMEN.

It is a Grand Remedy having brought health and happiness to thousands of ladies all over the world. It will cure you, too. A free sample will be sent by addressing, with stamp,
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with God. The exercise is the daily pursuit of holiness and the battle against sin. One who is in deepest earnest in this soul-cultivation will grow steadily and surely. Light, followed and acted on, opens the eyes to more light; until it would be as easy to doubt one's own existence as the existence of a loving Heavenly Father. Each victory won makes another more possible, just as a little child learns to add one and one together, then two and one, and mounts up by steady persistence to the conquering of difficult problems, which once were absolutely insurmountable. The soul is not perfected in a hurry, any more than the body grows in a year from childhood to manhood. But no smallest victory is ever wasted: the little temptation to speak crossly resisted, the little kindness to "one of the least" of Christ's brethren rendered cheerily and heartily, the temptation to speak unkindly of a neighbor fought down and conquered, the finding time of prayer and Bible-reading on a busy day, these, and hundreds of other things which may be small taken separately, are not only faithfully recorded in God's memory, but also in the character of the soldier of Christ. Not one is lost, each one helps a little. Does not that thought make these little battles seem worth while? No human eye may notice them, but a beautiful soul is the grandest, noblest thing on earth; and it is a possession open to anyone who "wills," with all his heart and mind and strength, to do the will of God. Whatever you do, keep up your courage, and never give up the fight. As Jeremy Taylor says: "Nothing that is excellent can be wrought suddenly."

If thou wouldst work for God, it must be now.
If thou wouldst win the garland for thy brow—
Redeem the time.

Shake off earth's sloth!
Go forth with staff in hand while yet 'tis day.
Set out with girded loins upon the way;
Up! linger not!

Fold not thy hands!
What has the pilgrim of the cross and crown
To do with luxury or couch or down?
On, pilgrim, on!

With His reward
He comes; He tarries not; His day is near;
When men least look for Him will He be here;
Prepare for Him.

HOPE.

One of our readers in Manitoba has asked me to say a few words to cheer those who, through force of circumstances, are cut off from the outward sign ordained by our Lord Himself for our help and comfort and to bind us closer to Himself and to each other. Perhaps the following verses will meet the need:

For the Lonely.
(Spiritual Communion.)
Lord! Lord! I plead for all, who—like to me—
Are kneeling, lonely, far from Church or priest:
We have no altar, save Thy love Divine.
Nor have we share in that all-wondrous feast.

Yet, leave us not bereft, dear Lord, I pray;
Within the corners where Thy love is known
Raise Thou an altar that our souls may see;
So shall we feel that we are not alone.
No, not alone, dear Lord, if Thou art there!
If Thou wilt be both Sacrifice and Priest!
And Thou, Thyself, the absolution give!
Oh, wondrous mercy! and, oh, wondrous feast!

We raise to Thee the lonely, broken prayer;
We feast on Thee in spirit, hearing naught
Of music trembling through the dim-aisled Church;
But Thou art with us, as Thy Truth hath taught.

Strengthened and glad, O Lord, we lean on Thee,
Thankful for this sweet crumb our souls have known;
But, still, we long to greet Thee in Thy Church,
And kneel with others at thine Altar-Throne.

—Anna B. Benschel.

DOMESTIC ECONOMY.

AUNT PATSY'S BISCUITS.

She was just beginning to keep house, and her biscuits and pies were a world of trouble to her. Recipes for biscuits that rose light, and soft, and white in other people's hands, in hers only resulted in awful things, hard and flat, and—tell it not in Gath!—sometimes positively green. And the cap sheaf of her worry was put on when, one day her small brother, with tantalizing boyish honesty, wanted to know when she had begun "manufacturing pumice stone."

And then the pies, those awful pies, thin, tough, indigestible. No wonder she shed secret tears, lest Tom's digestion should be ruined, and lest—fear more horrible still—he should be beginning to find out what a stupid little wife he had married.

Then, one day, some good fairy directed Aunt Patsy in just when Tottie was in the midst of her baking, industriously kneading her biscuit dough as though it had been bread. The good soul stood the sad sight as long as she could, then the murder was out.

Good sakes alive, Tottie," she burst forth, "Are you goin' to ruin them biscuits? Don't you know biscuit dough should be handled as if it was hot bricks?"

And then she proceeded to show Tottie how to make delicious light biscuits. First, she put a quart of flour in the sifter, and dropped upon it two teaspoons baking powder and a pinch of salt. These she sifted through into a round-bottomed mixing basin, afterwards, and as quickly as possible, mixing through the flour with the tips of her fingers, two heaping tablespoonfuls of butter. After that she made a hole in the center of the flour and poured in gradually a cup of sweet milk, mixing the flour up with it all the time with a knife, until at last the dough was in a nice round ball, which turned out on the knife, leaving the bowl almost clean.

Now, slightly flouring the bake-board and the rolling-pin, she took up the latter and very lightly ran it over the dough a few times, just enough to leave the sheet about an inch, or a little more, in thickness. Last of all, she cut out the biscuits, brushed them over the top with milk, and baked them in a rather brisk oven for fifteen or twenty minutes.

The biscuits were delicious. Will you not try some like them? Next time, no catastrophes intervening, we shall give Aunt Patsy's recipes for a few other things, so that you, if you need it, may profit as well as Tottie.

Nervous people and those with weak hearts should abstain from coffee.

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First and Third Tuesdays of each month
Good for 21 days, with liberal stop-over arrangements.

\$6 less than regular Mardi Gras rates.

Get away from the cold weather. Ask your local ticket agent about it, or write

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Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 50 cents.

BARRED and Buff Rock, Buff Leghorn, Buff and White Wyandotte cockerels, \$2 each; Bronze turkey hens and Toulouse gander for sale. Robt. Stevens, Petrolia, Ont.

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BARRED Rock cockerels, Ellery Bright strain Mammoth Bronze turkeys. Both are prizewinning strains. Also collie dogs. John E. Pearce, Wallace town, Ont.

BRONZE turkeys for sale, from extra fine imported hens Good weights. Francis Docker, Dunnville, Ont.

BEST ONLY—Barred Rock cockerels; will cheerfully give references of any that purchased. Prices right, satisfaction guaranteed. A. E. Donaghy, Colborne.

FOR SALE—Mammoth Bronze Turkeys, heavy birds, bred from prizewinning imported toms, stock from the first-prize Pan-American winners. Pairs and trios mated not akin. R. G. Ross, Glanworth, Ont.

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Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

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\$12 WOMAN'S WINTER SUITS \$4.50
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Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, Pet Stock, and miscellaneous advertising.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

FOR SALE, or to let on shares—320 acres of No. 1 improved farm land, six miles from the city of Moose Jaw. Price \$90 per acre; \$2,000 cash, balance in half crop payments. Stock, grain, and implements are on the place. Address Western Realty Bureau, Moose Jaw, Sask. Box 219.

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KAMLOOPS, British Columbia—Ranching and farming properties for sale in all parts of the interior. Write for lists to Martin Beattie, real estate Kamloops, B.C.

SITUATION wanted by married couple on farm. No children. Good references. T. Oulton, Chapman, N. B.

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To take charge of house and four children. Everything convenient; no milking. Permanent situation to suitable person. Richard Wilkin, Box 60, Harriston, Ont.

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Consisting of stallions and mares. We have them with size and quality. Our prices are right and terms easy. All horses sold on a gilt-edged guarantee. Address: I. A. & E. J. Wigle, Kingsville, Ont.

I. A. & E. J. WIGLE, Kingsville, Ont.

Long-distance phone in residence.

DISPERSION SALE OF A. J. C. C. Jersey Cattle

Horses and Farm Implements. The property of GEO. LATSCH, Freepoint, Ont. Six horses, 13 cattle and all the implements will be sold by auction on his farm, 5 minutes' walk from the Preston & Berlin St. Ry. road, on TUESDAY, JAN. 30, 1906, commencing at 1 p. m. JOSEPH MICKUS, Auctioneer. o GEO. LATSCH.

Valley Home Stock Farm

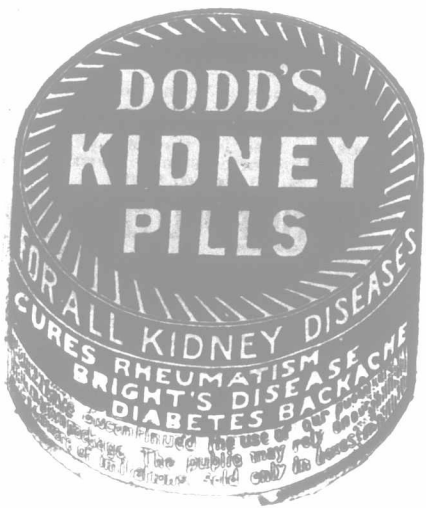
For sale: Seven young

SHORTHORN BULLS

and some choice females. Also 25 Berkshires of different ages, bred from show stock, and of prolific strains. S. J. PEARSON, SON & CO., Meadowvale, Ont. Stations—Streetsville and Meadowvale, C. P. R. Brampton, G. T. B.

"SHOW HIM THE PAPER."

A short time ago some men were engaged in putting up telegraph poles on some land belonging to an old farmer, who disliked seeing his wheat trampled down. The men produced a paper by which they said they had leave to put the poles where they pleased. The old farmer went back and turned a large bull in the field. The savage beast made after the men, and the old farmer, seeing them running from the field, shouted at the top of his voice, "Show him the paper! Show him the paper!"



Dear Chatterers,—Back again to the Ingle Nook, and a new year's work. I don't feel exactly like Farmer John:

"His good clothes off, and his old clothes on.

"Now, I'm myself," said Farmer John.

There isn't any "pup," you see, to jump up to meet me—bless the darlings, how I'd love to keep one of them right here in the Ingle Nook Corner if it weren't so dreadfully impracticable!—and the old horse and cow at the gate are absent quantities; but the ink bottle and maulage pot look "kind of" friendly, and then there are the memories of a host of Ingle friends who are likely to come again. . . . In a word, I have come straight from the farm again after a five months' holiday, am more in love with the country than ever, but, paradox of paradoxes, am enjoying getting down to work again too.

You will be sorry to lose my proxy, Dame Durden Number Two, who has been such a good friend to us all, and who has thrown herself into our cozy corner with the true Ingle spirit; and, I am sure, you will join me in a hearty vote of thanks to her, and wish her, with me, the very happiest and most prosperous of experiences in her new field of work.

And, now, down to business. I hardly know what to begin talking about this morning. In the very first place, perhaps, I may say that I hope to see all of the old Ingle folk back in short order. We shall still keep the Ingle a place for social chat, and I shall feel quite lonely if the old friends do not all come—and soon. We shall hope, also, to meet a great many newcomers during the present year. Housekeeping and "homey" things will, I suppose, be, as heretofore, the principal topics, the more especially as we are taking the step—a good one, it would seem—of throwing our Life, Literature and Education page more fully open to our readers.

So, how will this do for a start? Send me a postal card, or a letter, whichever you choose, asking any question which perplexes you in regard to housekeeping or the home life. I here and now promise you faithfully that if running around this town and questioning people can supply an answer, the thing shall be done. If no help appears here, then the request shall be thrown open in our paper, and surely someone among our hundreds of thousands of readers will be able—and ready—to supply the required information. Kindly begin sending in your questions at once. They will be answered, as far as possible, in order of their arrival.

I wanted to talk to you awhile about—but never mind, there isn't room this time anyway. . . . Did you have a jolly Christmas? And have you made a whole heap of New-Year resolutions—to be broken before the month is out? But, truce to that! An odd one may stick, and it's a very great deal better to be making good resolutions than none at all, isn't it? What is it that the poet—somebody, who was it?—said about aiming at a star, and striking higher far than if one only aimed at a tree?

Now, don't forget to step in to see us—and soon. . . . With very best wishes for a Happy and Prosperous New Year to you all. Very cordially yours,

THE ORIGINAL DAME DURDEN.

The following letter I found peacefully awaiting me in my desk. . . . We have out knitting, and are with you already, Julia. Invite us in again whenever you are lonely, won't you? Your fire looks very tempting. But you never have it (the temperature, I mean) forty degrees below zero up in your country, do you?

An Evening in the Northern Woods

Dear Dame Durden,—Now, if the chatterers will draw their chairs closer, and make room for one more, we will bring our knitting again, for the "liege lord and master" is away in the lumber camps, and we must confess to paying a debt of loneliness, bordering on des-

pondency. You spoke of the Ingle Nook members relating something of the manner in which they spend their evenings. For our part, there is so little worth telling, still so much to enjoy.

While living a life of isolation with range of vision limited, we are permitted to enjoy close relationship with nature. What a wonderful inspiration to live in touch with such purity! Well has Byron said: "There is a pleasure in the pathless wood." Yes, that tranquil peace and charm of the wood, as we breathe the pure air in the depths of the forest. We find expression in Holmes' words: "All nature assumes one tone of love." Though disappointment often overtakes us, and bereavements leave the heart desolate, we feel nearer Him when we behold his handiwork.

When the short days are so soon overtaken by the dark mantle of night, we follow Cowper's suggestion "and stir the fire and close the shutters fast, and welcome peaceful evening." It matters little if it is forty below zero outside, if we can shut everything out with the cold that is unpleasant, and everything that is of the "whatsoever things are lovely," into the warm room that answers for parlor, library, dining-room and kitchen. However, the light shines just as brightly, and we have our "favorite rocker," while the glowing fire is just as cheerful as it would be if we were able to build it in "the next room."

Now comes the children's hour, and as we have no musical instrument, our music is all vocal, and the children all seem to enjoy singing. It is astonishing how soon the wee tots begin to sing. Our little two-year-old boy can carry a tune quite well.

After the babes are tucked away for the night, and the older children have told of the happenings at school, they begin to study.

I have a sermon tucked away for the Quiet Hour. Among those I prize most are those prepared by "Hope." May her words of comfort and instruction continue to visit our secluded libraries. What a blessing and inspiration the bright thoughts and words are when conveyed to people who so rarely hear sermons, and depend largely upon written ones for their spiritual instruction. Well, it is about chore time, besides my welcome must not get threadbare.

Now, this is "Home, sweet home," in a little log cabin in the woods, where the proud mother is. JULIA.

More Help for Mollie Bawn.

Dear Dame Durden,—I have not written before to the Ingle Nook, partly because I am so busy and partly because I would much rather read others' letters; but, noticing Mollie Bawn's request in regard to beef dripping, thought I might help her out, as I have been using it all the time of late. Our beef this winter is quite fat—more than we can use in gravies—and after it is cooked (I make pot-roasts), before making the gravy, I pour off what I don't need, and when it cools, it makes very nice shortening. When I have suet, I boil it well in water, and when done, set it away to cool. It will rise to the top, and will work evenly into the flour. Wishing Mollie and all the chatterers a very Happy New Year.

P. S.—I may come again. DAISY.

Come again? Why surely—come soon and often. We have had a welcome waiting for you for ages, and you have only now come to claim it. If everybody "would much rather read the others' letters" what an empty Ingle Nook we would soon have. A Happy and Prosperous New Year to you also. D. D.

A Woman-writer's Opinion.

Remembering our little chat on country walks, I was interested, and thought you would be, in this item taken from an exchange:

"Amelie Rives, the noted author, who is said to look like a girl in her teens, recently told of her reply to a physician

who wrote her to send him the secret of what he called perpetual youth. 'I wrote back that he must consider the cost,' she said. 'It is a cost that few of his fashionable patients would make, for I rise at 7 or 7.30, ride or walk in the country roads, live close to my books, see few people, and retire at 10. What fashionable woman could endure my life? I remember thinking about it one winter morning, when I was walking alone, the crisp, crackling snow under my feet, the fairy outline of a gossamer frost revealing every twig of bush and tree, and I was so invigorated and happy I could have whistled like a boy with delight; but if I had been a woman of fashion I couldn't have endured the silence, the empty distance, the quiet; why, a woman of fashion would die in my place, and I am quite sure I should in hers.' It is in such solitude and close communion with nature, in the home of her childhood—an old-fashioned, rambling country home in Albemarle County, Virginia—that much of Amelie Rives' literary work is done."

DAME DURDEN.

Recipes.

New England Cake.—1 cup butter (creamed), 2 cups brown sugar, 3 eggs (beaten), $\frac{1}{2}$ cup molasses, $\frac{1}{2}$ lb. chopped raisins, $\frac{1}{2}$ lb. currants, 2 tablespoons fruit-preserve juice, 4 cups "Five Roses" flour, $\frac{1}{2}$ teaspoon soda, $\frac{1}{2}$ teaspoon cream tartar.

Gems.—1 egg, small piece of butter, 3 cups Graham flour, 1 cup "Five Roses" flour, 2 teaspoons baking powder, milk to make a stiff batter.

With the Flowers

"A Constant Reader" writes:

"Will you kindly tell me what is the proper treatment for a Maidenhair fern, whether they do best in the sunshine or shade, warm or cool place, and if they require much water? I think a great many of the hints given in 'The Farmer's Advocate' are very helpful."

Ans.—Put your Maidenhair fern in a pot large enough to afford plenty of root room, and see to it that the drainage is good—a large enough hole in the bottom of the pot with fully an inch of broken crockery or such drainage material next to it. Give the fern a rich soil, consisting of good loam and leaf mould in equal parts; keep in a partially-shaded position, and moderately moist. The temperature should be from 60 to 65 degrees.

St. Martin's Summer.

It was a bleak, bitter day in November, The sheep huddled close in the fold; But homeless and friendless, a beggar Crouched down in the rain and the cold By the great brazen gate of the city. As Martin, the soldier, came by— Brave Martin, whose marvellous weapons Nor demon nor man durst defy!

Yet tender his heart as a woman's, And, seeing the beggar, he cried: "Poor brother! no gold can I give thee, But look, I will gladly divide My cloak, for the half would be better Than none on this pitiless day!" And, seizing his sword, he cut it In twain—so the legends say.

And wrapping the half of his mantle About the poor shivering form, The beggar forgot he was hungry, Forgot the bleak wind and the storm, For down on the rain-sodden pavements Where only the dead leaves had been, And over the mist-shrouded mountains There came a strange glory just then.

The summer retracing her footsteps, Touched all things below and above, Till the whole gloomy world was trans- figured.

Because of that one deed of love, And now when in dreary November There comes a warm sunny day, The Normandy peasants will tell you "St. Martin is passing this way." —Theresa R. Barry, in Lutheran Young People.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.
2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
3rd.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1 must be enclosed.

Miscellaneous.

OWNERSHIP OF SLABS.

Farmer employed millman to saw lumber, and did not sell the timber to him. There was nothing said about slabs in the bargain. I would like to know who the slabs belong to?

Ont. A SUBSCRIBER.

Ans.—In the absence of a well-established custom to the contrary, they would belong to the farmer.

STITCHWORT.

Give name and habits of the enclosed plant. It grew profusely in a hay field this year.

A SUBSCRIBER.

Ans.—This is one of the European stitchworts. In the absence of flowers and leaves, having only the seed capsules and stems to judge from, we are not sure which one, but think it most probably the plant called by botanists *Stellaria graminea*. The weed just named is a perennial, with small white star-like blossoms, slender, angular, spreading flower stems; in short, it looks like a straggling, narrow-leaved chickweed. It is not likely to prove troublesome. J. D.

A COLT KILLED.

A and B are farmers, and live side by side. A owns the back half of fence, and B the front. B's stock pastured beside A's line fence all summer till the crop was off, and did no harm. B built a new fence—but not a lawful fence—on part of his share of the fence. B turned his stock into the part where the new fence was as soon as the crop was off. A turned his stock in his own field beside the fence where B's stock was. B's mares and colts got over into A's field, and A's colt was found dead and marks on colt showing it was kicked, and marks on the colt's mother. A went and left word at B's what had happened, and B never came to see about it; and some time after A met B at the fair and asked him what was he satisfied to do about it, and B said he would do nothing—that his mares never were in the field. There were five saw B's mares in the field; and A and his hired man put them out, and they jumped over B's share of the fence. There was one person who saw the mares fight. Can A make B pay for colt under the circumstances, as B refuses to settle in any way?

Ont. D. C.

Ans.—We think that A is in a position to legally recover damages from B for the trespass and consequent loss of colt.

DRAINAGE FOR ICE-HOUSE—PROPAGATING GRAPES.

1. Is it necessary to provide drainage for an ice-house built on the top of a bank, or hill, or will it be all right to put down sawdust, and let the melted ice seep through it?

2. I see in the issue of Dec, 28th that grapevines can be propagated by planting slips. Please explain. Can trimmings be used?

3. How many buds must be covered?

4. Will it be necessary to cut early and bury in sand in cellar until warm weather?

G. S.

Ans.—1. Unless the soil is very retentive we do not see any necessity for special drainage provision beyond that suggested.

2. Cuttings of two or three buds' length are taken in the winter from trimmings of vineyards. They are cut as soon as the vines are trimmed, tied in small bundles, and the bundles buried half their depth in damp sand in a cool cellar. By spring, the cuttings will be more or less calloused. On the approach of warm weather, the cuttings are planted in the open in a loose loamy soil, well and deeply prepared. The cuttings are inserted until only the upper bud stands at the surface of the ground. They are set 6 to 8 inches apart in the rows, and the rows are far enough apart to admit of horse cultivation. These cuttings may give plants large enough for the following fall, but it is usually better to let the plants grow two

years before being put upon the market. In such cases, it is customary in many nurseries to transplant at the end of the first season.

CLIPPING WINGS OF MARKET POULTRY.

Would it be practical to clip the wings of pullets and cockerels destined for the market, to prevent them getting over the poultry enclosure?

P. L.
 Ans.—Clipping the wings of market poultry is a cheap and practical way of raising the poultry-yard fence. We have often done it on the farm.

CREAM HARD TO CHURN.

Why is cream sometimes hard to churn? We have spent half a day churning some cream. Cows are fed corn ensilage and straw (mixed) twice a day, and hay once. They are milking well. Is there anything than can be done to avoid this?

G. S.
 Ans.—See answer to similar question on page 70 in this issue.

FEEDING MARE TO BREED IN FEBRUARY.

I have a mare which I wish to breed during the first part of February. How should I treat her to make her show in heat?

L. L. P.
 Ans.—Gradually increase the feed, giving a fairly liberal ration of oats and bran, also mixed clover hay, dampened, if necessary, to lay the dust, and a few carrots or turnips to keep the bowels laxative and the health good. Keep blanketed in a comfortable warm stable, and give moderate regular exercise. In a word, try to simulate June conditions as far as practicable and safe.

PREPARING SOD FOR ALFALFA.

I plowed a ten-acre field this fall that had been in sod 30 years, and intend planting half of it with beans and half with corn, and the next spring seed to alfalfa. Would it be better to leave sod down next fall and disk the next spring, or to fall plow it? Land rolling and drains good.

R. H.
 Ans.—Many excellent farmers would answer without hesitation surface-work only in spring, but our own preference would be to have it also plowed in fall. The extra stirring would, we think, give more favorable conditions for the alfalfa to get well rooted.

RATION FOR STEERS.

Am feeding some two-year-old steers, and have barley, oats and peas for chopping. How should they be mixed to get best results? Would it not be advisable to buy bran, as I have considerable blue grass hay to feed? How much bran should be mixed with chop?

W. C.
 Ans.—You could scarcely get a better grain ration for fattening cattle than a mixture of equal weights of oats, barley and peas. Bran, we think, would not be much needed in addition to above, but would certainly be helpful, as it would lighten the meal and have a beneficial action on the bowels, besides making the meals go further to avoid a shortage, and one-half to a pound a day of oil cake might be added to advantage.

TENANT'S IMPROVEMENTS—IN LITIGATION.

1. If A lives on a rented farm for a term of years, the lease having run out, and A still lives on farm and pays the same rent; if A does any improvements, such as building fence and shingling house, nothing being said by either party in regard to improvements, can A hold the amount out of rent, or how can A make good his expense?

2. A having a case non-suited, with the privilege of bringing it before a jury, has it to be brought before the jury within a certain time, or is there a limit to the time?

3. If A gives his case to a lawyer, and the day of court, he is under the impression that his lawyer has betrayed him; if A can prove to that effect, what is the law in regard to such offence?

4. In pleading a case, if the lawyer is not giving you justice, could you take it out of his hands and plead it yourself?

Ont. A. L. T.
 Ans.—1. No; he is not legally entitled to compensation therefor.
 2. Yes, having regard to statutes of limitations of actions.
 3. A could have the matter brought before the Benchers of the Law Society of Upper Canada at Osgoode Hall, Toronto, and have the lawyer disciplined.
 4. Yes.

Great Dispersion Sale by Auction

THE ENTIRE HERD OF

42 head of Scotch and Scotch-topped SHORTHORN CATTLE

The property of **MR. HENRY B. WEBSTER**, will be sold at his farm, adjoining the **Village of Fergus, G.T.R. & C.P.R.**, on

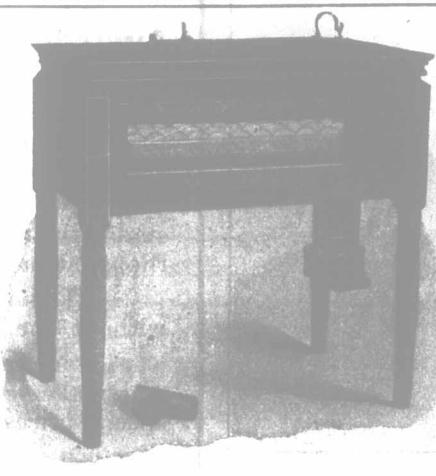
Wednesday, Jan. 24th, 1906

This offering represents **Matchless, Claras, Marr Beautys, Missies and Margaretas**, among which are about 30 breeding cows, all in calf or with calves at foot; 13 heifers and 7 bulls, including the stock bull, **Royal Chancellor = 44688 =**. No reserve, as proprietor is giving up farming.

Sale will commence at 1 o'clock sharp. Send for catalogue.

TERMS: 10 months' credit will be given parties furnishing approved joint notes, or 4% discount for cash.

THOS. INGRAM, Auctioneer.



Something to Grow About!

THE HAMILTON

We consider we are manufacturing the **Best Line of Incubators and Brooders** built in Canada today. We have received hundreds of letters from our many customers congratulating us on their success with the **Hamilton**. Give the **Hamilton** a trial and you will be pleased. All goods sold under a guarantee. We also manufacture the famous **Jones' Patent Elevator**, for unloading Hay and Grain. For catalogue and price lists write **The Hamilton Incubator Co., LIMITED, HAMILTON, CANADA.**

GOSSIP.

Messrs. S. J. Pearson, Son & Co., of Meadowvale, Ont., breeders of Short-horns and Berkshires, write: We are offering some of as fine young Short-horn bulls as we ever bred, being the low-down, thick, even-fleshed sort, with a good coat of soft hair—the right kind to head a herd. We also have some of our best young Berkshire sows for sale that are due to farrow in February, March and April, bred to the first-prize boar at Toronto and London Exhibitions in 1904, and a fine lot of early fall pigs, bred from prize stock, and all from a very prolific strain. As the Berkshires are growing very popular, this is a good chance to secure the right kind." Meadowvale is a station on the Streetsville and Owen Sound branch of the C. P. R., and the farm is only one mile from the station. Call and see, or write Messrs. Pearson for prices, etc.

H. B. WEBSTER'S SHORTHORN SALE.

The dispersion sale of Scotch and Scotch-topped Shorthorns, to be held on Jan. 24th, on the farm (adjoining Fergus) of H. B. Webster, Fergus, Ont., Wellington County, will be a very good opportunity for breeders to strengthen their herds and for beginners to lay a good foundation. Among the offering are several heifers, safe in calf or recently bred; among which is **Maid of Springfield 11th**, a roan of straight Scotch breeding, sired by **Lord Stanley 4th = 22678 =**, kept as a stock bull until eleven years old. Her dam is by **Clan Stuart = 14381 =**, a **Village Blossom**, and a first-prize winner at Toronto as a three-year-old, and her grandam was by the celebrated **Barmpton Hero = 324 =**, great-grandam by a son of **Heir of Englishman**. On her dam's side, she traces to **Beauty (imp.) = 31 =**, imported from the herd of **W. S. Marr, Aberdeenshire**. **Clara F. C.**, a dark roan, purchased from the herd of Messrs. H. Cargill & Son, as her name denotes, is of the **Clara** family, and just the kind so many are looking after. Among the young cows is **Matchless**, a straight **Watt Matchless**. She is of good quality throughout, and very thick-fleshed. Another young cow of genuine Scotch type and pedigree is **Maid of Springfield 5th = 42420 =**, by **Hillsburg Tom = 26756 =**, a Toronto winner. Another of merit is **Peeress**, by **Scottish Peer (imp.) = 40424 =**. She was winner of first prize as a calf at Centre Wellington Show. Her heifer calf looks like making a show heifer. Catalogues

NOTICE!

INFORMATION WANTED of **HAROLD PAGE** Left home on evening of January 5th. 16 years old. Brown hair and eyes.

GEO. A. PAGE, Marnoch, Ont.

will be mailed on application. The entire herd are catalogued, and every animal will be sold without reserve, as the proprietor is giving up farming. Watch next issue for further particulars.

Several carloads of lambs sold for \$7.90 per 100 lbs. at the Chicago Stockyards last week, which certainly speaks well for the future prospect of sheep-breeding.

Feeds have a great influence on the quality of the pork of the hogs to which they are fed. Experts can tell by looking at the dressed carcass whether certain classes of feeds have been given.

QUESTIONS AND ANSWERS. Miscellaneous.

HEATING OF MANURE TO DESTROY WEED SEEDS.

Will heating manure in a heap destroy mustard, ox-eye daisy and yellow dock seed, and how long do you consider would it take before the germ of the seed is destroyed?

W.
 Ans.—One can scarcely give a categorical answer to this question. Different kinds of seeds vary as to their thermal death point, and the same kind varies in different conditions. Seeds of the same maturity and vitality greatly vary, according to the moisture of the hot air to which they are subjected. A seed will survive a greater degree of heat in a dry oven than it will in a moist chamber or in hot water. Jensen's hot-water method of treating grain for smut subjects them to brief immersion at 140 degrees, Fahr. This treatment injures only the weakest seeds in a sample. When the vitality of weed seeds is considered in respect to manure, the question is simplified because the treatment of manure will destroy the seeds by germinating them, and not by "firing" them. The moderate heat that produces a mild fermentation and sprouting of the seed is best, both for the manure and protection against the weeds. J. D.



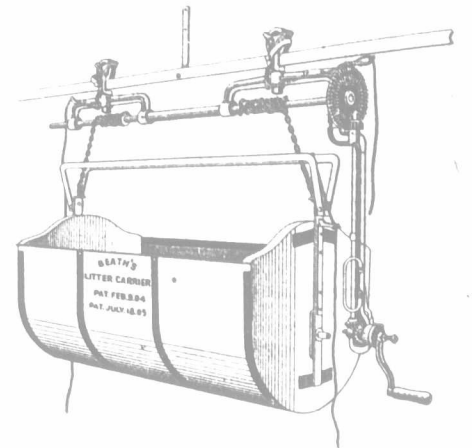
Cut of Mr. David Zarbrigg's house at Tavistock, which is roofed and sided with our **Galvanized Goods**, which will not rust, and need no repairing.



Cut of Mr. Fred. Weicker's barn at Haysville, Ont. which is covered with our **Galvanized Roofing**. We can give you the names of hundreds of other farmers who have used our roofing to their advantage.

WE WANT the names of every farmer who intends to build or repair any of his buildings. If you will write and state your intentions, we will send you cuts and prices of **Roofings, Sidings, Ceilings**, or any other goods you can use to advantage. We will also send you cuts of many barns and houses, and plans showing their arrangement.

We can help you to build a barn with fire and lightning proof roof, at same cost as wood shingles. Our roofing requires no paint, and will easily last for fifty years. Write at once, and we will mail you some interesting catalogues, etc.



Our literature fully describes construction and operation.

The Beath Litter Carrier

Patented Feb. 9, 1904, and July 18, 1905.

Awarded Diplomas at Canadian National Exhibition, Toronto, 1905; Central Fair, Lindsay, 1904.

We claim that the **Beath Carrier** is the only perfect machine on the market, and solicit inspection and comparison.

No farmer will try to get along without a **Beath Litter Carrier**, when he understands their perfect and durable construction, the ease of installation and operation, and the great saving in work which they affect.

This is the season to install them, and no progressive farmer will try to get along without one.

Send us a plan of your stables, and we will mail you copies of letters from users and make you an interesting proposition. Where we have no agents, we are quoting special prices to introduce. We guarantee complete satisfaction. Write us at once.

The Metal Shingle & Siding Co., Limited
PRESTON, ONTARIO.

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VALUABLE PREMIUMS are yours:

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No. 1.—Nickel, open face, strong case, with thick glass and genuine American movement, with fancy dial. **Three New Subscribers.** Retail price, \$3.25.

No. 2.—Genuine Elgin or Waltham, 7-jewelled movement, twenty-year guaranteed, gold-filled, open-faced, screw back and bezel case. **Thirteen New Subscribers.** Retail price, \$14.00.

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A first-class farmer's knife, finest steel blades, strong and durable, beautiful nickel handle. Manufactured by Jos. Rodgers & Sons, Sheffield, England. Every farmer and farmer's son should have one of these knives. **For One New Subscriber.** Worth a dollar.

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Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and indexed Bible Atlas, with sixteen full-page illustrations, printed in gold and color. **Two New Subscribers.**

Lady's Watches.

No. 3.—Sterling silver, open face, with genuine American jewelled movement; engraved plain or engine turned case and stem wind. **Eight New Subscribers.** Retail price, \$8.50.

No. 4.—Gold-filled case, guaranteed for 20 years, with genuine American jewelled movement; very finely timed and stem wind. **Eleven New Subscribers.** Retail price, \$11.00.

Lady's Hand-bag.

Size, 4½ x 7½ inches. Just what every lady wants. A magnificent leather hand-bag, leather-lined, leather handle, nickel-plated clasp. **For Two New Subscribers.** Retail price, \$1.50.

Lady's Bracelet.

Handsome Curb-linked Bracelet—Sterling Silver. **For Two New Subscribers.**

Your choice of any two of the following for **ONE NEW SUBSCRIBER**:

A Three-inch Reading Glass. Powerful lens, nickel-mounted. Useful in every home.

The Brass Band Harmonica. Finest instrument in the world, extra full tone. Equal to a silver cornet. Every boy and girl should have one.

The Microscope. Tripod Microscope, with strong magnifying lens, useful for examining weed and other seeds, insects and other small objects. Is a means of great entertainment and instruction in the home and out of doors. Will be found invaluable in carrying on Nature Study, now becoming a specialty in rural schools.

Mariner's Compass. (Two inches in diameter), Nickel Plated; Ring Attachment for convenient carrying. A useful article, and when you want it, you want it badly.

We must have honest workers. Changing the name from one member of the household to another, or deception of any kind, will not be allowed. If discovered, the premium will be withheld.

The William Weld Company, Ltd., London, Canada.

QUESTIONS AND ANSWERS.
Veterinary.

CHRONIC BRONCHITIS IN DOG.

Dog has been sick for some time. He is dull; will not eat, and coughs mostly all the time.

R. M. S.

Ans.—He has chronic bronchitis, which is very hard to treat. Make a warm woolen blanket that will cover the breast and chest well. Apply mustard, mixed with water, to breast and chest. Leave it on for an hour, and repeat daily for three times. Keep comfortable; avoid drafts, etc., and give him 4 grains quinine three times daily. Give him anything he will eat.

WORMS.

Mare throws her head up, and turns up her lips as if in pain, and I have noticed a white substance around the rectum.

C. M. W.

Ans.—This is probably only a habit, and is possibly caused by intestinal worms. Take 1½ ounces each sulphate of iron, sulphate of copper, tartar emetic and calomel. Mix, and make into 12 powders. Give a powder every night and morning. Give bran only for 12 hours after she takes the last powder, then give a purgative of 8 drams aloes and 2 drams ginger, and feed bran only for 24 hours longer. Do not work after giving the ball, until her bowels regain their normal condition.

UTERINE IRRITATION.

The placenta had to be removed by hand from our cow. She discharges a mottled substance. She eats well, but is getting thin. Is the trouble infectious? Is the milk healthy?

A. G.

Ans.—There is an irritable condition of the lining of the uterus. Flush the womb out every third day as long as the nozzle of the injection pump will enter easily, with 2 gallons of a three-percent solution of Zenoleum heated to 100 degrees, Fahr. Give, internally, 30 drops carbolic acid in a pint of cold water as a drench three times daily, until the discharge ceases. I think it would be wise to call your veterinarian in, as an injection pump is necessary, and it requires some skill to use it properly. It is not infectious, and the milk is healthful.

V.

UNTHRIFTY MARE.

1. Mare raised a foal last summer. Her coat is dry and hard, and urine scanty and high-colored. She is in foal again.

2. Killed a hen; wife opened her and found several soft-shelled eggs of different sizes in her. Was her flesh fit to eat?

J. Y.

Ans.—1. Give her a diuretic compound of four drams each nitrate of potash and resin every night in soft food for three doses. Feed on good hay, chopped oats and bran, with a pint of linseed meal each day, equally divided in the three meals. Give one dram each sulphate of iron, gentian, ginger and nux vomica twice daily. If she will not eat this in her feed, mix with a pint of cold water and drench. Give regular exercise.

V.

2. Yes; this is a perfectly normal condition.

SPAVIN—ENLARGED LEGS.

1. Driving mare has blood spavin.
2. Three-year-old colt got his leg cut between hock and fetlock. It is healed now, but the leg is swollen.

G. W. C.

Ans.—I presume you mean a bog spavin. If she is not lame, and you are not anxious to reduce the bog, leave her alone. If she is lame, or you want to reduce it, give her rest and blister. Take 2 drams each, biiodide of mercury and cantharides, and mix with 2 ozs. vaseline. Clip the hair off the parts, tie head so that she cannot bite the parts; rub the blister well in daily for two applications, and on the third day wash off and apply sweet oil. Let head down now, turn into a box stall, and oil every night. As soon as the scale comes off blister again, and once monthly afterwards as long as necessary.

3. Hard rub and bandage the leg, and give 1 dram iodide of potash internally three times daily every second week.

V.

LEG SWELLS—DIARRHOEA.

1. Mare swells on one hind leg. The back of the leg is rough and scruddy. She shows some lameness.

2. Pregnant mare, 18 years old, has chronic diarrhoea. When on pasture she is all right.

A. E. K.

Ans.—Give a purgative of 8 drams aloes and 2 drams ginger. Follow up with 1 dram iodide of potash three times daily every alternate week. Dress the scruddy or raw parts with oxide of zinc ointment; keep dry and give regular exercise.

2. It is quite probable defective mastication is the cause. Have her teeth dressed; add to her drinking water about ½ of its bulk of lime water. If this does not check the trouble, give 2 drams powdered opium and 4 drams each of catechu and chalk in a pint of cold water as a drench every 5 or 6 hours until the diarrhoea ceases.

V.

Miscellaneous.

MARRIED WOMAN'S PROPERTY.

1. The farm we are on is heavily mortgaged, and in case of my husband failing, could furniture bought by me, through keeping boarders on the farm, but allowing two-thirds for expenses to my husband, be taken from me?

2. I bought a piano to teach a few pupils; could it be taken if it is being paid for by me with the proceeds derived from selling honey? I have a large number of bees. The piano was bought by me personally.

3. Could I conscientiously send my children to high school, to prepare them for teachers, through the proceeds of my turkeys, if I allow my husband for all grain consumed by them, and a small rent for the building I use for the little ones? I raise a large number of turkeys annually.

4. Could money given to me and used for stock or fowl or furniture, could any of these things be seized if my own family gave the money to me?

5. When married first a few animals belonged to me; could I still have their value in the stock my husband has?

6. If I take entire care of a number of bees, and pay for every expense they incur, is not that money my own?

Ontario. "READER."

Ans.—1. No.

2. No.

3. Yes.

4. No.

5. We think not.

6. Yes.

TANNING SKINS, ETC.

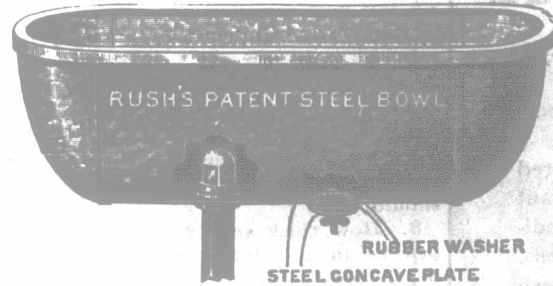
Would you kindly write in your paper how to tan hides, such as minks, muskrats, dogs, skunks, woodchucks, etc.?

G. A. C.

Ans.—The best possible way to secure a good job on a skin of any kind would be to send it to a tannery, where there is every facility for doing the work. The cost would probably not exceed \$1.00. If it is decided to do the tanning at home, soak well in soft water for about two or three days to make it perfectly soft, then scrape off all the flesh and fat. When thoroughly cleaned, put the skin into a tan, composed of equal parts alum and salt dissolved in hot water, seven pounds of alum and salt to twelve pounds water, or in these proportions. The skin can be left in the brine for two days, after which it should be hung up and well scraped or shaved to soften it. After shaving well, put the hide back into the brine for a day or two; then hang up till quite dry, and shave or scrape again. After this apply a coat of oil, roll up in damp sawdust, and lay away till dry. Apply a good coat of soft soap, and lay away again in sawdust. As scraping is the main operation in softening the skin, it should be well worked again when dry. Two men drawing the skin back and forth over a round pole will impart a pliability to it.

Galvanized Watering Bowls

Of Improved Construction



You cannot afford to be without them, as they will pay for themselves in a short time by increased returns from your stock. Our bowls are superior to any others, and our free literature tells why. Our new stanchion is in great demand. It seems to be just what progressive stockmen have been looking for, and we want to send you our circular. If you intend building or repairing, or want to cover up an old plaster ceiling, give us particulars, and we will mail free catalogue giving information.

Metal Shingle & Siding Co., Limited, Preston, Ont.

NEW IMPORTATION OF
Clydesdale Stallions
Just arrived from Scotland. Selected personally.
A grand lot of stallions and mares, combining size with quality, and the best of breeding.
WRITE US FOR PRICES AND PARTICULARS.
SMITH & RICHARDSON, Columbus, Ont.

Hackneys and Clydesdales
From such noted champions as Baron's Pride, Hiawatha, Marcellus, Macgregor, Baron's Fashion, and Lord Lothian, etc. Inspection invited.
For fuller description and prices write:
T. H. Hassard, Millbrook, Ont.

HACKNEY AND SHIRE STALLIONS FOR SALE
Shires from 1800 to 2200 lbs.
Imported in December, 1905, from Clement Keevil's world-renowned Blagdon Shire Horse Stud, England, some of them London and County prizewinners, and bred from such well-known champions as: Prince William (twice London champion), Lincolnshire Lad, Premier, Buscot Harold (another London champion), Royal Albert, etc. Surely such breeding must tell. Come and see for yourself. King Edward VII. recently purchased a horse from this stud. Why should not you, and thus start the New Year well? Remember, that a stallion from the "Blagdon Stud" won 1st prize at Toronto, 1905. Write for catalogue.
R. KEEVIL, Crampton, Ontario.
Two miles from Putnam, C. P. R.

INNIS & PROUSE
New importation of CLYDESDALE STALLIONS represent such noted blood as: Baron's Pride, Hiawatha, Sir Everard, Up-to-time, Pride of Blacon, The Dean, Prince Fauntleroy and Lord Stewart. They were selected with great care; combine size and quality. They are an AI lot. 21 head to choose from.
INNIS & PROUSE,
Woodstock and Ingersoll.

TO SECURE THE BEST RESULTS
Place an Ad. in the Farmer's Advocate

GRAHAM BROTHERS
"CAIRNBROGIE," CLAREMONT
Importers of **HACKNEYS and CLYDESDALES**
Established for 30 years, and winners at all large shows in Canada and United States. Best of stock always on hand for sale. New importation of Royal winners just arrived.

“Weak Lungs”

“PSYCHINE” has restored thousands of people to buoyant health and strength whose condition had been regarded as hopeless. It is at once a tonic and flesh builder, containing remarkable properties as a blood purifier and germicide. It will strengthen and heal the weak lungs, force out the phlegm, and drive away the cough, no matter of how long standing. “PSYCHINE” tones up the whole system and drives out disease, heals the decayed tissue and restores lost energy. Its use daily will prevent and ward off that most subtle disease consumption.

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PSYCHINE

(PRONOUNCED SEE-KEEN)

ALL DRUGGISTS—ONE DOLLAR—FREE TRIAL

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179 King St. W. Toronto, Canada

ATTENTION! SUGAR-MAKERS

Many makers of maple syrup put off buying their requirements until sap runs, then expect their orders to be shipped immediately. As our busy time is just commencing, it would be to your interest to place your orders at once, and thus avoid delays. We make 19 sizes of Evaporators. Write to-day, stating the number of trees you tap, and we will quote you on an outfit suitable for your requirements.

THE GRIMM MFG. CO.
55 Wellington St. MONTREAL.

Tuttle's Elixir
Sovereign Horse Remedy.
We offer \$10. for any case of colic, curb, splint or lameness it fails to cure when essay cure is possible. Our great book, “Veterinary Experience,” free. 100 pages, a perfect guide. Send for copy.
Tuttle's Elixir Co.,
88 Beverly St., Boston, Mass.
Lyman Karcz, Montreal and Toronto.
Lyman Sons & Co., Montreal.

IMPORTED
Clydesdale Stallions and Fillies.

Also Hackney Stallions for sale.
At reasonable prices. Come and see them, or write to

ADAM DAWSON, Cannington, Ont.

SANDY BAY STOCK FARM, ROSSEAU.
I have still on hand two pure-bred HACKNEY MARES,

both prizewinners at Toronto, and good actors. One of them broken to harness. Will dispose of them at reasonable prices. Apply for particulars.

HORACE N. CROSSLEY, 91 Woodlawn Ave., Toronto.

CLAYFIELD STOCK FARM
Clydesdales, Shorthorns and Cotswolds

41 prizes won at World's Fair at St. Louis, 11 firsts, 5 champions. Will now offer my entire flock of rams and ewes at prices according to quality.

J. C. ROSS, Jarvis, Ont.

Clydesdales, Shorthorns and Cotswolds. Present offerings: 2 Clydesdale stallions, 1 and 2 years old, by MacQueen; one yearling bull, by imp. sire; also some yearling rams. For price and particulars write to

W. D. PUGH, Claremont, Ont.

Advertise in the Advocate

QUESTIONS AND ANSWERS. Miscellaneous.

CEMENT FOR PIGPEN WALLS AND FLOORS.

1. How do you mix concrete for walls, and would you mix it the same for floors? Do you use sand? If so, how much?

2. Would it be any cheaper by mixing in stone in wall? What consistency should it be?

3. How thick should the wall of a pigpen be in a building 15 x 60, and what depth for the floor? INQUIRER.

Ans.—1. Concrete for walls is mixed in about the same proportion as for the lower layer of floors, viz., one part Portland cement to ten of gravel; or one part rock cement to six of gravel. With gravel graded in size from a grain of wheat up to a hen's egg, no sand is necessary; with very coarse gravel an admixture of clean coarse sand would be advisable, using say 1-4 or 1-3 sand and the balance gravel.

2. With field stone available, as they are on most farms; it is much cheaper, and makes quite as good a wall to work in all the stone possible, taking pains, however, to keep them a couple inches from either outside or inside of the wall, and to have each stone surrounded with mixed concrete.

3. The thickness would depend upon the height. We presume it is proposed to build the wall all the way up with cement, making it eight feet high or more. In this case, we would suggest making it 10 inches thick at the bottom, tapering to 6 or 7 inches at the top. The floor should be three inches thick.

FEEDING VALUE OF RYE AND BUCK WHEAT.

1. How is rye grain as a milk-producer?

2. Would it be better for me to sell the rye and buy other grains? If so, what kinds?

3. How is buckwheat grain as a milk-producer?

4. How is buckwheat straw for feed? Cattle seem to be fond of it. C. M.

Ans.—1. So far as chemical analysis is concerned, rye does not differ materially from wheat. Prof. W. A. Henry states, however, in “Feeds and Feeding,” that, it is thought, rye imparts a characteristic flavor to milk, and may cause bitter butter, though he adds that the limited use of rye will probably prove satisfactory. In the writer's somewhat limited experience with rye, he never found it objectionable.

2. Rather than feed more than two or three pounds per head a day we would exchange some of the rye for wheat bran and shorts, oil meal, pea meal, and, perhaps, buckwheat middlings.

3. Buckwheat grain is not often fed to stock, but it has a very fair feeding value, its nutrients running somewhat lower than those of the leading cereals. The black, woody hulls of the grain have little feeding value, but the middlings, or the portion immediately inside the hull, is rich in protein and fat, and has a high feeding value. The miller wishing to sell as much of the hulls as possible mixes them with the middlings; designating the compound buckwheat bran. The intelligent feeder will buy little of the hulls and much of the floury portion. Buckwheat bran and middlings have the reputation, deservedly, in our opinion, of producing a large flow of milk.

4. Buckwheat straw is coarse and contains so much crude fibre as to render it of comparatively little value for feeding; but cattle will eat almost anything for a change, and if they are receiving a fair ration of more nutritious feeds, it is a good plan to let them pick all they like at the buckwheat straw.

OLD HORSE IN POUND.

An old, worn-out horse is delivered to the poundkeeper, who is afraid to take it out and shoot it in case the owner, who at present is not known, may turn up and demand the animal. According to the township by-law, the poundkeeper must keep the horse for 28 days and advertise it before he can sell it, and then quite likely he won't be able to realize half enough to pay the expenses incurred. Will the township council who appointed the poundkeeper be obliged to make up the amount lacking to pay the poundage fees and expense of advertising? If the owner can be found, and it could be proved that he turned the animal out to die, could he be prosecuted for cruelty to animals? If so, how should the pound-

keeper proceed to prosecute, or who should be the prosecutor?

AN OLD AND CONSTANT ADMIRER.
Ont.

Ans.—In connection with the township by-laws on the subject, you should read the Act respecting pounds (Revised Statutes of Ontario, 1879, Chapter 272). We could not safely answer your first question without seeing the by-laws. But we would say that in such a case, the prudent course on the part of the poundkeeper would be to consult the reeve of the township at once, and so be in a better position to make a claim upon the council in case it should turn out to be necessary to do so later on. As to the other questions, we would say that the owner of the animal would certainly be liable to such a prosecution. It would be properly commenced by the laying of information before a justice of the peace. Anyone at hand, having knowledge of the facts, could prosecute, and it would certainly be regular and appropriate for the poundkeeper to do so.

SEED CORN.

What variety of field hill corn do you consider the best, being early and productive? Do you know anything of the merits of Early Massachusetts? Is white corn any better than yellow?

SUBSCRIBER.

Ans.—There is no best variety of corn; what does best in one locality is not the best in another district, and what has been found best in one section up to date may be entirely superseded in a few years by another one found still better. Prof. Zavitz, Experimentalist of the Ontario Agricultural College, recommends the three flint varieties, Salzer's North Dakota, Compton's Early and King Phillip, and one dent variety, North Star Yellow Dent, for Central and Northern Ontario. A somewhat later, but more productive corn is Wisconsin's Earliest White Dent. This is a good sort for ensilage, and where the frosts are not too severe would be good for husking. At the college, it produced the largest yield of ears among sixty-seven varieties grown for five years in succession. Whitecap Yellow Dent is another good early kind for husking, and a standby with the writer has been the old eight-rowed yellow flint corn. White corn is not to be preferred to yellow, although certain varieties of white corn may happen to be superior to certain varieties of yellow; but the color doesn't make the corn. We are not familiar with the Early Massachusetts variety mentioned.

ROUTE OF G. T. P.—MIXED OR GRAIN FARMING IN THE NORTHWEST.

Has the route of the G. T. P. Railway through the Battleford district been definitely decided upon, also that of the Calgary branch? If not, when is it likely to be known for certain, and to whom should I apply for information? I am intending to homestead in that district, and should like reliable information on this point before doing so. Do you consider the Battleford district the best for mixed farming, taking into consideration the large amount of good land available for homesteading, or would some other part, in your opinion, offer a better field for investment? How does it compare with the Edmonton district? From a money-making standpoint, which would you advise: (a) Taking up land in the above districts with a view of raising oats, etc., for settlers and railway construction and gradually changing to mixed farming; or (b) purchasing land in one of the wheat districts and going in for grain-raising alone? I have been successfully engaged in mixed farming here, and could go out with everything necessary for working on either plan.

Ont. A CONSTANT READER.

Ans.—Construction work has been begun on the G. T. P. in Manitoba; but, as yet, nothing but surveys attempted in the new provinces of Saskatchewan and Alberta. It is not definitely known where the new line will touch the Battleford district, although conjectures have been very freely made. For information regarding the new transcontinental's Western lines, apply to G. T. P. Ry., Winnipeg, Man. The Battleford country is good beyond the shadow of a doubt, but not any better than a number of other localities. You had better purchase land, and go at first into grain-growing, then develop as rapidly as possible the different revenue-producing ends of mixed farming.

Horse Owners! Use

GOMBAULT'S
Caustic Balsam

A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FILING, impossible to produce scur or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
The Lawrence-Williams Co., Toronto, Ont.

The Repository

BURNS & SHEPPARD, Props.



Cor. Simcoe and Nelson Sts., Toronto

Auction Sales of

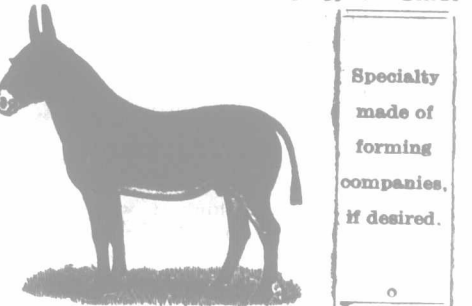
Horses, Carriages, Buggies, Harness, etc., every Tuesday and Friday, at 11 o'clock.

Special Sales of Thoroughbred Stock conducted.

Consignments solicited. Correspondence will receive prompt attention.

This is the best market in Canada for either buyer or seller. Nearly two hundred horses sold each week.

Shire, Percheron, Clyde, Belgian, Standard-bred and Coach Horses, also SPANISH-BRED JACKS, for Sale.



Specialty made of forming companies, if desired.

W. R. GRAHAM, Box 33, Kincardine, Ont.

NEW IMPORTATION

I have landed one of the best importations of

CLYDESDALES, SHIRES

and HACKNEY STALLIONS,

males and fillies ever landed in America. They are got by such sires as Baron's Pride, Everlasting, Up-to-Time, Marcellus, Prince of Blacoon and others, Scotland's greatest sires. Mares and fillies all bred in Scotland to the best sire in Scotland, and I am offering these at just one half less than other importers are asking for theirs. For full particulars write

DUGALD ROSS, Streetsville, Ontario.

SHOE BOILS Are hard to cure, yet

ABSORBINE

Will remove them and leave no blemish. Does not blister or remove the hair. Cures any puff or swelling. \$2.00 per bottle, delivered. Book 7-B Free.

ABSORBINE, JR., for mink, \$1.00 per bottle. Cures Boils, Bruises, Old Sores, Swellings, Etc. Manufactured only by

W. F. Young, P.D.F., 73 Monmouth St., Springfield, Mass.

Canadian Agents, Lyman, Sons & Co., Montreal.

My motto: "The Best is None too Good." Imported and home-bred Clydesdale and Shire Horses, Scotch Shorthorn Cattle, Leicester Sheep.

A choice lot of reg. fillies and Shorthorn calves to choose from. Our stock exhibited have won the highest honors at the largest shows in America.

WESTON P.O., C.P.R. and G.T.R. 10 miles west Toronto. Telephone at house and farm.

J. M. GARDHOUSE.

WATCH FOR MR. THOS. MERCER'S new importation of Clydesdales, Shires and Hackneys, on his return in January from Scotland. Address:

THOS. MERCER, Markdale, Ont.

DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Dis-temper and Indigestion Cure. A veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can, mail or express paid.

The Newton Remedy Co., Toledo, Ohio. Your druggist has it, or can get it from any wholesale druggist.

Trumans' Champion Stud,

Bushnell, Illinois.

SHIRE, PERCHERON, BELGIAN AND HACKNEY STALLIONS

Read our record at the great International Show recently held in Chicago. We won the following prizes on Shire and Hackney stallions:

4-year-olds	- - -	1st, 3rd and 4th
3-year-olds	- - -	1st, 2nd, 3rd and 5th
2-year-olds	- - -	1st and 4th

Also Champion and Reserve Champion Hackney Stallions

Our stallions were admired by all who saw them. Before buying a stallion of either breed, we respectfully ask that you write and let us know your wants. We can save you money. Our prices and liberal guarantee will astonish you. Our record in the show-rings is evidence that we keep nothing but the best. Our barns are full of prizewinners, and they are all for sale. We insure stallions against death from any cause, if desired.

Write for illustrated catalogue of our horses. Importations arrived, July, September and November.

TRUMANS' PIONEER STUD FARM

H. W. TRUMAN, Manager,

LONDON - - ONTARIO.



25 Percherons, also French Coachers, Hackney and Clyde Stallions

Have just arrived, Aug. 16, 1906, from Great Britain and France with our new importation of high-class stallions, many of them prizewinners in their native lands, bred by the best breeders. The Percherons are large blocky fellows, 3 to 5 years old, descendants of such noted champions as Brilliant, Besique and Romulus. Blacks and dark dapple greys, weighing from 1,600 to 2,100 lbs., with the right kind of legs and feet, and can go like trotters. We personally selected every horse ourselves, using extraordinary caution to select nothing but good sound serviceable horses that will do our customers and the country good. The French Coachers, Hackneys and Clydes are also of the best breeding, some of them prizewinners in England, Ireland and Paris. We will sell you a better stallion for less money than any other importers in America, with a guarantee as good as gold. Intending purchasers should visit our stables before buying elsewhere. Inspect our stock and get our prices. Terms made to suit purchasers.

Hamilton & Hawthorne, Simcoe, Ont. 83 miles S.W. of Toronto, on G.T.R. & Wabash



LaFayette Stock Farm

J. Crouch & Son, Proprietors.

Largest importers in America of Oldenburg German Coach, Percheron and Belgian stallions. Have imported over 400 in the last eighteen months. Won more prizes in 1904 and 1905 than all others combined. Our prices are right, and guarantee gilt-edged, and terms to suit buyers. Our Belgians and Percherons weigh from 1,800 to 2,350 pounds. All from three to five years old. The German Coach horses are the leading coach horses of the world.

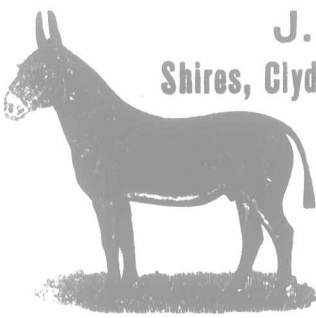
J. Crouch & Son, LaFayette, Ind. Write us at London, Ontario.

125 Percheron, Shire and Hackney Stallions and Mares.

At the World's Fair at St. Louis I won MORE premier championship awards than any other exhibitor of live stock. I won every premier championship offered on Hackneys, also every gold medal but one. At Chicago International, 1904, on 20 head I won 34 prizes, and in 1905, on 19 head, I won 34 prizes, of which 19 were firsts, including 3 gold medals and 3 championships. I have the GOODS, and will save you \$500 to \$1,000 on a stallion. Come and see. Your own time of payment and guarantee of 60%.

OFFICE: LEW W. COCHRAN, 607 109 1/2 South Washington Street. CRAWFORDVILLE, INDIANA. West Main Street.

On Mennon, Big Four and Vandavia Railroads, and Interurban from Indianapolis.



J. B. HOGATE'S

Shires, Clydes, Percherons, Hackneys and Spanish Jacks.

My latest importation includes 45 head of Shire stallions and fillies, Clyde stallions and fillies, Hackney and Percheron stallions and Spanish Jacks, many of them prizewinners in England, Scotland and France. This is a gilt-edged lot and the best we ever imported, combining size and quality.

Stables at WESTON, ONT. Telephone connection. J. B. HOGATE, Proprietor.

GOSSIP.

ONLY AN ACQUAINTANCE

A Scot, who served an Englishman last summer as guide and friend on a fishing trip, had a weakness for claiming relationship with all the influential families in that part of Scotland.

One day the Englishman met him on the road driving a pig, and saw a little fun.

"Well, Donald," said he, "is that one of your grand relations?"

"Oh, no," said Donald, quietly. "This is just an acquaintance—like yersel."

AMERICAN ABERDEEN-ANGUS ASSOCIATION OFFICERS.

At the regular annual meeting of the American Aberdeen-Angus Breeders' Association, and at the meeting of the Board of Directors, held in Chicago, the evening of December 20th, the following named officers were chosen: President, J. S. Goodwin, of Illinois; Vice-President, C. J. Martin, of Iowa; Secretary-Treasurer, Thos. McFarlane, of Illinois. Directors for three years, J. S. Goodwin, of Illinois; C. E. Marvin, of Ky.; Geo. Kitchen, Jr., of Mo.

THE CHICAGO POULTRY SHOW.

The show will be held January 22-27, inclusive, 1906, in the 7th Regiment Armory, 16th St., instead of the Coliseum, as previously announced. Extensive repairs have made the Armory equally desirable.

O. Prescott Bennett will judge Buff Wyandottes, White Plymouth Rocks, Partridge Plymouth Rocks, Buff Cochins, Bantams, Anconas, Dominiques, Dorkings; E. J. W. Dietz—Exhibition Games, all Bantams except Buff Cochins, Silkies, Sultans, Sumatras; W. C. Denny—Buff Rocks, White Leghorns, Minorcas, Spanish, Creve Coeurs, Favorables, Frizzles, Malays; W. R. Graves—White Wyandottes; Daniel J. Lambert—Brahmas, Cochins, Ducks, Geese, Indians, Langshans, Orpingtons, Rhode Island Reds, Turkeys, Buckeyes, LaFlech, Brown Leghorns, Black Leghorns, Red Caps, Rumples, Seelians, Russians; Thos. F. Rigg—Andalusians, Silver Wyandottes, Golden Wyandottes, Black Wyandottes, Partridge Wyandottes, Silver-penciled Wyandottes, Hamburgs, Houdans, Javas, Polish, Jersey Blues, Buff Leghorns, Black Leghorns; and H. P. Schwab—Barred Plymouth Rocks. The various poultry clubs will meet in the Association's club-room during show week.

The official premium lists and entry blanks can be procured from Secretary Fred L. Kimmey, Room 510, 825 Dearborn St., Chicago, Ill.

WARNING TO STOCK BREEDERS.

Breeders of pure-bred stock in Ontario are warned to be on their guard to avoid being imposed upon by a notorious crook, who is making a tour of the Province, masquerading under various aliases, sometimes professing to be an agent of "The Farmer's Advocate," and in other cases as a breeder in search of pure-bred stock, his main object being to secure free board and lodging for a few days, though generally concludes the purchase of some stock, and promises to mail a cheque or draft for the amount involved. He is often short of expense money, and modestly suggests that if he had enough to pay his fare to the abode of some well-known breeder, he can get what cash he needs on his cheque or his check. He is really a tramp of the meanest sort, and a nuisance that should be run out of any neighborhood in which he appears, or better, perhaps, arrested as a vagrant and jailed. There is, it is said, evidence of his having stolen articles of clothing from homes where he has been entertained, and farmers will do well to carefully scrutinize any caller of whom they have cause to be suspicious, and if this one shows up, make it interesting for him. His alias used during a recent tour in Elgin County was R. H. Reid, the name of a Bruce County breeder, but this will doubtless have been exchanged for another before this reaches our readers. The following description may aid in his identity: Height about 5 ft. 6 in., dark hair and moustache, weight about 140 lbs., wears his hair a trifle long behind, a black suit, black stiff hat and prairie-wolf overcoat. Keep a sharp lookout, and make it hot for him if he shows up in your neighborhood.

Broxwood Herefords

Young bulls for sale from 6 to 18 months old, all from imported sire and dams, prizewinning stock at Royal and leading English shows.

R. J. Penhall, Nover P. O., Ont.

ONTARIO'S LARGEST AND FINEST HERD OF

HEREFORDS.—We sell our beauties to breeders all over Canada, because we sell our stock at much below their value. Come with the rest and get some of the bargains in 25 bulls a year old and over, 25 heifers and 30 cows, or write to have us save you some. (Farm inside the corporation of the town) A. S. HUNTER, Durham, Ont.

HEREFORD CATTLE

FOR SALE.

A number of nice young bulls, from 6 to 24 months old, low-down, beefy fellows. At rock-bottom prices.

W. BENNETT,

Box 422, Chatham, Ont.

THE SUNNYSIDE HEREFORDS

Twelve high-class, bull calves and 4 yearling and 2-year-old bull, we will place at a price that will move them quick. Some choice cows and heifers are yet left for sale. Address: A. F. O'NEIL, Maple Grove P.O., or M. H. O'NEIL, Southgate P.O., Ilderton Sta., L. H. & B. Logan Bldg., G. T.

FOREST VIEW FARM HEREFORDS

Four bulls from 6 to 12 months old, prizewinners and from prizewinning stock. Several heifers bred of the same lines; choice individuals, for sale. JOHN A. GOVENLOCK, Forest Sta. and P.O.

HEREFORDS

We are now offering a few thick, smooth young bulls and a number of females—a low-down, even, beefy lot. If in want of something extra good, correspond with us. We can please you. J. A. LOYERING, Goldwater P.O. and Sta.

Aberdeen-Angus cattle and Chester White Hogs.

Principal prizewinners at Ottawa and Sherbrooke. Breeding stock and young things for sale. Write for prices. A. G. SPAFFORD, Compton, Que.

ABERDEEN-ANGUS CATTLE FOR SALE

One year-old bull, two bull calves and females of all ages, by imported bull. Drumbo Station. WALTER HALL, Washington, Ont.

POLLED ANGUS CATTLE

A number of thoroughbred Polled Angus cattle for sale, including five imported, three bulls and two cows. These cattle will be sold very reasonably. For particulars apply to THE DALTON CATTLE CO., Orillia, Ont.

Scotch Shorthorns

TWO CHOICE YOUNG BULLS

both roans; one by Marquis of Zenda (imp.), the other by my stock bull, Derby (imp.). Prices reasonable to make quick sale. W. J. SHEEN & Co., Rosevale Stock Farm, Owen Sound, Ont.

CHAS. RANKIN, Wyebridge, Ont.

Importer and Breeder of

SHORTHORN CATTLE and OXFORD DOWN SHEEP.

Herd headed by Pride of Scotland (imp.).

SALE—Females and bulls, of all ages, from noted Scotch families.

SHORTHORNS FOR SALE

17 bulls from 7 to 13 months old, sired by Imp. Diamond Jubilee #2861; also a choice lot of cows and heifers, those of breeding age bred to Imp. Loyal Duke.

Fitzgerald Bros., Mt. St. Louis P.O. Glenvale Stn. Hillsdale Tele. & Telephone Office.

SHORTHORNS

Choice young bulls for sale, ready for service. For particulars write to John Elder, Hensall Sta. & P.O., Ont.

Shorthorns For Sale—Two choice red yearling bulls, from imported sire and dams; also females of all ages. Scotland's Fame (imp.) at head of herd. ALEX. BURNS, Rockwood P.O. and Station, G.T.R.

SCOTCH-TOPPED SHORTHORNS

Five choice young bulls, 8 to 12 months; also four heifers. W. H. WALLACE, Woodland Farm, Mt. Forest, Ont.

SHORTHORNS FOR SALE

Both male and female, different ages. Prices very reasonable. For particulars write to CHAS. E. PORTER, Tottenham Sta., G.T.R. Lloydham, Ont.

Shorthorns—Heifer calves from four to eight months old. Also a few young cows in calf. Wm. E. Hermiston, Brickley P.O., Ont. Hastings Station.

DOES YOUR HEAD

Feel As Though It Was Being
Hammered?

As Though It Would Crack Open?
As Though a Million Sparks Were
Flying Out of Your Eyes?
Horrible Sickness of Your Stomach?
Then You Have Sick Headache!

**BURDOCK
BLOOD
BITTERS**

will afford relief from headaches no matter
whether sick, nervous, spasmodic, periodical or
bilious. It cures by removing the cause.

Mr. Samuel J. Hibbard, Belleville, Ont.,
writes: "Last spring I was very poorly, my
appetite failed me, I felt weak and nervous, had
sick headaches, was tired all the time and not
able to work. I saw Burdock Blood Bitters
recommended for just such a case as mine and
I got two bottles of it, and found it to be an
excellent blood medicine. You may use my
name as I think that others should know of the
wonderful merits of Burdock Blood Bitters."

**SCOTCH
SHORTHORNS**

Eight newly-imported bulls, right
for quality, color and breeding.
Six home-bred bulls, mostly from
imported cows, sired by Imp. Bapton
Chancellor, by Silver Plate.
Imported Cows and Heifers in calf
or with calves at foot, of the best
breeding, at easy prices.
Also Yorkshires, all ages, for sale.

H. J. DAVIS,
Importer and Breeder
Yorkshires and Shorthorns,
WOODSTOCK, ONT.
C. P. R. & G. T. R.

Scotch Shorthorns
AT
HOLLYMOUNT STOCK FARM

Young bulls and
heifers from import-
ed sires and dams
for sale at reason-
able prices.
For particulars,
write to

W. J. THOMPSON, Mitchell, Ont.
**BELMAR PARO
SHORTHORNS**

Bulls in service: Merryman, imp. (77963)
-53075-; Pride of Windsor, imp. (Vol. 50)-50071-;
Nonpareil Archer, imp. (81778)-45203-. Our
females have been carefully selected and are of
the best Scotch breeding, many of them imported.
Address correspondence to

PETER WHITE, Jr., Pembroke, Ont.

FOR SALE

6 Scotch-bred Bulls

from 8 to 20 months; 10 cows and heifers
to calves soon; also heifers of breeding age.
Prizewinning stock at lowest prices.

DAVID MILNE, Ethel, Ont.

ELM GROVE SHORTHORNS

We have for sale some good young cows and
heifers, of the Fashion and Belle Forest fam-
ilies, in calf to Scottish Rex (imp.) or Village
Earl (imp.), our present herd bull. For prices
and particulars address

W. G. SANDERS & SON,
Box 1133, St. Thomas, Ont.

**HURON HERD OF HIGH-CLASS
SHORTHORNS**

The great stock bull, Imp. Broadhooks
Golden Fame, at head of herd. Young
bulls and females at low prices.

A. H. JACOBS, Blyth, Ont.
Shorthorns and Yorkshires—A few good
pigs, either sex, from imp. sire and dam. Also a
few young Shorthorns, at reasonable prices.
W. J. MITTON, Thamesville Sta. & P.O.,
Maple Park Farm.

GOSSIP.

Mr. Wm. E. Hermiston, Brickley, Ont.,
writes that he has disposed of all his
Shorthorn bull calves, and has purchased
for a stock bull, a roan calf, of good
quality, eleven months old, sired by
Morning Star (imp.).

Messrs. W. J. Shean & Co., Owen
Sound, Ont., write: "We have recently
sold a beautiful Shorthorn bull to Mr.
Geo. Tolchard, Chesley, sired by Famous
Pride (imp.), first-prize bull at Toronto,
and out of Orange Blossom 2nd (imp.), a
Marr Roan Lady, and a prizewinner at
Toronto, London and Winnipeg, also
first at County Show, Owen Sound, 1905.
He will, no doubt, make an excellent
stock bull for his owner. To Mr. John
Atkinson, Strathavon, a beautiful three-
year-old heifer, Duchess 10th, a good
representative of that grand old family,
the Duchess. She is, no doubt, a good
investment for Mr. Atkinson, as she is
the right kind for a start."

Mr. J. G. Truman, Manager of Tru-
mans' Pioneer Stud Farm, writes "The
Farmer's Advocate" under date of Janu-
ary 1st: "We have shipped to-day to
our London stables what we think is the
best carload of draft stallions ever
shipped to Ontario for sale. Included
in this shipment are Shires, Percherons
(blacks and grays) and Belgians, all im-
ported from England this fall; all three
and four years old, with all the weight,
bone, substance and quality possible to
get. From a breeding standpoint, they
are number one. In fact, they are
strictly first-class young stallions, either
one ready to go into the show-rings.
Our Mr. H. W. Truman, who has charge
of our Canadian business, selected these
horses in person, and had the choice of
upwards of one hundred stallions to se-
lect them from, and I think when your
Canadian readers call at our stables in
London and see them together with those
that we shipped him last month, they
will quite agree that they are a strictly
first-class stable of horses, and well up
to the Truman standard. Am pleased to
say that our trade in Ontario this year
is all we could ask, we having sold more
horses up to this time than we did any
previous season. During the three years
that we have run our stable in London,
we have tried to ship there the very best
horses possible to import from the Old
Countries, and each year trying to out-
do ourselves. A great deal of the credit
for this business, we cheerfully give to
'The Farmer's Advocate,' believing it to
be one of the very best agricultural and
live-stock paper on the American con-
tinent."

**R. E. JOHNSTON'S DISPERSION
SALE.**

Breeders and farmers are again re-
minded of the dispersion sale, by auc-
tion, on Friday, January 19th, of the
entire herd of Shorthorn cattle belonging
to Mr. R. E. Johnston, at his farm, near
Pickering Station, G. T. R., some 24
miles east of Toronto. The offering
comprises about 40 head, including young
calves to be sold with their dams, and
all are of Scotch or Scotch-topped breed-
ing, representing a number of choice
families. A striking feature of the
catalogue is the high-class character of
the sires in breeding and individual
merit, that have been used in building up
the herd. They are largely the sires
that have been in service in the noted
herd of Mr. Arthur Johnston, of Green-
wood, or bulls imported or bred by Mr.
Johnston, who is acknowledged to be one
of the best judges in America, and in-
variably goes for constitution and qual-
ity in the sires he selects as well as
good breeding. It is not often that so
many good young bulls of choice breed-
ing are found in a public sale list as are
the nine comprised in this offering. Be-
sides the red imported four-year-old,
Baron Cyprus, bred by Mr. Shepherd, of
Shethin, sired by the Duthie-bred Cyprus,
a Cruickshank Cicely, by William of
Orange, and out of Agnes 6th, sold from
the herd of the late Mr. W. S. Marr,
there are four of his sons, reds and
roans, from 11 to 16 months old, bred
from cows in the herd, of good, sound
families. Royal Monk, a red ten-
months-old calf, is by Imp. Royal Prince,
a Golden Drop bull, and out of Green-
wood Rosebud, of the excellent Syme
family. Lord Ramsden is a red yearling,
by Imp. Cyclone, whose sire was a son

of the great Duthie bull, Star of Morn-
ing, and out of Imp. Carnation Queen,
of the Miss Ramsden family, which has
bred so many prizewinning and high-
priced bulls. Royal William, a red-roan,
also by Imp. Cyclone, and out of Imp.
Dutchess Anne, will be 13 months old at
date of sale, and should prove a very
desirable bull, as also should Grand
Prince, a red imported 10-months-old calf,
bred by Mr. Robt. Bruce, of Heatherwick,
and sired by Winning Hope, a Bruce-bred
bull, got by the Marr Maud bull, Gold-
en Hope. These together with the 22
young cows and heifers, three of which
are imported and several others from
imported sire and dam, will make an at-
tractive offering, and should find ready
buyers at fair prices in these prosperous
times, with the encouraging prospect for
an increasing demand at improving
prices from the States and the new West-
ern provinces. This sale will afford a
good opportunity for breeders to meet in
a district famed for its excellent herds of
Shorthorns, to make new acquaintances
and renew old ones, and we anticipate a
large gathering of stockmen from many
parts of the country.

NO WONDER MUTTON IS HIGH

A United States representative who has
been studying quite fully the subject of
mutton consumption and supply reports
that from 1873 to 1904 the flocks of
Germany have declined over 60 per cent.
Since 1869 the flocks of Austria-Hungary
have decreased 49 per cent. Since 1873
those of France have been reduced 30 per
cent., and since the same date, those of
the United Kingdom have declined 15
per cent., while it is estimated that the
sheep of the United States are perhaps
25 per cent. less numerous than five or
six years ago. The only two countries
in which there has been any advance are
South Africa, where the increase is slight,
and Argentina, where the increase was
7,500,000 from 1888 to 1895, since
which date it is thought there has been
some decline. These figures indicate that
the flocks of the world have decreased
93,000,000 since 1873, or an average of
about 3,000,000 a year.

Official records of 89 Holstein-Friesian
cows from Dec. 7th to Dec. 28th, 1905,
have been accepted. The averages by
ages were as follows: Thirty-two full-
aged cows averaged: age, 6 years 8
months 12 days; days from calving, 21;
milk, 415.3 lbs.; per cent. fat, 3.50; fat,
14.539 lbs. Twelve four-year-olds aver-
aged: age, 4 years 6 months 5 days;
days from calving, 24; milk, 414.4 lbs.;
per cent. of fat, 3.56; fat, 14.744 lbs.
Fourteen three-year-olds averaged: age,
3 years 2 months 28 days; days from
calving, 23; milk, 338.3 lbs.; per cent.
fat, 2.52; fat, 11.915 lbs. Twenty-nine
heifers classed as two-year-olds averaged:
age, 2 years 2 months 8 days; days from
calving, 55; milk, 280.7 lbs.; per cent.
of fat, 3.53; fat, 9.925 lbs.

Elzevere Barnum Metchilde, 18.578
lbs. fat from 560.1 lbs. milk, and Johan-
na Ruth, 18.403 lbs. fat from 409.2 lbs.
milk, lead the aged cow class.
As in last issue, it may again be profit-
able to consider these 87 cows and
heifers as one herd. We find that in one
week the 87 animals produced 1,096,825
lbs. butter-fat from 31,113.4 lbs. milk;
showing an average for the herd of 3.53
per cent. fat. The average for each ani-
mal was 12.607 lbs. fat from 357.6 lbs.
milk, and the record averaged 33 days
from calving. This is about 51.1 lbs.
milk, and the equivalent of two and one-
tenth pounds of best creamery butter per
day. Included in the list are the fol-
lowing owned in Canada by Geo. Rice, Till-
sonburg, Ont.:

Belle Dewdrop 67841, age 4 years 2
months 11 days; days from calving, 14;
Milk, 402.1 lbs., per cent. fat, 3.98; fat,
16.005 lbs.

Winnie R. Countess 66182, age 3 years
2 months 16 days; days from calving,
11; Milk, 375.6 lbs.; per cent. fat, 3.73;
fat, 14.042 lbs.

Boutsje Q. Pietertje DeKof 66031, age
2 years 9 months 4 days; days from
calving, 90; Milk, 320.3 lbs.; per cent.
fat, 3.59; fat, 11.525 lbs.

Calamity Jane 2nd's Posch 70288, age
1 year 7 months 22 days; days from
calving, 13; Milk, 329.9 lbs.; per cent.
fat, 3.19; fat, 10.554 lbs.

Clarice Clothilde 2nd 70289, age 2
years 3 months 26 days; days from
calving, 35; Milk, 227.3 lbs.; per cent.
fat, 3.55; fat, 8.083 lbs.



Lump Jaw
Save the animal—save your
herd—cure every case of Lump Jaw. The
disease is fatal in time, and it spreads.
Only one way to cure it—use
Fleming's Lump Jaw Cure
No trouble—rub it on. No risk—your money
back if it ever fails. Used for seven years
by nearly all the big stockmen. Free
illustrated book on Lump Jaw and other
diseases and blemishes of cattle and horses.
Write for it today.
FLEMING BROS., Chemists,
45 Front Street, West, Toronto, Can.

**GREENGILL HERD
of high-class
SHORTHORNS**

We are now offering for sale 13
bull calves, 2 yearling bulls and
high-class females, all ages, at
moderate prices. The herd is
headed by the great breeding
bull (Imp.) Lord Roseberry. o

R. MITCHELL & SONS,
Nelson P.O., Ont.; Burlington Junc. Sta.

Riverview Shorthorns and Oxfords

Shorthorns represent Crimson Flowers,
Aethelstanes, Lady James and Roses.

We have for sale eight bulls, including our stock
bull, four yearlings, and the balance calves;
also a few one, two and three year-old heifers.
A thick, straight, mossy lot. Also some spring
and one-year-old Oxford rams.

Peter Cochran, Almonte P. O. and Sta.
GEORGE D. FLETCHER, Breeder of
Scotch Shorthorn Cattle
And Large English Yorkshire Swine.

Herd headed by the Duthie-bred bull (imp.)
Joy of Morning, winner of first prize at Dominion
Exhibition, Toronto, 1903.

Present offering; young Shorthorns of either
sex; also a choice lot of Yorkshires of either sex,
six months old, from imp. sire and dam. Prices
easy.

Binkham P. O., Ont. Erin Station and Tel.
JOHN GARDHOUSE & SONS, Highfield P.O., Ont.

Breeders of
Scotch and Scotch-topped Shorthorns, Lincoln and
Leicester Sheep and Shire Horses.

A good selection of young stock of both sexes
always on hand for sale. Scottish Prince (imp.),
Vol. 49, at head of herd. Royal Albert (imp.)
20867, at head of stud. Farms 3 1/2 miles from
Wesdon, G. T. R. and C. P. R., and electric cars
from Toronto.

**GLENAVON STOCK FARM
Shorthorns**

Have from choice milking strains two registered
bulls for sale. Prices right.

W. B. ROBERTS, Sparta P. O.
Station, St. Thomas, C.P.R., M.C.R. and G.T.R. o

EVERGREEN Scotch-Topped Shorthorns
STOCK FARM
Young stock of either sex by imp. sire at reason-
able prices. For particulars write to
DONALD McQUEEN, Landertin P.O.,
Mount Forest Sta. and Telegraph. o

PROSPECT STOCK FARM. For sale: 4
Shorthorn
Bulls, including Gold Mine (imp. in dam), also
some choice young females. Stations: Cooks-
ville and Streetsville, C.P.R.; Brampton, G.T.R.
Peel Co. F. A. Gardner, Britannia, Ont. o

Shorthorns, Leicesters and Berkshires—1
yearling bull, bull calves, heifers,
all ages, for sale; also young Berkshires and
Leicesters. For particulars address
E. JEFFS & SON, Bond Head P.O.,
Bradford and Beeton Stns., G.T.R. o

LAKEVIEW SHORTHORNS.
Spicy King (imp.) at head of herd. Young bulls
for sale reasonably. For prices, etc., apply to o

THOS. ALLIN & BROS., Oshawa, Ont.

For Sale—Three Shorthorn bulls, two 20
months and one 9 months. Tri-
umvir (imp.) heads the herd.

DAVID CLOW,
Whitechurch P.O. and Station.

BAREN COW CURE

makes any animal under 10 years old breed, or
refund money. Given in feed twice a day.
Particulars from

L. F. SELLECK, Morrisburg, Ont.

SUNNYSIDE STOCK FARM.

Seven good young Shorthorn bulls for sale,
from 6 to 15 months old; sired by Brave Ythan
(imp.), some from imp. dams. Prices right. o

JAMES GIBB, Brooksdale P.O. and Tel.

SHORTHORNS AND DORSETS.

3 bulls, seven to nine months old; also a few
ewe lambs and ewes in lamb for sale. Prices
reasonable.

R. H. HARDING,
Mapleview Farm, Thorndale, Ont.

Wm. Grainger & Son, Hawthorn Herd of
deep-milking Short-
horns. Aberdeen Hero (imp.) at head of herd.
Eight grand young bulls by Prince Misty—57884—.
Prices reasonable.
Londesboro Sta. and P.O. o

Scotch Shorthorns SHROPSHIRE SHEEP.

4 yearling bulls, 12 young bulls, 8 to 18 months, all from imp. sires and dams.

W. G. PETTIT & SONS, Freeman, Ont. Burlington Jct. Sta. Long-distance telephone in house.

HILLVIEW STOCK FARM SHORTHORNS, CLYDESDALES and COTSWOLDS

Present offerings: Choice young bulls and heifers. Also a few good young cows. Apply to JOHN E. DISNEY & SON, Greenwood, Ont.

1864 + HILLHURST FARM + 1905 SHORTHORN CATTLE

Herd of thirty. Stock bull: Scottish Archer (59808), Missie 134th, by William of Orange.

JAS. A. COCHRANE, Compton, P. Q.

R. A. & J. A. WATT, SALEM P.O. Elora station

This season's offering comprises ten young bulls and an equal number of heifers, richly bred in the best of Scotch blood.

Queenston Heights Shorthorns

Choice yearling heifers, Straight Scotch. Two bull calves at easy prices.

HUDSON USHER, Queenston, Ont.

PLEASANT VALLEY HERD SHORTHORNS

Headed by imp. Old Lancaster. Young stock for sale. For particulars, write or come and see.

GEO. AMOS & SON, Moffat, Ont.

KENWOOD STOCK FARM. SHORTHORNS.

Headed by (Imp.) Jilt Victor = 45187 =, 10 grand young bulls; also heifers; from imp. and home-bred cows, for sale.

HAINING BROS., Highgate, Ont. Kent Co.

SHORTHORNS and LINCOLNS.

Present offerings: 4 choice young bulls 9 to 14 months; also a few good heifers, Lincolns, descended from the best English flocks.

JOHN LEE & SONS, Highgate, Ont. 40 miles west St. Thomas, on M.C.R.R. & P.M. Ry.

FOR SALE OR EXCHANGE

Scottish Baron = 40421 = (imp. in dam). Also several young bulls and heifers.

H. GOLDING & SONS, Thamesford, Ont. Stations: Thamesford, C.P.R.; Ingersoll, G.T.R.

BONNIE BURN STOCK FARM Offers Scotch and Scotch-topped bulls, cows and heifers, 50 Shropshire rams and ewes, and Berkshire pigs, from imp. dams and sires, not akin. A bargain for quick sale.

D. H. RUSSELL, Stouffville, Ont. Willow Bank Stock Farm | Established 1855

Shorthorn Cattle, Leicester Sheep. Imp. Rosicrucian of Dalmeny = 45220 = at head of herd. Choice young stock for sale.

JAMES DOUGLAS, Caledonia, Ont. BOWHILL SHORTHORNS and LEICESTERS

The roan yearling bulls that I imported in August for sale. Smooth, even, good size, and good individuals; also a few good home-bred bulls and females. Come and see them.

GEO. E. ARMSTRONG, Teeswater, Ont. Mildmay, G.T.R. Teeswater, C.P.R.

SPRING VALLEY SHORTHORNS. Imp. Bapton Chancellor = 40359 = (78286) heads the herd. We have for sale a choice lot of young bulls of the very best breeding and prices right.

KYLE BROS., Ayr, C.P.R.; Paris, G.T.R. MAPLE HILL SCOTCH SHORTHORNS STOCK FARM

Three families. Herd headed by the grandly bred lavender bull, Wanderer's Star = 48585 =, a few choice young bulls.

WM. R. ELLIOTT & SONS, Guelph, Ont.

HAVE YOU A BAD LEG

With Wounds that discharge or otherwise, perhaps surrounded with inflammation and swollen that when you press your finger on the inflamed part it leaves the impression? If so, under the skin you have poison that defies all the remedies you have tried, which if not extracted, you never can recover, but go on suffering till death releases you.

Snake, Mosquito and Insect Bites, or write ALBERTS, 73 Farringdon street, London, England. Agents: Evans Sons & Co., Montreal; Lyman Sons & Co., Montreal; Parke & Parke, Hamilton, Ont.

Maple Shade

Cruickshank Shorthorns and Shropshire Sheep. 16 choice young bulls of Cruickshank breeding, from which you can select high-class herd-headers. If you wish to see the breeding we shall be pleased to mail a catalogue.

JOHN DRYDEN & SON, Brooklin, Ont. Stations: Brooklin, G.T.R. Long-distance telephone. Myrtle, C.P.R.

T. DOUGLAS & SONS, Strathroy, Ont. SHORTHORNS and CLYDESDALES

Present offerings: 19 young bulls, of No. 1 quality, ready for immediate service; also cows and heifers of all ages. Also one imp. stallion and two bred mares. Prices reasonable. Visitors welcome. Farm one mile from town.

Pine Grove Stock Farm. Breeders of High-class Scotch Shorthorns, Choice Shropshire Sheep, Clydesdale and Hackney Horses.

C. W. WILSON, Supt., Rockland, Ont. W. C. EDWARDS & Co., Limited, Props. om

Maple Lodge Stock Farm. 1854. An excellent lot of Shorthorn bulls and heifers for sale now. Have choice milking strains. Have a few Leicesters left yet. Bargains in ewes.

A. W. SMITH, Maple Lodge, Ont. 3 Shorthorn Bulls 3

For sale immediately. Sire, Prince Gloster = 40998 =.

WM. D. DYER, Columbus, Ont. Stations: Myrtle, C.P.R. Brooklin, G.T.R.

CLOVER LEA STOCK FARM SHORTHORNS

Imp. Golden Cross at head of herd. 6 young bulls, three reds and three roans, from six to twelve months old. Parties wishing to visit the herd will be met at Ripley station and returned.

R. H. REID, Ripley Sta., G.T.R. Pine River, Ont. CLEAR SPRING SHORTHORNS.

Imp. Spicy Broadhocks at the head of herd. Young bulls from 6 to 11 months old, females of all ages. Prices reasonable. Call or write JAMES BROWN, Thorold.

QUESTIONS AND ANSWERS. Veterinary.

CONDITION POWDER.

Is the following condition powder harmful in any way to a mare in foal: Sulphate of iron, gentian, ginger, antimony, saltpetre, tartar emetic, fenugreek, equal parts?

Ans.—The above drugs used in moderate doses should prove a suitable tonic; safe to use for an in-foal mare. We would not, however, advise its continued use. If the mare is in ordinary health, all she needs is good care and feed. You might, however, give her a teaspoonful twice a day for a week, and then once a day for the next week; but continual dopping is to be deprecated.

PROBABLY PARTURIENT PARALYSIS.

I had a cow due to calve in a few days, that was strong and healthy to all appearance; but one morning I found her unable to rise, and after putting her upon her feet, she could not stand. Yet, she still continued to eat heartily; but in a few days she ate less, and finally would not eat at all, in a week she calved, and two days after she died. There was no sign of injury of any sort.

1. What do you think could be the matter? 2. Could you prescribe any remedy? Ans.—1. From the symptoms given, we would think the cow had either parturient paralysis, or else parturient apoplexy (milk fever), more likely the former.

2. Treatment for parturient paralysis would have consisted in good nursing, feeding the patient well on the best quality of food, keeping comfortable, and giving the best of care and a nerve stimulant of say one fluid dram nux vomica in a drench three times daily. With this, a stimulating liniment might have been applied to the loin, of ammonia, turpentine and linseed oil. Treatment for milk fever, which sometimes, though seldom, occurs before calving, would have been pumping air into the udder as so often recommended in these columns.

BURSAL ENLARGEMENT—WINTER LAYING OF CEMENT.

1. Colt has a lump (soft) on inside hind leg, known to me as a puff. Give treatment and cause. 2. I would like to put in cement floor in horse stable, and as time is more available in winter, would it be advisable to put it in now? Has any special way to be adopted for winter laying?

Ans.—1. Our correspondent should be more specific as to the location of the swelling, whether at the fetlock, hock or stifle. The affection is a bursal enlargement of some sort, and if situated at the hock is probably a thoroughpin. Bathe long and often for a few days with cold water if inflammation is present, and, when quite allayed, blister mildly every month, as long as necessary. If the swelling is at the fetlock, bandage, shoe with a high-heeled shoe, and apply some astringent lotion. Thoroughpin is usually associated with bog spavin, causes of which are premature overwork and defective conformation, due to heredity. The thoroughpin is due to the pressure of the fluid constituting the bog spavin on the bursae of the perforans tendon, which is thus pushed out of place.

2. Unless you are fortunate in having some other place to keep your horses, we do not see how you can advantageously lay the floor now. A difficulty that is met in winter laying of cement is the frost. This might be guarded against by artificial heat, and one Canadian contractor informs us that he gets over the difficulty by mixing the cement with a cement-mixer, using warm water in which is dissolved 15 lbs. of salt and 1 1/2 lbs. of carbonate of soda to the barrel of water. But, having seen cement sidewalks prove a failure on account of frost soon after laying, we feel chary about recommending the laying of cement in winter, except when one can readily control the temperature until the cement has firmly set.

Mr. Horace N. Crossley advertises in this paper a pair of pure-bred Hackney mares, which, from the description, should be a desirable investment for anyone needing stock of that sort.

USED MEN AT THE OFFICE WOMEN IN THE HOME CHILDREN AT SCHOOL

Every day in the week and every week in the year men, women and children feel all used up and tired out.

The strain of business, the cares of home and social life and the task of study cause terrible suffering from heart and nerve troubles. The efforts put forth to keep up to the modern "high pressure" mode of life in this age soon wears out the strongest system, shatters the nerves and weakens the heart. Thousands find life a burden and others an early grave. The strain on the system causes nervousness, palpitation of the heart, nervous prostration, sleeplessness, faint and dizzy spells, skip beats, weak and irregular pulse, smothering and sinking spells, etc. The blood becomes weak and watery and eventually causes decline.

Milburn's Heart and Nerve Pills

are indicated for all diseases arising from a weak and debilitated condition of the heart or of the nerve centres. Mrs. Thos. Hall, Keldon, Ont., writes: "For the past two or three years I have been troubled with nervousness and heart failure, and the doctors failed to give me any relief. I decided at last to give Milburn's Heart and Nerve Pills a trial, and I would not now be without them if they cost twice as much. I have recommended them to my neighbors and friends."

Milburn's Heart and Nerve Pills 50 cts. per box or 3 for \$1.25, all dealers, or The T. Milburn Co., Limited, Toronto, Ont.



ARTHUR JOHNSTON Greenwood, Ont.

Offers for sale at moderate prices: 3 high-class imp. bulls, 2 excellent yearling bulls, home-bred, 17 first-class bull calves. Also cows and heifers, imp. and home-bred. Most of the above imp. or sired by imp. bulls and from imp. dams.

SCOTCH SHORTHORNS

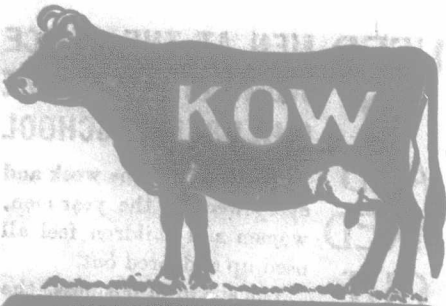
9 heifers, yearlings, 29 heifers, calves, 4 bulls, yearlings, 26 bulls, calves. All out of imported sires and dams. Prices easy. Catalogue.

John Clancy, N. CARROLL & SON, Manager, Carleton Place, Ont.

Spring Grove Stock Farm Shorthorn Cattle and Lincoln Sheep

First herd prize and sweepstakes, Toronto Exhibition, 5 years in succession. Herd headed by the imported Dublin-bred bull, Bay Morning, and White Hill Rambler. Present crop of calves sired by Imp. Prince Sunbeam, Isb., Toronto, 1905. High-class Shorthorns of all ages for sale. Also prize-winning Lincolns. Apply T. E. ROBSON, Ilderton, Ont.





CURES

by the thousands — profitable herds and vigorous calves by the score testify to the efficacy of KOW-KURE. It is not a "food"—it is a medicine, and the only medicine in the world for cows only. Made for the cow and, as its name indicates, a cow cure. Barrenness, retained afterbirth, abortion, scours, caked udder, and all similar affections positively and quickly cured. No one who keeps cows, whether many or few, can afford to be without KOW-KURE. It is made especially to keep cows healthy, and healthy cows give more milk, make richer butter and with less care. If you are having any trouble with your cows you can cure them with KOW-KURE. Our book, "The Cost of a Lost Cow," contains many helpful hints, free. Write for it.

Dairy Association Co., Mfrs., Lyndaleville, Vt., U. S. A.



ANNANDALE HOLSTEIN HERD

are the greatest of the breed individually, and backed by great records, viz.:
 Brookbank Butter Baron, dam and sire's dam average 22 lbs. butter in 7 days, 4.5 per cent. fat. First-prize bull at Ottawa and Toronto, 1905.
 Prince Posch Calamity, dam and sire's dam average 26.1 lbs. butter in 7 days, 86 lbs. milk in one day, 3.5 per cent. fat. Also a prizewinner at Toronto and Ottawa.
 Wopke Posma, imported in dam from Holland. Sire Wopke, his dam Boss, greatest cow in Holland. Record: 17,160 lbs. milk in 336 days, 734 lbs. butter, 3.97 per cent. fat.
 You don't draw a blank in purchasing a bull from such sires and such dams as are kept at Annandale Stock Farm, Tilsonburg, Ont.
 GEO. RICE, Prop.

WOODBINE HOLSTEINS

Herd headed by Sir Mechthilde Posch, absolutely the best official-backed sire in Canada. Dam Ianthe Jewel Mechthilde, 26.8 pounds butter in seven days. Champion cow of Canada over all breeds. Sire's dam, Aalke Posch 4th, holds the world's largest two-day public test record—8.6 pounds butter. Young bulls of the choicest quality for sale.
 A. KENNEDY, Agr. Ont.
 Agr. C.P.R.; Paris, G.T.R.

With Cheese at 12c. and Butter at 25c. why not

Buy a Holstein Bull

and Improve Your Dairy Herd? I have them Right in Breeding, Right in Quality, Right in Price. Order early if you want one.
 G. W. CLEMONS, ST. GEORGE, ONT.

HOLSTEINS AND CHESTER WHITES.

Our Holsteins are producers and prizewinners. Young bulls and a few choice heifers for sale, also some extra good young Chester White pigs, both sexes. D. G. GOODERHAM, Thornhill P. O. G. T. R. and street cars.

MAPLE GLEN STOCK FARM

Can now offer one young bull, born last spring, and four bull calves, born in Aug., Sept. and Oct., from select cows, and sired by the great imp. bull, Sir Alta Posch Beets. Any female in the herd can be secured at their value.
 C. J. Gilroy & Son, Glen Buell, Ont.

IMPERIAL STOCK FARM HOLSTEINS

Stock for sale, all ages, imported and home-bred.

W. H. SIMMONS, New Durham P.O. Burgessville or Harley Stations.

Lyndale Holsteins

Stock for sale, any age, either sex.

BROWN BROS. - Lvn. Ont.

"GLENARCHY" HOLSTEINS

We have for immediate sale several young bulls, and a number of young females, that for ideal type and superior quality, backed up by gilt-edged breeding, are unsurpassed.
 G. MACINTYRE, Renfrew P.O. and Stn.

GOSSIP.

Crouch & Son, the noted importers of horses, of LaFayette, Indiana, and London, Ont., have very recently sold to Adam E. Ratz, of Tavistock, Ont., the World's Fair prizewinning Percheron stallion, Tappageur. This is a grand three-year-old black of perfect body and legs, weighs 2,220 pounds, won gold medal at the St. Louis World's Fair, and a great prizewinner at other places. They also sold to Conley Penrose & Sons, of Newmarket, Ont., the handsome imported Belgian stallion, Brissac DeRaguiet, four years old, weight 1,900 pounds—a model of his kind, and a horse of remarkable action and great beauty.

Mr. John Campbell, Woodville, Ont., owner of the Fairview flock of Shropshire sheep, writes: In its twenty-five years' existence that high-standard flock did not have so successful a business year as the one just closed. Having withdrawn from fall show-rings, customers from all over America have freely patronized it, frequently sending their orders, enclosing cheque, stating: "Send me the best you can for the amount enclosed." And not one customer, so far as known, has been left dissatisfied. Mr. Campbell's determination has been, and continues to be, that everything possible, and in reason, shall be done to give good values in filling orders placed in his hands, and so please his patrons everywhere. In his offerings in a new advertisement on another page, he writes that several of the ewes offered will be sold at less than half of what ram lambs from them in 1905 have already sold for.

JOHN WATT & SON'S SHORTHORNS.

One of the oldest and most successful Shorthorn breeders in Canada is Mr. John Watt, of Salem, Ont., whose long and honorable career as one of the leading Canadian importers and breeders, and whose life-long service to the country in the upbuilding and improving of Canadian beef cattle, will long perpetuate his memory. Like father, like son, is amply verified in the son, who has now taken active charge of their large and choice herd of imported and Canadian-bred animals. It is certain that never before has the herd been quite up to the high standard of excellence that the 40-odd head now in their commodious stables presents; representing as they do Scotland's most noted blood in such families as English Lady (identical with the Marr Roan Ladys), Strathallan, Crimson Flower, Kilblean Beauty, Cruickshank Mysie, and Miss Ramsden, at the head of which is the typical and richly-bred prizewinning bull, Duke of Richmond 58415, by Imp. Royal Archer, dam Imp. Duchess 42nd, by Village Archer. He is a roan, ideal in type, and handles like velvet. Second in service is Heatherman 59153, by Imp. Merchantman, dam Beauty 34th (imp.), by Count St. Clair. He is a Kilblean Beauty, and his make-up leaves very little to be desired. A large number of the females are imported. Many of the others, particularly the younger ones, have imported sires and dams, and they represent the get of such noted sires as Barmpton Hero, Imp. Royal Sailor, Belisarius, Imp. Good Morning, Imp. Royal Archer, Imp. Viceroi, Imp. Prince Louis, Lord Lovatt, Royal Ury, Royal Victor, Coming Star and Royal Star, the bull that brought the highest price at the late sale of the Woods Investment Co., at Omaha, Neb. They are an exceptionally large, heavy-fleshed lot, ideal in type and quality, and hard to duplicate as a high-class herd. The dozen or more heifers that are still on hand are choice individuals, and, being so richly bred, are a very desirable kind for the foundation of a herd, or the strengthening of one already established. In young bulls, there are several. One is a red, by Royal Star, and out of Imp. Lady Baroness. There are a pair of red twins, out of the Strathallan cow, Idlewilde, and sired by Imp. Good Morning. Another is a nine-months-old roan, out of a Roan Lady dam, and got by Royal Star. This youngster has two half-brothers that were winners of both first and second prizes at Toronto and London, and will make a winner himself sure. There are also two others, by Royal Star, one out of an English Lady dam, the other out of Lady Baronet (imp.). Anything in the herd is for sale at living prices.

QUESTIONS AND ANSWERS. Miscellaneous.

CANADIAN TARIFF.

Please publish a list of the dutiable goods brought into Canada, also the duty imposed on each article. W. E.

Ans.—It would take several pages of "The Farmer's Advocate" to give this information, and it is not of sufficient general interest. You will find it complete in the Canadian Almanac, or some other form, in your nearest bookstore, or failing that, the nearest Customs House. The Statistical Yearbook, which you can get from the Dept. of Agriculture, Ottawa, also contains what you ask for.

REGISTRATION OF CLYDESDALES.

Can you tell me whether the following horses are registered in the Canadian Clydesdale Studbook or not: Old Sovereign, Darnley's Chief, Muirhead, Kippen Davie Champion? If they are not registered, can you find out if they are eligible? W. S. F.

Ans.—We find Sovereign [124] in Vol. 1, imported in 1845, died in 1852; also Darnley's Chief [920], imported in 1888 by Mr. Beith. We do not find the other two horses in the Canadian Studbook, but would advise you to write the Registrar, Mr. F. M. Wade, Department of Agriculture, Ottawa, who is in a position to give fuller information.

TANNING SKINS WITH HAIR ON.

Kindly tell how to tan cat and other furs, so the hair will not drop out. F. G. S.

Ans.—We give below three recipes for tanning such skins with the fur on:

1. Stretch the skin smoothly and tightly upon a board, hair side down, and tack it by the edges to its place. Scrape off the loose flesh and fat with a blunt knife, and work in chalk freely, with plenty of hard rubbing. When the chalk begins to powder and fall off, remove the skin from the board, rub in plenty of powdered alum, wrap up closely, and keep it in a dry place for a few days. By this means, it will be made pliable, and will retain the hair.

2. Soft water, 10 gallons; wheat bran, 1/2 a bushel; salt, 7 pounds; sulphuric acid, 2 1/2 pounds. Dissolve together, and place the skins in the solution, and allow them to remain 12 hours, then remove and clean them well, and again immerse 12 hours or longer, if necessary. The skins may then be taken out, well washed and dried. They can be beaten soft, if desired.

3. Saltpetre, 2 parts; alum, 1 part. Mix. Sprinkle uniformly, on the flesh side, roll up, and lay in a cool place. Spread it out to dry; scrape off the fat, and rub till pliable.

Veterinary.

CHOREA.

When my horse is backed up after standing a while, he swings one hind leg out, just for one step. F. C.

Ans.—This is a form of chorea, a nervous disease, which is often incurable. Purge him with 8 drams aloes and 2 drams ginger. Feed bran only for 12 hours before and 24 hours after administration. Follow up with six drams bromide of potash night and morning in damp food for ten days. Cease giving the drug for a week, and then repeat.

SWEENEY.

What is the best treatment for sweeny; has been slightly affected for a year; is quite severe at present. A. E.

Ans.—In order to restore the animal to full usefulness, you will have to give long rest, and blister the point of the shoulder and also over the shoulderblade once monthly with the following: One and a half drams each biniodide of mercury and cantharides, mixed with two ounces of vaseline. Clip the hair off, and rub the blister well in; tie so that he cannot bite the parts; in twenty-four hours rub well again, and in twenty-four hours longer wash off and apply sweet oil. Repeat blister every month, as long as necessary. The insertion of setons acts more energetically than blisters, and sometimes succeeds when blistering fails. As the case improves, the animal may be put to light work, but should not be used on rough or uneven ground, and should not be put to the plow.



Lameness resembling bone spavin, but the bunch is in front of the true hook joint, a little to the inner side, and is soft and yielding, hardening sometimes as the case grows old.

Fleming's Spavin Cure (Liquid)

is a special remedy for the soft and semi-solid bunches that make horses lame—Boog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It isn't a liniment to bathe the part, nor is it a simple blister. It is a remedy unlike any other—doesn't irritate and can't be limited. Easy to use, only a little required, cures the lameness, takes the bunch, leaves no scar. Money back if it ever fails. Write for Free Horse Book before ordering. It tells all about this remedy, and tells what to do for blemishes of the hard and bony kind.

FLEMING BROS., Chemists, 45 Front Street West, Toronto, Can.



You need a MOLSTEIN BULL

to head your herd, sired by such noted sires as "V a l e P i e b e De Kol," whose dam and sire's dam records average 619.3 lbs. milk, 27.31 lbs. butter in 7 days, or "Duchess Aaggie De Kol Beryl Wayne," grandson of the famous "Beryl Wayne," 92 lbs. milk in one day, 27.87 lbs. butter in 7 days, 17.75 lbs. milk in 10 1/2 months. We have 12 imported and home-bred bulls to offer of such breeding; also heifers and young cows. Just imported, 36 head in the past six months, 72 head from which to select. It will be to your interest to enquire before buying elsewhere.

H. E. GEORGE, Crampton, Ont. Seven miles from Ingersoll.

Hilton Stock Farm Holsteins, Cotswolds and Tamworths.

Present offering: Some choice heifer calves; young boars fit for service; young sows ready to breed, and younger ones at reasonable prices. R. O. MORROW, Hilton P.O., Brighton Tel. & Stn.

R. Honey, Brickley, offers Holstein bull calves of the richest quality at reduced rates for the next two months; also Yorkshires of both sexes.

High-class Registered Holsteins.

Young stock either sex for sale. Prices reasonable. Apply to THOS. CARLAW & SON, Campbellford Stn. o Warkworth P. O.

Holsteins, Tamworths, Oxford & Dorset SHEEP FOR SALE.

At present we have 1 young bull, 8 Oxford ram lambs, Dorsets, 1 yearling and 1 aged ram, Tamworths, both sexes. J. A. RICHARDSON, South March P.O. and Stn.

RIVERSIDE HOLSTEINS

80 heads to select from. Six young bulls, from 4 to 7 months old, whose dams have official weekly records from 16 to 21 lbs. butter; sired by Johanna, Bua 4th's Lad, a son of Sarcastic Lad, Grand Champion prize bull at World's Fair, St. Louis, 1904. MATT. RICHARDSON & SON, Caledonia, Ontario.

Don't Wait! BE UP-TO-DATE

And buy some choice young JERSEYS. Two bulls and a number of A No. 1 cows and heifers from great milkers. Also collie pups.

W. W. EVERITT, Dunedin Park Farm, Chatham, Ont. Box 552.

Pine Ridge Jerseys—Present offering: Some choice lot of heifers, all ages, from 4 months up; also some good Cotswold sheep (registered). WILLIAM WILLIS, Newmarket, Ont.

Brampton Jersey Herd

We have now for immediate sale 10 bulls, from 6 to 18 months old, descended from St. Lambert or imported stock; also females of all ages. In order to reduce our stock, we are making a special offer. For full particulars, address, B. H. BULL & SON, Brampton, Ont. Phone 68.

Highgrove Jersey Herd

Our present offering is: 7 young bulls and few females, among them being 1st, 2nd, 3rd and 4th prize winners at Toronto this year. Bred from producers and sired by richly-bred bulls. ROBT. TUFTS & SON, Tweed P.O. & Sta.

STOCKWOOD AYRSHIRES FOR SALE

1 bull 11 months, 2 bull calves 6 months; also a choice lot of cows and heifers coming in Sept. and Oct. A number of heifer calves dropped Aug. 1905. For full particulars address, D. M. WATT, Allan's Corners, Ont.

SPRING BURN STOCK FARM, North Williamsburg, Ont.

H. J. WHITEKER & SONS, Props. Offer 11 Ayrshire Bulls, from 8 months to 3 years old, from heavy milking cows with large teats. Also a number of Buff Orpington cockerels and pullets. Prices reasonable.

AYRSHIRES

Choice stock of either sex, different ages, for sale. Prices reasonable. For particulars apply to N. DYMENT, Hickory Hill Stock Farm, Dundas Stn. & Tel. Clappison, Ont.

QUESTIONS AND ANSWERS. Veterinary.

CEDEMA.

Two-year-old filly has a soft swelling from the mammary gland forward for about three or four inches. Sometimes it is sore, and causes her to hump when she trots. The swelling increases in size when she stands in the stable. K. M. D.

Ans.—Give her a purgative of six drams aloes and two drams ginger. Feed bran only for 12 hours before and 24 hours after administering the purgative. Follow up with one dram iodide of potash twice daily every alternate week, and rub the parts well twice daily as long as necessary with a liniment composed of four drams each iodine crystals and iodide of potash, and four ounces each glycerine and alcohol. V.

BULL WITH TUBERCULOSIS

I bought a young bull on the 13th of June last. Fed him on grass as long as grass could be had, then fed grain and hay; but all the time, the animal did not thrive, and was loose in bowels, passing a very black matter. About the first of November, he took a lump on jaw; lump not attached to the bone. Lump broke and ran to the outside, and appeared to run all out. He then took a dry, short, choking cough; failed very fast, and ate very little, seemed as though it was hard for him to swallow. On December 26th, one V. S. pronounced it tuberculosis, and ordered him to be killed. On December 27th, another V. S. was called and said it was not tuberculosis, but that all the trouble was from the lump jaw, and ordered him killed. I had the animal killed at once. The last mentioned V. S. examined him, but I am not satisfied with his decision. Bull was 23 months and 20 days old when killed.

- 1. What was the disease?
2. Can I compel the man I bought him from to pay me back my money, or any part of it?
3. Will an animal as young as this have tuberculosis? W. H. L.

Ans.—1. From the description of the symptoms we incline to think the first vet. was right in his diagnosis, but he had no right to express a positive opinion to this effect without using the tuberculin test; nor did either vet. have any authority to order the animal destroyed. All they could legally do would be to recommend such a course. The lump which the second vet. pronounced lump jaw was, in all probability, a mere tubercular swelling.

2. It is likely the bull was in the incipient stages of tuberculosis when you bought him, but there is no evidence the seller was cognizant of the fact, and we do not see how you could prove that the animal was infected when bought, and, as you imply, by your statement of the case, that no guarantee accompanied the sale, we do not see that you have any claim for a refund of purchase money.

3. Tuberculosis attacks animals of all ages.

Miscellaneous.

FERTILIZERS FOR TURNIPS.

Is there any fertilizer that can be sown with turnip seed and produce a profitable increase in the crop? J. R. V. Ont.

Ans.—A good deal depends on the soil and climate. In a backward season, an application of available plant food in the form of commercial fertilizers at time of sowing or before, helps to give the crop an early start, and may easily prove profitable. The particular need of turnips is for available phosphoric acid, as they have singularly little power of appropriating the combined phosphoric acid of the soil, hence applications of superphosphate are particularly profitable on turnip crops. By superphosphate we mean rock or bone phosphate that has been made soluble by treatment with sulphuric acid, being hence sometimes called acid phosphate. Any special turnip fertilizer used in conjunction with a complete fertilizer, like barnyard manure, should consist wholly, or at least largely, of acid phosphate. There is need of much more scientific and individual experimentation in Canada along these lines.



Test of the Scales

There is not a time in the life of a mature beef when Dr. Hess Stock Food cannot be fed with a decided profit, as the test of the scales will prove. Dr. Hess Stock Food causes every organ to perform its proper function, it furnishes the laxatives so liberally supplied in grass, improves digestion and assimilation, regulates the kidneys and liver, and in fact forces growth and development by compelling the system to appropriate to bone and muscle building the nutrition contained in the food eaten. One of the first rules for skillful feeding recognizes the fact that it is not the amount of food consumed, but the amount digested that produces the profit. Modern, scientific feeding, therefore, not only has to do with supplying the animals with the proper ration for the rapid development of bone, muscle, fat, etc., but is most concerned in digesting it, and at the same time maintaining perfect health and condition.

DR HESS STOCK FOOD

Is the prescription of Dr. Hess (M. D., D. V. S.), containing tonics for the digestion, iron for the blood, nitrates to expel poisonous material from the system, laxatives to regulate the bowels. The ingredients of Dr. Hess Stock Food have the endorsement of the Veterinary Colleges and the Farm Papers. Recognized as a medicinal tonic and laxative by our own government, and sold on a written guarantee at

7¢ per pound in 100 lb. sacks; 25 lb. pail \$2.00. Smaller quantities at slight advance. Duty paid.

A tablespoonful per day for the average hog. Less than a penny a day for horse, cow or steer. If your dealer cannot supply you, we will.

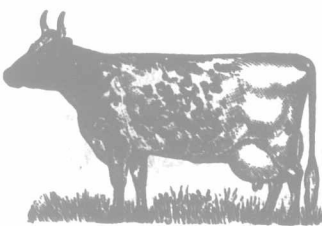
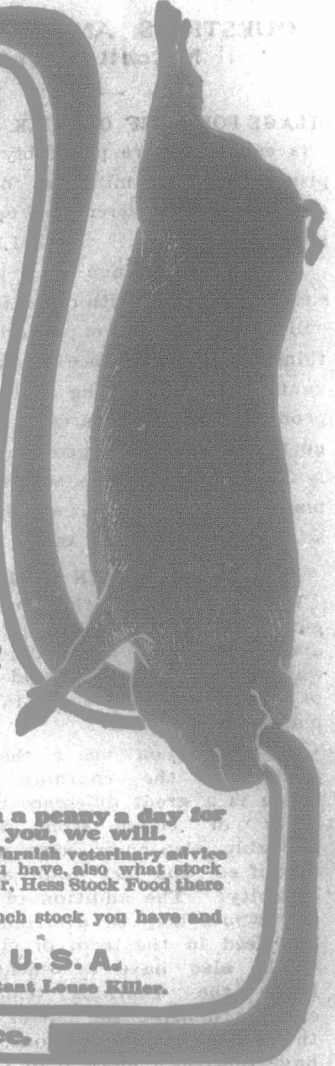
Remember, that from the 1st to the 10th of each month, Dr. Hess will furnish veterinary advice and prescriptions free if you will mention this paper, state what stock you have, also what stock food you have fed, and enclose two cents for reply. In every package of Dr. Hess Stock Food there is a little yellow card that entitles you to this free service at any time.

Dr. Hess Stock Food free, if you will mention this paper, state how much stock you have and what kind of stock food you have used.

DR. HESS & CLARK, Ashland, Ohio, U. S. A.

Also manufacturers of Dr. Hess Poultry Pan-a-c-a and Instant Louse Killer.

Instant Louse Killer Kills Lice.



AYRSHIRES and YORKSHIRES

Choice yearling heifers just bred to imp. bulls. A few young cows, young bulls and calves, all bred from the best known milking strains. Jan. and March boars and young pigs of good type and breeding. See us at Toronto, or write for prices.

ALEX. HUME & CO., - Menie P. O.

AYRSHIRES

The famous Reford Herd at St. Anne de Bellevue, Que., now owned by Sir William C. Macdonald.

Several yearling bulls for sale; also a number of bull calves. Quality and appearance extra good, bred from the best milking strains, noted for robust constitution and large teats.

For particulars apply to

MACDONALD COLLEGE St. Anne de Bellevue, Quebec.

AYRSHIRE BULLS

Fit for service: sired by Royal Peter, imp. Grand Champion at Dominion Exhibition this year; also one May and several August calves by a son of imp. Douglassdale and imp. Minnie of Lessnesock, both champions and out of daughters of imp. Daisy and imp. Kirsty.

W. W. BALLANTYNE, Stratford, Ont.

Maple Cliff Dairy and Stock Farm Breeders of Clydesdale Horses, Ayrshire Cattle, Berkshire and Tamworth Pigs. Young stock for sale at all times. R. REID & CO., - Hintonburg, Ont. Farm adjoins Central Experimental Farm.

Meadowside Farm

Ayrshire Cattle, Shropshire sheep, Berkshire pigs, B. P. Rocks and B. Orpingtons. Young stock for sale.

A. R. YULL, Prop., Carleton Place, Ont.

SUNNYSIDE AYRSHIRES.

Cows and heifers, all ages; 1 bull 2 years old, 2 bulls 1 year old, and bull calf 2 months old, out of the Pan-American winner. Dams are extra heavy milkers.

John W. Logan, Howick Station, Que.

HIGH-CLASS AYRSHIRE CATTLE

Bulls and heifer calves, two to nine months old, cows and heifers all ages. Prizewinners from this herd include Tom Brown and White Floss, sweepstakes at Chicago. DAVID BENNING & SON, "Glenhurst," Williamstown, Ont.

100 Shropshires & Cotswolds 100

One hundred head for sale. Ten shearing rams, fifty ram lambs, and sixty shearing ewes. Rams are good enough to head any flock. The ewes are a choice lot and will be bred to imp. ram.

John Miller, - Brougham, Ont.

Shropshire & Cotswold Sheep

SCOTCH SHORTHORNS and

CLYDESDALES

Choice ram and ewe lambs. Also 50 shearing ewes for sale. Apply to

JOHN BRIGHT, Myrtle Station, Ontario.

DORSET HORN SHEEP and SCOTCH SHORTHORNS

The latter representing the Nonpareil, Miss Ramsden, Missie and Gloster families exclusively, and the former comprising more Royal winners and more St. Louis prizewinners than any other flock in the world. Stock for sale always on hand.

JOHN A. MCGILLIVRAY, North Toronto, Ontario.

HIDES, SKINS

WOOL, FURS, TALLOW, Etc.

Consignments solicited. Top prices.

E. T. CARTER & CO., Toronto.

Farnham Oxford Downs

Won 70 Prizes in 1905.

Present offering: 50 ewes from 1 to 4 years (bred), 15 imported rams; also a number of ram and ewe lambs at reasonable prices.

HENRY ARKELL & SON, Arkell, Ont.

FAIRVIEW SHROPSHIRE

Nearly sold out. Now offer 4 good quality, medium size shearing ewes, 6 choice ewes, 3 to 6 yrs. old, imp. and home-bred 15 real good ewe lambs; best of breeding. Young ewes, were bred to St. Louis champion ram and Altamont, a proved excellent sire. Aged ewes were bred to Fair Star Rose, the sire of more winners than any ram in America. Great bargains offered to clear out season's offerings. JOHN CAMPBELL, Fairview Farm, Woodville, Ont.

SOUTHDOWNS

For sale: Braham Pattern, two years old, the best ram lamb in the second-prize pen at the Royal, and first London Fair.

COLLIES

At stud, imported Wishaw Hero, \$10. Puppies out of dam of first and sweetest New York. ROBERT McEWEN, Byron, Ontario.

IMPORTED SHROPSHIRE RAMS AND EWES

From the Best Breeders. Home-bred Rams and Ewes, both Shropshire and Cotswold, of the best breeding. Great sappy strong fellows that will breed well, and at prices that cannot be anything but satisfactory. Write me.

ROBERT MILLER, Stouffville, Ont.

BROAD LEA OXFORDS.

Present offerings are: Ram and ewe lambs of the low-down, blocky type. Also Yorkshire boars and sows five months old, of improved bacon type.

A number of nice Barred Plymouth Rock cockerels at reasonable prices. Correspondence promptly answered.

R. B. Stations: Mildmay, G. T. R. Teeswater, C.P.R. W. H. ARKELL, Teeswater, Ont.

SHROPSHIRE

We have for sale a number of choice ram lambs at reasonable prices. Also ewes and ewe lambs; also 4 young Shorthorn bulls, from 6 to 11 months old, and a few yearling heifers.

BELL BROS., The Cedars' Stock Farm, Bradford, Ont.

Improved Yorkshires

Present offering: Choice boars fit for service, and sows bred and ready to breed; also a number of thrifty youngsters, not akin, ready for shipment.

GEO. M. SMITH, Haysville P.O., Ontario.

POLAND-CHINAS

Two litters farrowed Oct. 19th. Price, \$10, registered, crated and f.o.b. here. Order early, as supply is limited.

F. S. WETHERALL, Rushton Farm, Cookshire, Que.

NEWCASTLE HERD OF Tamworth Swine and Shorthorn Cattle

Still have a lot of beauties to offer in Tamworths of both sexes, from 2 months to 2 years old; a half-dozen March sows that will be bred in October and November. All for sale at moderate prices. Also four young Shorthorn bulls ready for service, and a half-dozen beautiful heifers.

COLWILL BROS., Newcastle, Ontario.

TAMWORTHS & HOLSTEINS

Two boars sired by Colwill's Cheion, sows bred and ready to breed, and a choice lot ready to wean. Pigs no akin. Also cows and calves of the deep milking strains. All at moderate prices. Write or call on

BERTRAM HOSKIN, Grafton Sta., G.T.R. The Gully P.O.

TAMWORTHS

3 fine boars fit for service; also a choice lot of both sexes, from 2 to 4 months old, of good breeding stock. Prices reasonable.

Glenairn Farm, Jas. Dickson, Grafton, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

SILAGE FOR BEEF OR MILK PRODUCTION

Is ensilage more profitably used in the production of milk or beef? There seems to be a difference of opinion on the subject.

GALLOVIDIAN.

Ans.—Corn ensilage is a great feed for either when used with other feedstuffs that will balance the ration properly. If anything, its succulence is a greater advantage in stimulating milk flow than in producing gain in carcass weight. But no farmer who can grow corn successfully should fail to do so; and no cattleman who grows corn should fail to have a silo to preserve it in.

DIFFICULTY IN CHURNING.

We have churned three times, and can get no butter. We are milking five cows, and feeding them hay and grain. We always use creamers. Would the presence of six fattening hogs in same stable make any difference?

Ans.—Do you use a thermometer, or guess at the churning temperature? There is a great difference in the churnability of cream from different cows. Probably also your cows are all nearly dry; if so, this fact would account for the difficulty. The addition of a fresh-milch cow would help to overcome it. Succulent feed in the form of silage or roots would also have a beneficial influence. Raise the churning temperature high enough to bring the butter in one-half to three-quarters of an hour, and do not have the churn more than half full. The presence of pigs in the cow stable, though undesirable, has nothing to do with the churnability of the cream.

CEMENT BLOCKS OR SOLID CONCRETE FOR BARN WALL ROOT CELLAR

I am considering raising our barn next spring and putting in a cement stable. I am in a position so that hollow-block wall, or solid concrete could be built for about the same figure. Good gravel is cheap, two miles from home.

1. I would like your opinion as to which wall would be the better, 10-inch solid or 12-inch hollow wall.

2. Would this be heavy enough for a barn 36 x 72? About how much gravel and cement would be needed for an eight-foot wall and also for the floor?

3. Would you advise putting root-house under the approach to the barn?

Ans.—1 and 2. We think you must be mistaken about it being possible to build the cement-block wall as cheaply as the solid concrete, for under no circumstances that we are aware of can a cement-block wall be built so cheaply as a solid one of the same thickness. Cement blocks are being largely used in erecting houses, but they do not seem so satisfactory for barns, being hardly strong enough. For a barn the size specified, we would advise making the wall not less than 12 inches thick at the bottom, tapered to about 10 inches at the top. As for quantities of material, our correspondent can figure that out more accurately for himself, knowing the number and size of his doors and windows. About 128 cubic feet of gravel are required to build 100 cubic feet of wall. If field stone are available, a good many loads of them can be worked in, displacing a proportionate amount of gravel and cement. If first-class Portland cement is used, it should be mixed with the gravel in proportion of 1 to 10 parts, and one barrel of cement will do about 35 cubic feet of wall. Rock cement is usually mixed about 1 to 5 for building walls, and one barrel of it will do about 20 cubic feet of wall. A wall of a barn 72 x 36 feet, and an average of 11 inches thick, would contain, approximately, 1,550 cubic feet, less what space is occupied by doors and windows, and would probably require about 65 loads of gravel, minus whatever quantity of stone is used, and 40 to 45 barrels Portland or 70 barrels of rock cement. For laying the floors, you would require about one barrel of Portland cement for 80 square feet of floor, or 28 to 30 barrels of cement. Of rock cement, about 50 barrels would be required. About 35 or 40 yards of gravel should be supplied, less whatever quantity of field stone it is proposed to work in.

3. The approach to a barn is an excellent place for a root cellar.

THE STRONG MAN WINS



Every day we have evidence that the weakling has no place in the busy humdrum life of to-day. It takes nerve and strength to go up against the obstacles we are now forced to encounter, and this the weakling lacks. Look about you and see the successful man of to-day—it matters not whether he be a merchant, lawyer or laborer—with head erect, eye clear, strength in his every movement. He is ready to tackle any problem with that enthusiasm which insures success.

I can make just such people of weaklings. I care not how long they have been so, nor what has failed to cure them. Let them wear my

Dr. McLaughlin's Electric Belt

every night as I direct, and in place of the weak-nerved, debilitated being I will show you a strong person, full of vigorous life, with nerves like steel and ready to look anyone in the fact and feel that he is the equal of the best of them and can do what they can do.

You will say this is promising a great deal. I know it, and can show you evidence that I have done it for thousands of weak people, and every one of them has spent from \$50 to \$500 on drugs before they came to me as a last resort. Are you weak or in pain? Are you nervous or sleepless? Have you Rheumatism, Weak Back, Kidney Trouble, Weak Stomach, Indigestion or Constipation? Are you lacking in vitality? I can give you the blessing of health and strength. I can fill your body with vigor and make you feel as you did in your youth. My Electric Belt is worn while you sleep. It gives a soothing, genial warmth into the body. This is life—vigor.

Port Arthur, Ont., Oct. 8, 1905.

Dr. McLaughlin:

Dear Sir,—I have received great benefit from your Belt. I understand the directions thoroughly, and my back is all right. I am not wearing it this last couple of weeks. I feel like a NEW MAN. I am satisfied with my investment all right, and would have written sooner but could not. I will advise anyone I see suffering to write to you and will praise your Belt to all I meet.

Yours truly, JAS. LAWLIS, Box, No. 77.

My confidence in my method enables me to offer any man or woman, who will offer me reasonable security, the use of my

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