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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

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

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VOL. XLIV.

LONDON, ONTARIO, NOVEMBER 25, 1909.

No. 896

Here's Our Wire Expert — And Here's His Wire

We make and galvanize our own Wire now. No other Fence-maker in Canada does that.

And we have obtained the services of an Expert to help us. This Wire Expert has been making Wire for Twenty-five years.

For Twenty of those Twenty-five years he has been Experimenting and Researching. Now he knows exactly how to make the kind of Wire we require.

After Twenty-five years he certainly ought to know something about it, shouldn't he?

Made Wire in U. S.

Before he came with us he made some of the best Wire in the United States.

So, you see, we know what we're talking about when we say that this new Frost Wire is the best ever used in any Fence in Canada.

We have something to back that. And that's the Wire, itself. This is merely to show you that the Ability stands back of the Frost Fence.

A New System

It's because of the unfit quality of most Wire that nearly all Wire Fence fails to make good.

You see, when the Wire Rods are "drawn out" into Wire, that Wire becomes crystallized—some-what brittle.

But with the new Frost system this common vital weakness is overcome.

After being "drawn out," all Frost Wire is put through the most scientific Annealing process ever heard of.

This Annealing process restores it to its proper temper and pliancy. Every single inch is now alike—of an absolutely uniform temper. This uniformity is found in few other Fences.

Greater Resistance

Frost Wire will not snap, regardless of weather conditions, or the strain which snaps so much other Wire.

The Frost Fence will stand a greater strain than any other Fence on earth, made of No. 9 Wire.

Even if the Frost Fence were made of Wire of a smaller gauge, it would stand up against any No. 9 Wire. But it may never be called upon to exert even one half of its resisting-power.

We subject the Frost Fence to a series of the most severe inspections before it leaves the factory. Not a single flaw can possibly escape us.

Please remember this when you buy Fence, Mr. Fence Buyer.

Adheres Permanently

You certainly wouldn't expect paint to adhere to a piece of greasy, scaly steel, would you?

Nor will Galvanizing do so. This scale must drop off sooner or later, and with it goes your Galvanizing.

But with the Frost Galvanizing process, this common fault is obliterated. The Frost is the only Fence properly and extra-heavily Galvanized.

To make sure that the Galvanizing goes on to stay, every inch of Frost Wire goes through the most thorough cleansings any Wire ever had.

Cleansing Process

First it is put into huge vats of boiling Acid, and left there for Twenty-five minutes. The great cleansing power of this boiling Acid removes every particle of grease and scale.

It then goes through another cleansing, which removes the Acid from its surface.

But to make certain that every drop of Acid is removed, Frost Wire is then baked in immense Ovens, under a temper-

ature of over 400 degrees Fahrenheit.

This remarkable Oven draws out every bit of Acid which might have been absorbed by the Wire.

Frost Wire is now as clean as a whistle. Not one speck of any substance remains upon it.

The Galvanizing will now stick to this thoroughly scoured surface for many, many years. It will fight bad weather and rust for dear life—and win. No other Fence we know of will do that.

You Need This

Send for the new Frost Booklet, and samples of this wonderful Wire. They're free, and post-paid. The Booklet tells all about Frost Fences, with their strain-resisting Locks.

Besides this, it shows how to test any Galvanizing, to prove for yourself that Frost Wire is Galvanized extra heavy, yet will not scale or chip off.

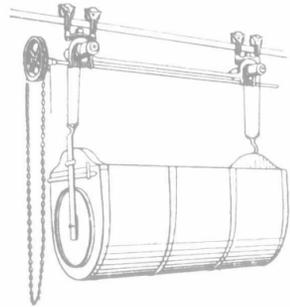
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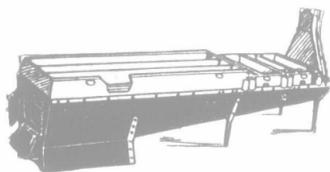


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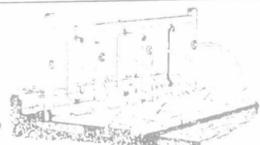
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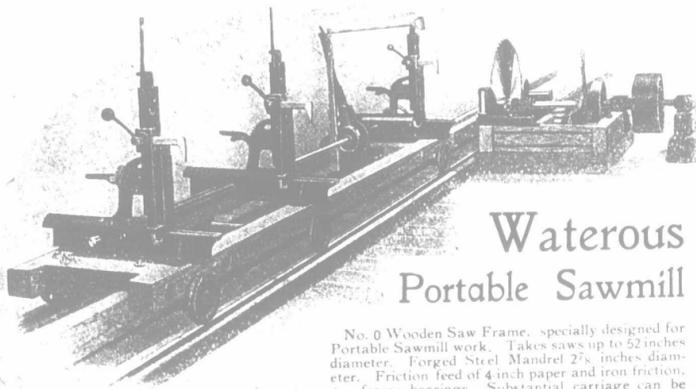
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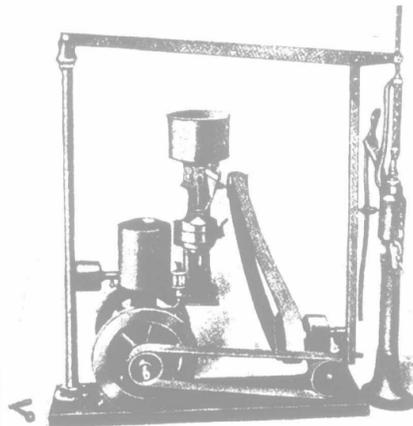
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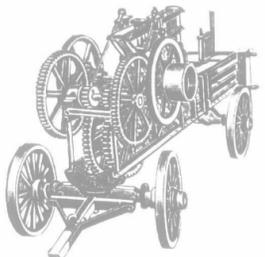
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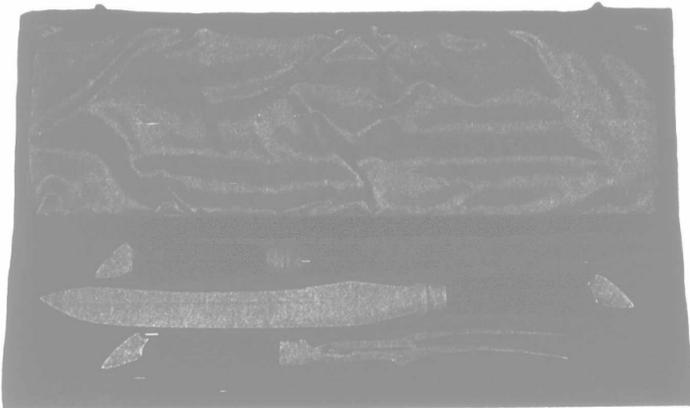
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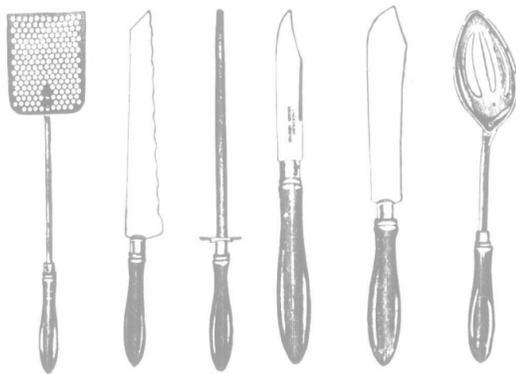
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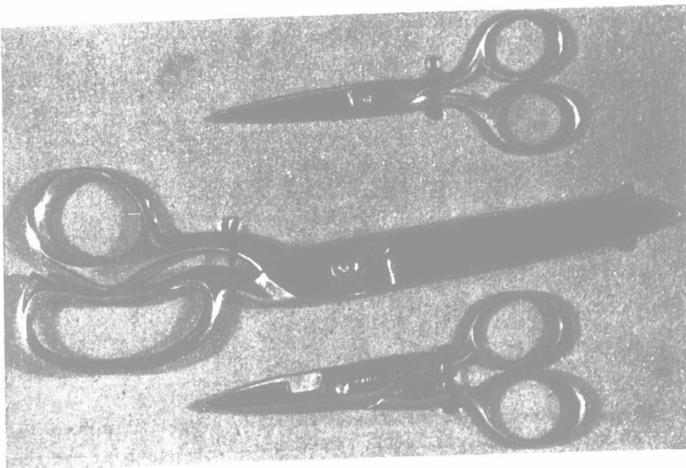
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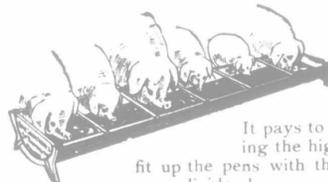
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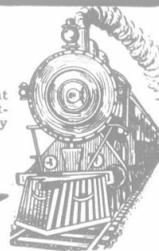
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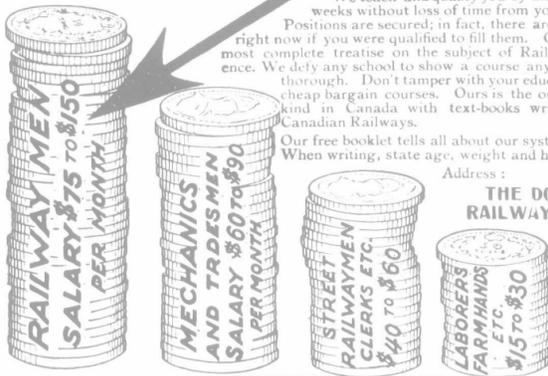
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The Farmer's Advocate

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"Persevere and Succeed."

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Vol. XI, IV.

LONDON, ONTARIO, NOVEMBER 25, 1909

No. 896

EDITORIAL.

When one Canadian senator receives \$2,005 for a one-day's sitting, and another \$2,020 for two days, the public would do well to close up the museum.

The advantage of reading agricultural journals consists not so much in the gain of knowledge as in the stimulus of mind and purpose. Reading is an antidote for brain rust.

Instead of summer touring Europe for ideas evolved under greatly different conditions, is it not about time that Ontario settled down to think out for herself an educational policy better suited to her own needs?

"The best calf in the sale would have made any price had his skin been red or roan. As it was he made 350 gs. in spite of his white skin." This sentence, from our Scottish letter, illustrates the vogue of another one of those absurd fads which in all classes of stock has detracted from the pursuit of utility ideals during one generation after another. Were white a disqualifying color in Shorthorns there might be some excuse; but, as it is not, the color prejudice can only be set down as another instance of dropping substance to chase shadows. When shall we learn sanity in breeding?

The study of feeds and feeding problems, while seemingly complex to the uninitiated, is not beyond the comprehension of any farmer with ordinary intelligence and schooling. The rudimentary principles have been often expounded through "The Farmer's Advocate." It is, however, abundantly worth while to procure a book and go into the subject fully. Henry's "Feeds and Feeding" is heartily recommended, as probably the best work we have for the general farmer. It may be ordered through this office for \$2.15, post-paid, or obtained as a premium by any present subscriber for four new yearly paid-in-advance subscriptions.

Aggregate crop production in the United States during the season just closed is estimated at Washington as two per cent. greater than last year, and about nine per cent. greater than the average of the previous five years. Corn is placed at over two and three-quarter billion bushels, an increase of nearly a hundred million bushels over 1908, and of a hundred and eighty-odd millions over the previous five-year average. Fall wheat shows a slight decrease from 1908, but a twenty-million increase over the average from 1903 to 1907. Spring wheat not only registers a substantial increase over 1908, but a still bigger advance, namely, fifty-four million-odd over the five-year average. The total U. S. wheat crop for 1909 is computed at seven hundred and twenty-four and three-quarter millions of bushels. Oats are estimated at over nine hundred and eighty-three and a half million bushels, registering an increase of some hundred and seventy-six million bushels as compared with the 1908 crop, or of a hundred and thirteen millions compared with the previous ten-year average. Potatoes are nearly ninety million bushels ahead of last year. These stupendous yields of crops, vast utterly beyond real comprehension, are the chief source of the wealth and prosperity of our Republican neighbors.

Golden Opportunities.

What a change has taken place in the last few years in the opportunities that farmers have of not only making a living, but of laying by for their children and the proverbial rainy day. To those of no country does this apply with greater force than to the farmers of Canada. Hon. R. L. Borden, in a speech before the Canadian Club, of London, referring to the possibilities opening out to Canadians, said that one word expressed his feelings on returning to Canada after a visit to Britain and the Continent, and observing conditions there. That word was "opportunity." Opportunity used to be pictured by the Ancients, said he, as a figure with long hair in front, but bald behind, the idea being that she was swiftly passing, and that whoever failed to seize her before she passed, had lost his chance. But in Canada, Opportunity walked side by side with every man. And certainly, now is the Canadian farmer's opportunity. In any line in which he may engage returns are large.

It was not always so. In the winter of 1895-96 oats were selling in London, Ont., market at 70 cents per cwt. and under; barley, 24 cents per bushel. Before that time, it was thought that anything under 30 cents a bushel was an abnormally low price, and that there would soon be recovery if prices fell below that. Some farmers, acting on that idea, decided to hold their oats, but when, the next year, the price was but 20 cents per bushel, they scarcely knew what to think. However, in the third season the expected change came, oats again brought 30 to 34 cents per bushel, and ever since there has been little to complain of in the returns from that grain. Not only so, but the prices both last season and this have swung to the other extreme, so that the buyer is the party who has some right to grumble.

Cheese-factory patrons, who for two seasons have been getting from 11 to 12 cents per pound for cheese, will remember only vaguely, or as an unpleasant dream, the season of 1894, when, in Middlesex County, at least, a grasshopper plague cut the pastures bare, very seriously lowering the milk yield, and cheese sold for but six cents per pound. That was indeed a blue season for the factorymen.

These instances of ruinously low prices in two products of the farm are given as extreme cases only of what was experienced a few years ago in many lines. Instances of wheat being sold for 60 cents a bushel, hogs for \$3.50 per cwt., good export cattle at 4 cents live weight, and hay for \$8.00 per ton and under, could easily be cited, and will be remembered.

In justice to the farming class, it ought to be said that, though they felt keenly the shortage of income resulting from prevailing prices in those hard seasons, they made no loud complaint over it. They held themselves in, quietly waiting for the tide to turn.

Now that it has turned, they are as quietly attending to business, feeling good, but not saying much.

It is safe to say that, never within the memory of Canadians were values for farm products so uniformly high as during the past two years. Wheat, of course, has been higher than at present, but a dollar a bushel is fair, and almost everything else is away up. What shall be said of 11 to 12 cents per pound for cheese the season through, of 40 to 50 cents per bushel for oats, of chickens selling for as much as turkeys used to bring, and ducks as much as geese of old; of strictly fresh eggs selling in Toronto in November for 40, 45 and even 50 cents per dozen, with proportionate prices in other towns of 30 cents and upwards? This is only a part of the list, for

reference might be made to the value of hay, barley, butter, export cattle, and last, and perhaps best, live hogs, of whose sustained and increasing value all are aware.

It may be said, to offset this, though only in part, that more has to be paid for things we buy; that wages are much higher, and the same is true of machinery, clothing, boots and shoes, rubbers, and, indeed, almost all supplies. In fact, as an appreciative reader expressed it the other day, about the only thing one doesn't have to pay more for is "The Farmer's Advocate." On the other hand, it must be admitted that most of the things we pay higher prices for, as well as many obtainable at the same old rates, are improved out of proportion to the slight advance in price. Machinery, for example, is being constantly perfected, while ready-made clothing is turned out in many shapes and sizes, and so well gotten up that it is steadily reducing the business of custom tailors.

Taking it all round, the increase in prices on produce we sell much more than compensates for any net advance in what we purchase; so that, as compared with twelve or fifteen years ago, the farmer's business is pleasant and prosperous, with every prospect of remaining so for many years to come. Land values in the progressive farming regions are steadily rising, because the earning power increases, and there is no safer or better investment to-day than rural real estate, providing one is in a position to work it to advantage, and thus realize a fair rate of interest from year to year. Altogether, the farmer in Eastern Canada has come upon halcyon days. It only remains to bestir ourselves, and improve the opportunities with which we are surrounded on every hand.

The Christmas Number.

Plans for the 1909 Christmas Number are practically completed, and ere this announcement is read, the first forms will be off the press. That it may be the more pleasurable and refreshing surprise when it comes, we refrain from disclosing the identity of contributors, or the scope and character of their contributions. Suffice to say the writers include some of the most gifted and eminent agricultural men in three countries, the great majority, however, being Canadians; while, from the bold, pleasing and original front-cover design, to the last advertising page, the contents will please, edify or profit with the turning of every leaf. A strong point is being made of illustrations, selected with a view to variety, interest, and illustrative value. Taking everything into consideration, we may confidently promise that our readers' high expectations, based on previous productions, will not be disappointed in the expensive and handsome issue forthcoming next month.

Why Some Farm Returns are Low.

Many a farmer fails to get adequate returns from his farm because he stays at home too closely, puts in too many hours a day following the plow, and does not often enough visit good farmers in his neighborhood or other sections of the country where good farming is done. Furthermore, a man physically exhausted from a long, hard day's work is in no condition to follow and get much out of the literature of his business, as reported in farm papers, agricultural bulletins, reports and books, and without the advantage of all the information available from every possible source he will find awkward situations, times when some particular problem arises that cannot be solved from his own experiences.

Success in farming calls for the very best effort in a man along all lines. The farmer who is dis-

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED)

JOHN WELD, MANAGER

AGENTS FOR THE FARMER'S ADVOCATE AND HOME JOURNAL,
WINNIPEG, MAN.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s; in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agate. Contract rates furnished on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrearages must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrearages are paid and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
8. ANONYMOUS communications will receive no attention. In every case the FULL NAME and POST-OFFICE ADDRESS MUST BE GIVEN.
9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1 must be enclosed.
10. LETTERS intended for publication should be written on one side of the paper only.
11. CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P.O. address.
12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve THE FARMER'S ADVOCATE AND HOME MAGAZINE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
13. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

satisfied with his income from the farm needs to think seriously as to whether or not his farm is planned right for the largest returns, remembering that good farming calls for keeping up the productiveness of the farm while getting maximum crops economically from the soil.

Sparrow Matches.

"Are rats and sparrows common in Canada?" inquires our Scottish correspondent. Surely he means it as a joke! All over Eastern Canada they are indeed common, while last fall the voracious rodents made their way into the Prairie region of the Dominion. As for sparrows, they are like fleas on a dog's back, and, if anything, rather harder to exterminate. The discussion on that question in these columns last winter suggested shooting, poisoning and prizes to children for destruction of nests as among the most effective means of keeping them in check. Sometimes sparrow matches are got up by the young men of a neighborhood, the side bringing in the fewest dead sparrows having to pay for the big supper arranged for. One method of securing birds used by some of these young fellows is to station one of their number close to a corner in the barn, with a lantern held close to his left side under his coat, in such a way that the light will shine only on a small space in the corner. His fellows stir up the birds in the barn, which seeing the bright light in the corner, fly to it, mistaking it for an opening, and are caught by hand and killed as they strike.

As part of the value given subscribers to "The Farmer's Advocate" is a superb Christmas Number. Some other publishers charge twenty-five or fifty cents extra for their special holiday numbers. We give, as an enthusiastic reader put it last year, "A far better one for nothing."

Free Renewal and Clubbing Rates.

As a large number of subscriptions to this paper expire with the end of the year, renewal time will soon arrive for a good many thousand readers. Of course, practically everyone wants the paper continued, and the great majority can easily afford the comparatively small sum of \$1.50 per year. There are those, however, in straitened circumstances, to whom every dollar looks big. To do without the paper would be penny-wise-and-pound-foolish, but they eagerly appreciate an opportunity to earn their renewal by a little missionary work in the interest of "The Farmer's Advocate" and better agriculture. Indeed, many who would not trouble themselves for the monetary consideration alone will take a hand for the good of the cause. It is by such loyal support of appreciative readers that "The Farmer's Advocate" has been built up to the position it occupies today.

To encourage and reward our friends in the good work, we offer these very favorable terms for clubs of new names. Every present bona-fide subscriber who sends us the names of two new yearly subscribers, accompanied by \$3.00, may have his own subscription extended twelve months. If he secures more than two new names, he need remit only \$1.00 for the third and each subsequent one, retaining 50 cents out of the \$1.50 collected as a cash commission, to recoup him for his trouble. This works out as follows: Send

\$3.00 for 2 new names and your renewal.
4.00 " 3 " " "
5.00 " 4 " " "
6.00 " 5 " " "
7.00 " 6 " " "

And so on. Remember that all the names but your own must be the names of new subscribers, persons who have not taken the paper for at least 12 months previous. A man who stops for a few weeks, and then starts again, is not regarded as a new subscriber. Neither is it permissible for one member of a family to drop the paper, in order that another in the same household may come in as a new subscriber. Such is contrary to both the spirit and the letter of our offer. We want to get the paper into new homes.

Every farmer in Canada needs "The Farmer's Advocate." Thousands don't get it. It is your business and privilege to get after these men, convince them, and get their names and money before they sign for other papers. If they are taking others, they need this one, anyway. There is no substitute for "The Farmer's Advocate." It is surprising what can be done by energetic canvass, even in districts where a large proportion are already getting the paper. One man, working in Oxford and Perth Counties, in districts where the best farmers are already on our lists, secured, on one concession, seven out of nine men called upon; in another, thirteen out of fifteen, and so on. Names can be secured in almost any locality, if it is gone about in the right way. Now is the time to work.

About 365 Different Rates.

Discussing the matter of Bell connection for independent telephone companies, an officer of one of these in Durham County, Ont., remarks:

"The Railway Commission has recently had two cases before them re rural connection, and in both cases it has been left to mutual agreement, the agreement to be filed at the office of Railway Board, but to a recent date has not been received. Parliament should enact that all telephone agreements should be recorded with the Railway Board; it would be valuable data. Take the agreement of 5c. per call; it never appealed to us as being

fair. Let me illustrate: One farmer lives on the outskirts of a town; his blacksmith, carpenter, drover, grocer and railway station is situated in a town with a Bell franchise. Another farmer living, say, eight miles from the same town, gets his work and supplies in a village. The result is apparent. One would have to pay a long-distance price, plus maintaining local system; his fellow subscriber only the local system, and rare calls to town. I regretted very much that so few secretaries responded to your invitation to give an account of their system and prices charged for maintenance and connection. It is the only way at present known that each will get the best price and all have it, for the Bell Co. have as many different prices as there are days in the year."

HORSES.

J. F. Ryan, Manager of the Canadian National Bureau of Breeding, recently purchased and shipped to Canada, from Kentucky, for private sale, 12 brood mares, by such fashionable sires as Imp. Escher, Imp. Meddler, Imp. Galore, Sir Dixon, and Go-Between.

In 1900, there was an average of 24 horses (mules included) on farms, and 12 persons engaged in agricultural pursuits to every 1,000 acres of farm lands; similarly, in 1890, there was an average of 28 horses and 13 persons; in 1880, 23 horses and 14 persons; in 1870, 20 horses; in 1860, 18 horses, and in 1850, 17 horses. These figures are based upon U. S. census returns.

Evidence of increased demand for Canadian horses at home is well shown in the British horse import figures for last year. Times were when buyers travelled Eastern Canada picking up big, drafty horses at rather small prices, and exporting them to Britain. In the same way, large numbers of Canadian horses found market in the United States. According to British figures for the year just closed, Canadian supplies numbered 97 head, and sold at an average of \$255.50 each. This is a reduction in Canadian imports in 1908-1909, of 12.61 per cent. Canada exported to the United States, in 1909, 2,116 horses, at an average price of \$175.

Type and Judging.

Just at this time of year we hear a good deal of harsh criticism of the decisions given by judges at the recent fall fairs. Of course, a good deal of it is according to the old saying, "not worth a dog's notice," but it is also true that some of it is only too well merited. This is chiefly due to the fact that the judge does not have a very clear idea of his duty—either because he is not a competent judge, or because he is hampered with silly and useless regulations of uninformed directors. The directors in making out the prize-list do their part to hinder the judge, by inserting the clause, "value to be considered," and, of course, this is generally taken to mean "money value." The judge "does his bidding," and places the most valuable animal first, regardless of the fact that another individual in the class is a much better animal, though for different reasons is not so valuable—age, perhaps, being the chief reason for short value. I have quite frequently asked the judge why he placed such and such an animal first—not from the standpoint of a kicker, but from the standpoint of an interested onlooker, who desires to learn more. His reply has been, "The first-prize animal is the most valuable, or 'The second-prize one was older' (in a brood-mare class), or 'The first-prize horse had more speed' (in the single-roadster class).

Now, let us see how this works out. Horses, like everything else, are often shown in the wrong class. We have on record a Clydesdale stallion that can trot a mile in 2.30 (two minutes and thirty seconds). Suppose he is shown in the single-roadster class, and none of the other entries can trot that fast, the judge referred to above would award first prize to him. Yet he is just as much out of class as he would be with Jersey calves, and should have no prize whatever in that class. In another part of the country, in the single-roadster class, we find a large carriage horse (as near perfect in conformation as we can find one), which shows good, square, high action, and is worth \$300. He is shown against a gelding built after the pattern of Dan Patch, or Mambrino King, having lower stride and more speed than the other, but valued at \$250. The judge, who gives first prize to the most valuable animal, rates the carriage horse first, though he is not a roadster at all, and has no right in that class. Next we look at the roadster brood mares. Among them is a mare 15 years old, sound in every respect, but in conformation and appearance resembles very closely Miss K. Wilks' Rea W.—a genuine roadster. Her age makes her worth \$150 or less. Alongside of her is a mare of general-purpose conformation, except that she is light

LIVE STOCK.

Ventilation of Stables at O. A. C., Guelph, Ont.

The satisfactory ventilation of stables under a lofty barn has always been regarded as difficult. In view of this fact, a few notes from last winter's experience with the system installed a year ago in the cattle stables under the main barn at the Ontario Agricultural College may be read with interest at this season.

During the summer of 1908 the interior fittings of the basement in this large end-drive barn were torn out and the whole plan entirely changed, the root cellar being placed at the south end next the approach. From a passage along the root cellar the rows of cattle extend northwards towards the silo and feed room at the other end. This gives long rows of stalls, with plenty of light admitted from windows on both sides, instead of having the west side darkened, as it used to be, by a root cellar extending along its whole length. There are sixteen windows of twelve lights each and five windows of eight lights each in the basement. The panes of glass are 10 x 14 inches. The dimensions of the stable are about 100 ft. long by 66 ft. 6 in. wide. Three rows of stalls are provided to tie 59 head of cattle, with box-stall accommodation for calves and young cattle. There are two box stalls each 10 x 13 feet, four 10 x 11 feet, and one 10 x 9 feet. There is also a calf run, 80 feet long and 7 feet wide, which, by means of gates, can be divided into smaller pens if desired. The stalled cattle are tied by chains. The stalls for cows nursing calves are 4 ft. 5 in. in width. Prof. Day considers this wider than necessary, but the location of the upright supports of the overhead structure rendered it inconvenient to have them otherwise without making them quite too narrow. The width of stalls for steers and young cattle is three feet eight inches. This would probably be wide enough for the majority of dairy cows. The length of stalls from back of manger to drop is 6 ft. in one row, 5 ft. 9 in. grading down to 5 ft. 3 in. in another, and 5 ft. 10 in. in the west row. The floors and mangers are of cement, with a sloping board front above the cement curbing next the passage. Other details are apparent from the cross-section diagram of gutter, floor and manger reproduced herewith. Water is supplied in a continuous galvanized-iron trough, four inches deep and ten inches wide at the top, made to special order by the Steel Trough and Machine Co., of Tweed, Ont., whose advertisement is familiar to readers of "The Farmer's Advocate." In the case of the larger animals, the bottom of the water trough is nearly three feet above the level of the platform on which the animals stand. This, however, is a matter that must be determined by the size of the cattle.

Now, as to ventilation, it should be first explained that the basement is well built, with a light ceiling and double or storm windows, to minimize waste of heat by conduction. The ventilation is a modification of the Rutherford system. The six 12-inch square inlets have registers which may be closed, though this was not done last winter. The outlet flues consisted of five boxes running up from the ceiling to above the roof, with a cowl turning automatically from the wind to prevent down draft. Each is 12x24 inches in size, and is double-boarded, with tar paper between. This system worked very satisfactorily, keeping the air comparatively pure and preventing the accumulation of hoarfrost and dampness, except at the north end, where the feed room was situated, and where no outlet had been provided. A sixth outlet was put in here the past summer, with a view to overcoming this difficulty. In spite of the care taken to insulate the ventilating flues themselves, there was considerable drip from them, the trouble being aggravated by their length. Indeed, it was found necessary to suspend pans beneath them to catch the drip. No difficulty was experienced last winter in maintaining a satisfactory temperature, 38 degrees being the lowest recorded by the thermometers. Except, perhaps, a little around the doors, Prof. Day thinks it did not freeze in the stable last winter, while the atmosphere was a great improvement upon anything ever experienced in this barn before. It is possible that in a more severe winter not quite such a high temperature could be maintained without sacrificing purity of air, but a few degrees of frost would do no harm, as the water may be turned off on cold nights to prevent trouble from freezing in the pipes.



Cross section Diagram of Stall in O. A. C. Stable.

Our Scottish Letter.

Cheese shows and Shorthorn sales have kept us pretty busy during the weary month of October. But farmers who had the misfortune to have their crops out in the fields had an anxious time, and were very off. The month has been one of the wettest on record. Rain fell with the force of a deluge, and farmers whose crops were still in the field had a sore time. The harvest of 1909 will long be remembered, and if it was not everywhere as desperate as that of 1879, it was in some districts almost equal to that record year of misery. The last week of October witnessed an improvement, and much grain that seemed almost lost has been saved in a kind of a way. We had very hard frost during the nights, and it was well on in the forenoon before anything could be "led." But in the end of the day, the four or five hours of bright sunshine were found to have wrought a great change, and, with plenty of workers, a big extent of grain can be saved in that time. After a week of hard, cold, frosty weather, there is again a break, and to-day (November 1st) we have conditions about as miserable as may be. Potato-lifting proceeds apace, and the dry, hard weather of this week has been conducive to rapid progress here also.

CHANGE IN CHEESE TASTE - MEATY CHEESE IN FAVOR.

Cheese shows at Frome, in Somerset; London, and Chester, have revealed a hopeless divergence in the public taste for cheese. The hard, dry, good-keeping cheese which was in favor in Scotland, is no longer the leading article. The kind wanted is soft and "meaty," something that fills the stomach, and gives one the impression that he has had a big feed. An English and a Scots cheddar judge spent a day at the London show endeavoring to come to a decision, and in the end had to give it up, and call upon other two—a Scot and an Englishman—to place the lots for them. This they did, and the English cheddars won. The demand is for a soft, "meaty" cheese, one that melts away in your mouth. One of the judges at the Kilmarnock show told us that the first-prize Dunlop white cheese, if made after the cheddar shape, was what he wanted. If such is to be the type of cheese wanted, there must be a big change in the method of making cheddars. The problem seems to be how to preserve the "meaty" character of the cheese without producing too much acidity. The Dairy School and the itinerant instructors have been challenged by the merchants to alter their methods; and so far, at least, the net result is in favor of Canadian cheese. In spite of its long ocean travel, and equally difficult land transit, the wonder is to find Canadian cheese competing so keenly with what is produced at home. Cheshire cheese, which is little better than ill-digested curd, is in great demand. It is shown bound in cloths, and must entail heavy expense in marketing. It commands a very high price, in spite of the immature state in which it is put before the public.

SHORTHORN INTERESTS BRISK - COLOR PREJUDICE.

Shorthorns have had a wonderful innings this month. Great sales have taken place in the North of England and North of Scotland, and symptoms of depression are not to be discerned in the ranks of the patrons of the red, white and roan. In Cumberland, Mr. Barries, a tenant-farmer, got 665 gs. for the two-year-old bull, Good Friday, the buyer being Mr. Miller, La Bejen, Birkenhead, the well-known buyer for the Argentine. At Haugh of Ballechin, near Ballinbrigg, in Perthshire, the herd built up by the late Alexander Robertson, was dispersed, 80 head, of all ages, and both sexes, made the fine average of £61 14s. 3d. Figures like 280, 270, 180, 150, 100, 210 and 185 guineas, mainly for cows and young cattle, with very few bulls, indicate how lively the bidding was. Mr. Robertson was a fine judge of Shorthorns. He had a capital eye for the type wanted, and the dispersion sale was attended by

in the bone. She shows high action, and trots for 25 yards with quite a burst of speed, in spite of her 1,300 pounds. Market value, \$175 to \$200, as she is just five years old. The judge places her first, and turns down the aged mare, because she is "not as valuable an animal." In the class for draft brood mares is a little mare, whose picture would answer the purpose well of illustrating Clydesdale type. But she weighs only 1,350 lbs. Beside her is a 1,700-lb. mare, with a rather coarse head, and not such "silky feather." She is rather low in flesh, and this makes her appear flatter on the rib than her rival. The judge says that the little mare has the shape of a drafter, and has neither blemish nor unsoundness, while the large mare has faults; therefore, he decrees that the small mare carry the honors of the class.

Now, these are examples of what may be seen in any of the classes at only too many of the fall fairs. Some reasons for such a state of affairs are these: 1. The man who is labelled "judge" does not know the qualifications of a good horse, and does not know how to distinguish the different classes (general-purpose, roadster, carriage, etc.). 2. He is hampered by absurd regulations of the directors. 3. Animals are not properly fitted or uniformly fat—fat covering to some extent the weak places, and the thin ones looking worse than they really are.

The first of these reasons, it seems to me, is the cause of more errors than either of the other two. If a carriage horse is shown among roadsters, he has no right to any prize at all, and the judge should send it out of the class. Thus the public (who, let us hope, are there to learn) have a chance to see why he is not given a prize. A 1,350-pound mare should be ordered out of the ring for draft brood mares, regardless of her conformation. If her owner does not know enough to keep her out, he, as well as some of the on-lookers, will have a chance to learn what a drafter ought to be. To sum it all up, an animal should not be allowed in a class to which it does not belong. What is the value of having classes for horses at the fairs if these classes are not kept separate? We hear people say (and sometimes it is even put in print) that judges should often "break away from type." If that is true, then the only right way to show horses is to put them all in one big class, and at one show the most valuable horse will take first rank; at another the fastest will be rated highest; and somewhere else the first-prize horse will have to be the fattest. But it will take a long line of argument to convert me to the belief that such a plan would tend to produce the best or even good horses.

Perth Co., Ont. A. DOUGLAS CAMERON.

Canadian Clydesdales at Madison Square.

Besides our winnings in the hunter and jumper classes, and reserve Hackney female championship, at the New York Horse Show, in Madison Square Garden, Canadian exhibitors had things their own way in Clydesdales. Graham Bros., of Claremont, and Hodgkinson & Tisdale, of Beaverton, appear to have been the only competitors:

Clydesdale mares, two-year-olds and over—1, Graham Bros.' Crosby Gem; 2, Graham Bros.' Lady Fergus. Clydesdale stallions, two-year-olds—1, Graham Bros.' Baron's Fancy; 2, Hodgkinson & Tisdale's Abbey Blacon; 3, Graham Bros.' Duke of Montrose. Clydesdale stallions, three-year-olds—1, Graham Bros.' Meteor; 2, Hodgkinson & Tisdale's General Favorite; 3, Graham Bros.' Coniston. Clydesdale stallions, four-year-olds or over—1, Graham Bros.' Gartly Pride; 2, Hodgkinson & Tisdale's Royal Baron; 3, Graham Bros.' Boreland Chief. Clydesdale stallions for championship cup offered by Alfred G. Vanderbilt—1, Graham Bros.' Gartly Pride; 2, Graham Bros.' Meteor.

The Manitoba Agricultural Department's report for 1908 shows that 339 stallions were registered in that year under schedule A of the Stallion Enrollment Act, and certified as pure-bred and sound. The breeds were represented as follows: Clydesdales, 244; Percheron, 51; Shire, 24; Suffolk, 7; French Draft, 1; Draft, 3; New York Jockey, 5; Coach, 3; Thoroughbred, 1. In schedule B, pure-bred, but with no certificate of soundness, 9 stallions were enrolled, and in the class for grades there were 194, making the total number of stallions in the Province 542.

A special feature this year in connection with the programme of lectures at the Ontario Winter Fair, Guelph, December 6th to 10th, will be a discussion of the proper type to be sought for in breeding the various pure breeds of live stock. Each breed will be dealt with by a recognized authority, and representative animals will be used for illustration purposes. One of the general subjects to be taken up will be that of "Underdrainage," which will be discussed by Prof. Wm. H. Day, of the Agricultural College, who will illustrate his remarks by charts and the appliances necessary for the proper carrying out of the work.

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Shorthorn patrons from far and near. Perhaps the price of £25 1s. 1d., realized for 44, at a mixed sale held in Perth, in the afternoon of the same day, was a better index to the active value of commercial Shorthorns.

In the following, we made a day of it: At the Duthie-Marr sale of calves, held at Tillycairn, near Oldmeldrum, 24 bull calves, bred by Mr. Duthie, made an average of £251 1s. 7d. each. Seven bull calves, bred by John Marr, on the famous farm of Uppernill, made £70 16s. 0d., and seven heifer calves, also bred by Mr. Marr, drew an average of £31 13s. 0d. The highest prices for bull calves were 720, 700, 620, 480, 400 and 350 gs. The best calf in the sale was a white bull calf, which would have made any price, had his skin been red or roan. As it was, he made 350 gs., in spite of his white skin. The young three-year-old bull, Golden Promise, was the sire of most of the highest-priced bull calves. The average for six got by him was £374 10s., and the average for nine got by the red bull Jubilant, £254 16s. Golden Promise has been sold by Mr. Duthie for exportation to Buenos Ayres. He is of Augusta descent, and a marked feature of the sales this year has been the "run" on Augusta blood. The Augustas were reared by the late James Bruce, of Inverquhomery. He was a firm believer in them, yet it was not until after his death, which took place about ten years ago, that they sprang into popular favor, and they now share with the Clipper race the honors of first place among Aberdeenshire Shorthorns.

A joint sale was held at Newton, Inch, on the day following the Tillycairn sale. The weather was miserable in the extreme, yet there was a lively sale, 53 head, of varying ages, made the splendid average of £74 10s. 7d.; 390 gs. were paid for a bull calf, and 300 gs. for a heifer calf. Another joint sale was held at Oldmeldrum, when a large number of choice cattle from tenant-farmers' herds in Aberdeenshire were sold, 72 head on that occasion making £33 1s. 10d. Yet another joint sale was held at Aberdeen, when 124 head made £39 10s. 5d. On the last day of the sales, and adjournment was made to Inverness, where a good selection was offered from Ross-shire herds, and herds in Inverness-shire and neighboring counties, very healthy, choice cattle, and the results were that 92 head made £26 18s. 6d. The best average was made by Balnakyle, his figure being £55 8s. 9d. for five.

DECLINING POPULARITY OF THE OLD BREEDS.

By way of contrast, the prices made for Highland cattle at two great sales, held at Sterling, and Oban, may be mentioned. At the former, 52 head realized £13 9s. 9d., and at the latter £30 was the highest price realized. This was paid for a three-year-old heifer from Kilberry, in Argyllshire. The old breeds have no chance against the modern, improved, early-maturity sorts.

DOES NITRATE-FERTILIZING AFFECT SYSTEMS OF ANIMALS?

I don't know whether Canadians try to grow big crops of hay by administering doses of nitrate of soda to the crop. Here there is a wide difference of opinion as to whether hay dressed in such fashion sets up kidney trouble in stock, and especially in horses. Opinion is sharply divided, and no trials have been carried out conclusive enough to satisfy some stock-owners that such a top-dressing is injurious. Some years ago, at a show of the Highland and Agricultural Society, certain valuable animals were seized with kidney trouble of some kind, and, as a result, one prize Shorthorn bull died. The owner set up a claim for damages, and maintained that the cause of death was the hay supplied in the showyard, which was supposed to have been grown on a meadow dressed with nitrate of soda. The farmer who had the contract was well-known to be a gentleman who cultivated his land intensively, using large quantities of manure. It was taken for granted that he had dressed the hay with the suspicious Chilean manure. But the bottom went out of the theory when it was blandly indicated that, knowing the prejudice, the farmer in this particular year had deliberately refrained from applying nitrate of soda to the hay. This was a fine case of the logical fallacy—post hoc, propter hoc. In this case the nitrate was found "not guilty." All the same, there is a case for inquiry and exhaustive experiment, and in the end something may be learned that will be of use. Mr. Speir, of Newton, one of the best-informed and most observant farmers in Scotland, is an out-and-out supporter of the application of nitrate of soda to the hay crop on land which is well manured and in good heart. The truth seems to be that, in dealing with nitrate of soda, as with all other manures, brains must be added to the chemical combination. A successful breeder of Blackface sheep was once asked, at a public meeting, whether the geological formation of the soil had not a good deal to do with the success of sheep-farming? He admitted that it might be so, "but far more depended on the geological formation of the sheep-farmer's head!" This aphorism applies to much more than sheep-farming.

SUCCESSFUL CLYDESDALE SEASON—SOME SALES.

Talking about Clydesdales, we have had a wonderfully successful season, and exports have gone well over the thousand head for the year 1909, so far as it has gone. Recently, there have been some auction sales, at which useful averages have been realized. At the Seaham Harbor foal sale, eleven filly foals realized an average of £38 7s. 6d., and fifteen colt foals realized an average of £38 7s. 11d. At Elgin, in the North of Scotland, a colt foal by Marcellus 11110 made 155 gs.—a first-rate paying price.

PESTIFEROUS VERMIN.

Amongst other things now troubling us are rats and sparrows. Are these vermin common in Canada? In some parts of Scotland there is a saying among farmers that "it is a fell healthy sign to see a wheen rats about a house." Personally, I cannot share the opinion. The most loathsome of all rodents to me is the rat, and there is reason to believe that the loss sustained through them on farms, is enormous. The fecundity of the female rat is something to be afraid of. She breeds at an appalling rate, and the plague has become so pronounced that crusades against the rodents are being organized in many districts. In former days it was customary to poison the rats wholesale, but there are difficulties connected with this method of waging war upon the vermin. You cannot very well set poison for Mr. Rat without imperiling the lives of much more valuable members of the farm stock. And, besides, you are never sure that Mr. Rat will take the poison. His sagacity is almost human, and many stories are told of his abstemious policy when he smells danger. A new method has, therefore, come into favor. This takes the form of setting up an epidemic among the vermin by means of a virus. This is given in food. The first animals which partake of it die. The rat is a cannibal. Those which consume the dead bodies of their comrades in due season contract the disease, and die off, only to be the medium of contagion to others, and so on. But even this method sometimes fails. The rat becomes suspicious when he sees such a wholesale death-rate among his comrades, and he flits. Therefore, it is agreed that, in order to be successful, the attack by means of the virus must be concerted, and extend over a wide area. War has been declared by many farmers' clubs, but whether it will be prosecuted to the bitter end, is a little doubtful.

Sparrows are by many regarded as more destructive than rats. How to attack them successfully, is a very grave problem. Poisoning is effective, but dangerous, and it is positively illegal. They, too, multiply at a terrible rate, and they can destroy grain while in the ear to an extent surprising to those who are made acquainted with their ways for the first time. There are other winged farm pests, such as wild pigeons and rooks, but the sparrow is an easy first in mischief and destructive proclivities.

"SCOTLAND YET."

Commercial Feeding-stuffs Act.

By Prof. R. Harcourt.

During the last session of the Dominion Senate and House of Commons an act was passed dealing with the sale of commercial feeding stuffs. The object of the act is to aid farmers, dairymen, and other purchasers of mill by-products to buy more intelligently. It makes it compulsory for every manufacturer or vendor of a commercial feeding stuff to stamp on the bag or print on a tag, which must be attached to the bag, the minimum percentage of protein and fat and the maximum percentage of fibre in the material offered for sale.

The need of this act has been apparent for some time, and has been brought about by the appearance on the market of many different forms of mill by-products. Among these products we find such materials as linseed meal, gluten meal, gluten feed, corn, oil cake, etc., foods rich in protein and fat, and very valuable foods, particularly for the dairymen. Corn bran, oat hulls, oat dust, pea bran, sugar-beet pulp and molasses, and many other by-products, are also on the market. Some of these are good foods, while others are of comparatively little use. Mixtures of these foods are also prepared and offered for sale under trade names, which give no information regarding their real feeding value. Most of these substances are new feeds, and many of them could be purchased to advantage under the present conditions of the market for grains and hays. Those rich in protein are especially valuable for feeding along with the ordinary roughage of the farm, which is usually of a carbohydrate nature. The dairyman must feed his cows a ration rich in protein if he is to secure the flow of milk desired, and many of these by-products are the best materials he can purchase, provided he can be sure of the quality.

The act defines "commercial feeding stuff," "feeding stuff" and "feeds" as any article of feed for sale for the feeding of domestic animals, and feeds claimed to possess medicinal as well as

nutritive properties, excepting only hay, roots, the whole seeds or the mixed or unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat or flaxseed; wet brewers' grains; the bran or middlings from either wheat, rye, peas or buckwheat, sold separately and not mixed with other substances.

The act provides that every commercial feeding stuff offered for sale in Canada shall bear a registration number, which shall be permanently assigned to the particular brand of feeding stuff for which it is issued. The number shall be granted by the Minister of Inland Revenue, on application of the manufacturer of such brand of feeding stuff, or his agent, and on payment of a fee of two dollars.

In addition to the registration number, the name of the brand, name and address of the manufacturer, and the analysis as guaranteed by the manufacturer, must be legibly printed on every package of food sold. This condition shall be held to be fulfilled if a printed tag bearing the statement required is securely attached to the package.

Any purchaser may have an analysis made by the Department of Inland Revenue on payment of one dollar. Samples must, however, be taken in conformity with the regulations laid down by the Department.

It will be noticed that mixed or unmixed meals, when made from the entire grain and bran and middlings, are exempt from this act. It is specified, however, that the bran or middlings from different grains shall not be mixed. The intention is to treat of these foods under the Food Adulteration Act, which has been in operation for some years. During the past summer the Inland Revenue Department collected and analyzed a large number of samples of mill chop, bran and middlings for the express purpose of fixing standards for their protein, fat and fibre content. These standards have not been announced yet. When they are, a manufacturer who sells bran, middlings or chop with less protein and fat or more fibre than the standard amount, can be prosecuted. For example, supposing that the standard for bran is as follows: protein, 14 per cent.; fat, 3 per cent., and not more than 10 per cent. of crude fibre; any bran offered for sale which does not come up to this standard would be considered adulterated. It is hoped in this way to control adulteration of these common foods without incurring the expense of stamping the composition on every bag of them sold.

The Commercial Feeding Stuffs Act comes into force on the 1st of January, 1910. Farmers, dairymen, and all purchasers of mill by-products, should make themselves familiar with the conditions of the act, and thus be ready to make free use of it.

Co-operative Breeders' Associations in Maine.

Equal in importance, for successful dairying, with the cow-testing associations, stand co-operative breeders' associations, and, following closely in the footsteps of Western States in this, as in the former matter, Maine has four Co-operative Breeders' Associations within her borders, for the Department of Agriculture, with Hon. A. W. Gilman at its head, and Hon. Leon S. Merrill, the State Dairy Inspector, are working in unison along this line, and what they consider of the utmost import to dairying comes, and comes promptly.

Says Dr. Merrill in this connection: "There are at the present time about twenty of these Associations in the State of Wisconsin, and so far they have been county organizations. In Michigan, four have been organized, and more are to follow very soon, and I can see no reason why this work, when once begun, should not be extended to associations for other breeds of cattle beside the so-called dairy breeds, also to sheep, hogs, and horses. The Department of Agriculture will encourage its extension along these lines as soon as practicable."

Mr. Merrill states the objects of a Co-operative Breeders' Association to be:

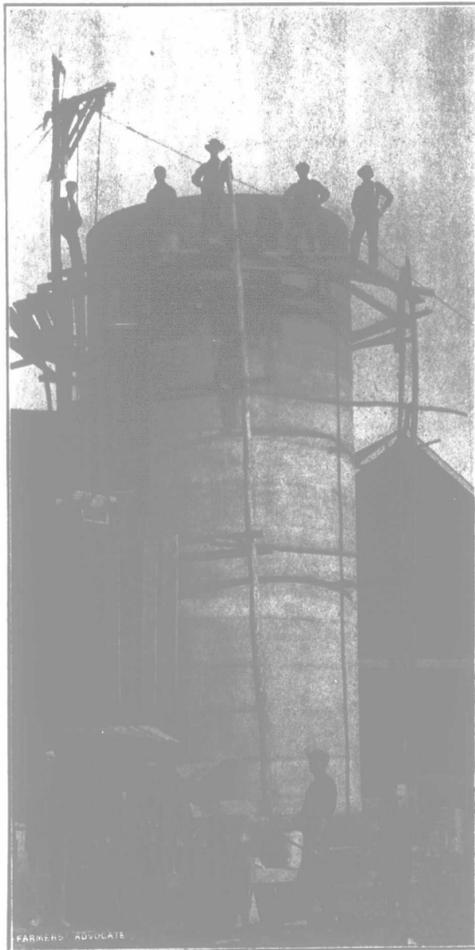
1. To encourage the growing of pure-bred animals.
2. To create a demand for and open channels for the sale of surplus stock.
3. To make possible the interchange of breeding animals for which the owner has no further use.
4. To secure pledges from members and others to use pure-bred sires only.
5. To mutually benefit the members mentally, socially, and financially.
6. To co-operate so far as possible with fellow-members in the buying and selling of animals.

The first Co-operative Breeders' Association was organized in the spring, and is known as the Seabrook Valley Holstein Breeders' Association. The western part of Penobscot and eastern part of Somerset Counties are included in its jurisdiction. There is a thriving cow-test association in a part of this territory.

THE FARM.

Another Cement Silo.

Silo-building is one of the liveliest agricultural subjects in Ontario and the corn-growing districts of Quebec. "The Farmer's Advocate" has published particulars of the construction of a good many silos, but, judging from inquiries received, fresh data are always interesting to those of our readers who have yet to build. The accompanying illustration shows a 14 x 40 foot round cement silo, with scaffolding about it, on the farm of Henry L. Graves, Elgin County, Ont. The



Cement Silo.

On farm of Henry L. Graves, Elgin County, Ontario.

silo was built with quite a rich cement mixture, requiring considerably more cement than is ordinarily used in constructing a silo of these dimensions. Bearing this point in mind, our readers are favored with the following particulars, submitted by Mr. Graves:

Cement, 55 bbls., at \$1.50 per bbl.	\$ 82.50
Gravel, 11 cords, at \$1.00 per cord	11.00
Barb wire, 1 bale	3.00
Fourteen bolts for roof	.75
Building and plastering, 9 days' cost of work complete	100.00
Total	\$197.25

There was no floor, and apparently no allowance has been made for roofing, except for the joists. A five-foot foundation of cement and stone was built 18 inches thick. Above this the wall is 12 inches thick, finishing with six inches at the top. Such a silo should hold 160 tons of silage, and 12 acres of fairly good corn ought to fill it.

A Tour of the West—II.

Editor "The Farmer's Advocate":

As promised you, I will endeavor to give some additional notes on the Prairie Provinces, especially the Saskatchewan Valley, the northern part of which has, during the past few years, been attracting so much attention. Having on a previous occasion made the tour of the country over the main line of the C. P. R., and having heard so much of the fertility of the more northerly portion of the Provinces that had during recent years been opened for settlement by the C. N. R. building a network of railways, I decided to pay a visit to these quarters and investigate for myself.

NORTHWARD BOUND.

Our first stop-over as we journeyed northward of the C. P. R. main line was at Dauphin, located nearly midway between Lake Dauphin and the Riding Mountains. Wheat-cutting was in full blast at the time of our visit, and here, as well as at other surrounding localities, the crop was good, and estimated to yield from 30 to 40 bushels per acre. The season is a week or ten days later than on the Portage Plains. They claim here, as well as north for some distance, on account of Lakes Dauphin and Winnipegosis to the east, and the mountains to the west, they have a milder climate, less subject to the early frosts than at many places.

THE FERTILE SOIL.

I was shown here, at a recent excavation, where the rich vegetable mold was five feet deep, and nowhere, I was informed, was it less than two feet. The soil is largely composed of phosphate shale, which is supposed to have come by some means in ages past from the slopes of the Riding Mountains, to the west.

In some of the more northerly portions of Manitoba that are passed through, it is quite heavily timbered, sparsely settled, but in time will be brought under cultivation.

SASKATCHEWAN.

We continued our journey through Manitoba and into Saskatchewan, that great wheat-producing Province, in the fertile and extensive Saskatchewan Valley, for the Saskatchewan River, with its two branches, drains a large area. The value of so much of these Western lands lies in the amount of nitrogen, phosphoric acid and potash which they contain, or, in other words, their producing power. These three substances supply largely the requirements to grow and produce all crops. We are informed by those who have made it a study that in an acre of the average soil here, and generally in the West, there is twenty times as much plant food as in the average soil in the East, which accounts largely for the crops that can be grown year after year on the same ground without applying fertilizer.

SASKATOON.

We made our headquarters at Saskatoon, from which side trips were made to other localities. Here we saw farming operations conducted on a large scale, as they are inclined to do in the West. At one place we saw a traction engine hauling three 8-foot-cut harvesters on a flax ranch, while at another place similar power was moving along nicely four 8-foot-cut harvesters, doing thirty-two feet of wheat. To see an engine hauling a ten 14-inch-furrow plow is an ordinary occurrence. The day for engines to take the place largely of horse-power is in order out



Harvesting with Horse Power.

Scene on the Schwager Farm, Saskatchewan.

Oxford County followed this initiative, and formed an association of Holstein Breeders.

Three Counties, Oxford, Franklin, and Androscoggin, are interested in a Jersey Breeders' Association, formed in June. It was organized at Canton, under the name of Androscoggin Valley Jersey Breeders' Association.

At Waterford, in September, Jersey breeders in Oxford and Northumberland Counties met and organized a Jersey Breeders' Association. They were addressed by Dairy Instructor Merrill upon Co-operative Breeders' Associations, and by Prof. P. A. Campbell upon the Breeding of Dairy Animals, and were given some points in stock-judging.

At the October meeting of the Androscoggin society, Dr. Gallup gave an address in which he advocated measuring constitutional vigor by growth. He thought a standard might be obtained by comparing the length of time different animals require to double their weight. He had applied it in the case of poultry, with good results, and considered it feasible in the case of cattle.

All these societies have profitable monthly meetings, which are well attended. They have been addressed by speakers of note from within and without the State.

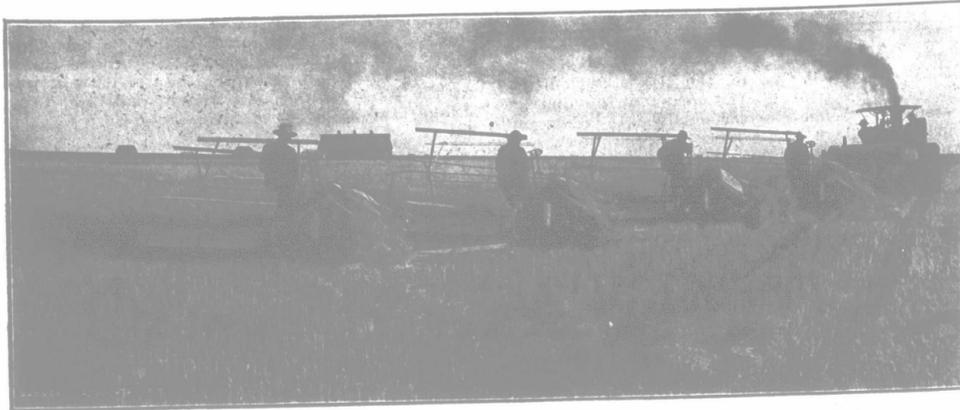
With a view to increasing both cow-testing and co-operative breeding associations in the State, Dr. Merrill has declared that he will respond to calls for lectures upon these subjects, and will give all the assistance possible to organizing and making successful the work of these organizations. Each association of breeders usually devotes its energy to promoting some one breed of dairy animals, making the county or town a center of distribution for that particular breed which would undoubtedly appeal strongly to its members from the financial standpoint, and urge upon them the importance of co-operating in every possible way for the promotion of that particular breed.

The form of organization which Dr. Merrill recommends includes the usual officers, and their duties are similar to those of other organizations of a like character.

In the by-laws, Section 2 states that it shall be the duty of every member to improve his herd of cattle by mating his cows exclusively with pure-bred bulls of the breed endorsed by the association to which he elects to belong, and doing as much as he can to care for his herd in an up-to-date manner; and that it shall also be the duty of members to co-operate so far as is possible with their fellow members in the use of pure-bred bulls, and in buying and selling animals; also, to get new members, and encourage them in the practice of better methods in caring for their herds.

There are in the State four cow-testing associations, with a cow membership representing over 1,300 animals, and a fifth is being strongly talked. These societies are now on the increase, and, with the establishment of co-operative breeders' associations, Maine is on the road to become, if not one of the largest dairy States in the Union in point of cow population, at least one of the leading States in point of remunerative dairying. Maine State. M. B. AIKEN.

The receipts of cattle during September and October in the principal Western States markets were about 9 per cent. greater than during the same months last year. The receipts of hogs, however, in Western markets during September and October were nearly 20 per cent. less than during the same months last year. Prices of hogs at Western markets averaged, on or about November 1st, nearly 30 per cent. higher than a year ago, and cattle approximately 18 per cent. higher.



Harvesting with Steam Power in Saskatchewan.

here, on these large ranches of a thousand acres and over. The new settlers, who are not able to buy modern outfits for farming on a large scale, can now usually get someone who makes a business of going about breaking, etc. Those, too, who have long distances to haul their grain, make use of the engine to haul a train of wagons. They have this season been experimenting about here with a device attached to the harvester which plows the ground as fast as the grain is cut, the sheaves being lodged on the plowed ground. Much of the grain is drawn as fast as threshed to the cars or elevators. Some have portable granaries, and the wheat is marketed at their leisure. One farmer here had his wheat run on the ground, 12,000 bushels, at one time, and when through threshing hauled it away. Providence seems very kind to these people at this season of the year, as they get little or no rain.

I also spent some time about Prince Albert, nearly one hundred miles north of Saskatoon. At one station, Rosthern, on that line, where the Russian Mennonites are settled, for several years over 1,000,000 bushels of wheat were shipped out annually, breaking the record of Indian Head. While much more wheat is now grown there, other roads have been built, drawing part of the trade. There are also other prosperous settlements on the line. Besides a good quality of grain grown about Prince Albert, I saw fine fields of clover, while vegetables of all kinds thrive. It has an up-to-date sawmill, and the city is one of no mean importance. It was one of the earliest Hudson's Bay Company's posts in the West, and is still doing a good business in furs, as well as supplying goods in exchange with the Indians, some of which are transported by canoe and over portages for 1,000 miles. The Shell River Settlement is 35 miles to the West, where a prosperous settlement is growing wheat and oats, and hauling it here. I saw samples of grain here that could not be beaten anywhere, and they assured me last year different farmers had a yield of 60 bushels per acre of wheat, and the same was expected this year, but threshing had not started at the time of our visit. The climate here, as at Prince Albert, seems milder than at Edmonton, although on about the same parallel of latitude. At the time of our visit there had been no frost here, while it had been reported at Edmonton.

The C. N. R. are now engaged on a 90-mile stretch north-westerly from Prince Albert to a 500-square-mile timber limit, where a large mill is being erected, with a capacity of cutting two trainloads daily. This route also opens up a good agricultural section, and will, undoubtedly, in time, tap that much-talked-of Peace River country.

What I have said regarding Saskatoon and its surroundings applies generally all over this region. Nowhere did I find a locality that did not have a good crop of wheat and oats, and also vegetables, where they were grown.

There are many interesting settlements by foreigners, which, if time and space would allow, I would like to tell you about, such as the Galecians, Doukhobors, Mormons, Russian Mennonites, Hindus, the English Barr Colony, etc. Allowing these foreigners, in some cases, as with the Doukhobors, to settle in one community, gives them a better opportunity to cling to their old customs and habits, and thus retards them from adopting our methods and becoming Canadianized.

ALBERTA.

Through Alberta, and on to Edmonton, at several places where we stopped over, crops were good. More oats and less wheat is generally grown, and the same applies largely between Edmonton and Calgary; and here, too, winter wheat is grown quite extensively, and mixed farming is being more generally adopted. About Calgary, and eastward to Medicine Hat, is a section of country known as semi-arid, where the dry-farming system is being successfully adopted. About Calgary is where the C. P. R. irrigation system is installed, providing water for over 3,000,000

acres. It is quite interesting, and would furnish material alone for several articles.

The Campbell and other systems of dry-farming have proven a success, I have been informed, about Medicine Hat, and other points, where the Government is conducting experiments, which in time will lead to all these semi-arid tracts being cultivated. Wheat being sown so early, before the frost is out of the ground, generally gets advanced sufficiently far to mature a crop; but, by resorting to the dry-farming method, a great variety of other crops can be grown, thus making the farmer more independent should the grain crop be a failure.

I have been obliged to report from every quarter (only in a few localities did frost do slight injury) a "bumper crop" of wheat which will go a long way to supply the wants of the hungry in many lands. How much more can Canada, when all her available wheat land is brought under cultivation, supply the world with the "Staff of Life"? A recent conservative estimate placed the amount of land now under cultivation in the three Prairie Provinces as being only one-tenth of the available arable land.

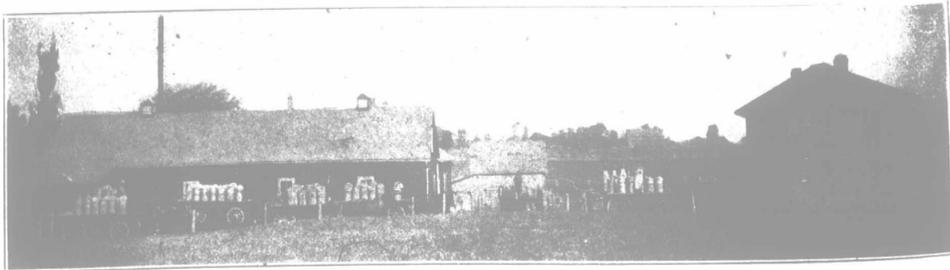
The railways are now heading for that much-talked-of fertile Peace River country, with an area that is adapted for wheat and grazing that is almost beyond our conception. The reports, too, of the comparatively mild climate, and the little snowfall in that far north land, where cattle graze all winter, are almost incredible. They would have us believe, too, that the G. T. P. alone will open up 300,000,000 acres of arable land. Some of the best samples of wheat have been grown nearly 1,000 miles north of Edmonton, where the long sunny days of summer mature the crop in 60 to 70 days.

When one examines an isothermal map which shows that the mean average annual temperature of St. Paul, Minn. (a great wheat section), and Edmonton are about on the same line, although the latter is nearly 1,000 miles farther north, the possibilities of this Northland, with its advantage of increased long summer days, is evident. It is now only awaiting the great highways, as did the West, to develop, and make it a valuable asset to our already great wheat-producing country.

W. B. RITTENHOUSE.

A Seasonable Suggestion.

If every subscriber to "The Farmer's Advocate" would send a new subscription along with his own renewal, our circulation would be doubled, and the paper would then be greatly enlarged and improved. If every subscriber sent two new names, accompanied by the regular subscription price of \$1.50 each, our lists would be trebled, and a correspondingly greater improvement made. True, there are some localities where nearly all farmers already take the paper, but there are many other sections where a few new names can be easily secured by a little patience and persuasive reasoning canvass. Get after these now, before they have subscribed for other papers. For clubs of three, including your own renewal and two new subscriptions, we will accept \$3.00, which means that you get your own renewal free. Cash commissions



Wallace Cheese Factory and Maker's Residence, Perth Co., Ont.

or premiums, as preferred, for larger lists of new names. This is a great offer. Take advantage of it.

THE DAIRY.

Try the Dairy-herd Competition.

Up to a recent date, entries for the dairy-herd competition, held under the auspices of the Dairymen's Association of Western Ontario, had been disappointingly few. Unless there is an encouraging number of entries between now and November 30th, when the time for application expires, there is little chance of the feature being continued another year. It would be quite too bad if there should not be sufficient entries to lift all the prizes. The dairy-herd competition is a splendid idea, and every man interested in the keeping of cows should try to help it along. Many, it is to be feared, hold back because they have a heifer or two in the herd this year, or dry weather reduced their production, or for some other like reason, forgetting that other competitors have just such handicaps also. It is to be hoped applications will pour in forthwith to the Secretary, Frank Hens, London, Ont.

More Prizewinning Perth Co. Cheese.

One of the superior cheesemakers in Western Ontario, a young man who takes pride in his occupation, and observes scrupulously the invaluable dairy doctrine of cleanliness, is J. E. Stedelbauer, maker in the Wallace Cheese and Butter Co.'s factory in Perth County, Ont. Mr. Stedelbauer has been managing a factory for seven years, and has a first-class certificate from the Strathroy Dairy School. He will be remembered by members of the Dairymen's Association as having won the Cheese-buyers' Trophy at the Winter Dairy Exhibition in London, 1907, and has since been a somewhat prominent and successful exhibitor at Toronto, London, and Sherbrooke, having secured first prize for June and July colored at the Canadian National Exhibition this fall.

Mr. Stedelbauer considers himself very fortunate if he wins a prize at all on cheese made during the summer months, as he is handicapped in several ways. In the first place, only a few of the patrons cool their milk, and after the cheese are made there is no place to cure them properly, hence there is no variety to pick show cheese from. A curd must be picked, made up, put in the ice-house, and chances taken on it. If it turns out right, well and good. However, he has been quite successful at the winter dairy exhibitions held in connection with the annual conventions, as nature then provides cool-curing and cold-storage, as well as insuring properly-cooled milk. The show cheese are then picked just out of the ordinary make, the way of making not being changed in any way whatever. Following are a few particulars in the maker's own words:

"We set vats so as to keep curd in whey from 2½ to 3 hours, drawing off part of the whey at 16, after which we rake occasionally. After dipping, we stir curds until dry, after which we pile them up. We try to dip so that the curds will be ready to mill in from 2½ to 3 hours, when curds are well flaked. We use judgment as to salting. Our cheese are pressed about 17 hours, as we have only one set of hoops. We have a very poor curing-room to put the cheese in; however, the Company are speaking of improving the room."

Pasteurization of whey was tried this year, and continued until the end of September, being done at a low charge of 50 cents per ton of cheese by the maker, in order to get it introduced. The pasteurizing in this case is done in the lower tank, and all the best patrons have been, we understand, well satisfied with the results. The factory had been troubled with bitter flavor, but, since pasteurizing the whey, there has been no trace of it. The make of cheese in this factory last year was 160 tons, the milk being supplied by a large number of patrons for the quantity sent, 175 names being on the books.

Last year the boiler house was enlarged, and a cement floor put in. A complete new set of 36 hoops have been secured, and the interior of the

make-room is painted with a water-paint. We were pleased to note a 7,000-pound steel vat, advertised in these columns by the Steel Trough & Machine Co., Tweed, Ont. Though more expensive than the wooden vats, it is proving very satisfactory. With a first-class maker, and the patrons bestirring themselves to improve their factory and fit up a cool-curing room, the Wallace factory may be expected to take early rank among the best and most progressive in the Province. Eternal progress is the price of success and reputation in the dairy business.

Dairy Notes from Across the Line.

BACTERIOLOGY FOR THE DAIRYMAN.

Just one moment, reader, before you pass over this article in search for something of greater interest and more along your own line. You, with eight others out of every ten, are scared when you see that formidable word "Bacteriology" staring you in the face, and at once you conjure up in your mind's eye vivid pictures of disease, suffering and death. I assure you from the start that it is all a mistake, and that you are really the loser in the long run on account of your own timidity, which prevents you from looking into this matter more thoroughly, and from getting to the bottom of it once and for all. Just a little courage, now, and let us see how all this has come about.

BACTERIA BENEFICIAL AS A WHOLE.

Most people learn with surprise that by far the greater proportion of the bacteria known to man are either absolutely necessary or distinctly beneficial to every one of us, as long as this planet of ours is to be the abode of living beings like ourselves. A smaller group of bacteria, neither actively beneficial, nor yet injurious, are classed as inert or harmless, while in a still smaller group yet are found the actively harmful bacteria, from which bacteria as a whole have received their very unsavory reputation. In this latter class are found the pathogenic or disease-producing germs, which, owing to the marked and vital changes they produce in both plant and animal life in comparatively short periods of time, have become better known to the public, and have been more thoroughly studied and discussed by scientists and others than all the others put together. Thus, the mistaken idea has come about that bacteria and disease are synonymous terms.

DISEASE GERMS IN MILK.

A general knowledge of the bacterial diseases of cattle and man is of utmost importance to every dairyman, first in regard to the healthfulness of his finished product, i. e., milk or cream, and, secondly, in regard to the health of his stock. It is well known that milk is an excellent medium in which these pathogenic germs may be transported from the farm to the home, and also from one animal to another on the farm. In this manner inoculation takes place, or, in other words, the healthy animal is seeded with the injurious germs; and if they find conditions favorable for multiplication and growth, infection takes place, and the animal comes down with the disease, which terminates only too frequently in death.

In cases of bacterial disease, the trouble is due to the rapid multiplication of the germs within the body of the animal, and to the production by them of extremely powerful poisons called toxins; these act upon the vital organs and check their operation, and unless relief is given by medicines or otherwise, death ultimately and often quickly ensues.

Inoculation, however, does not always lead to infection and disease, as the healthy body is well supplied with forces ready for just such an emergency. It is only when the normal vitality is lowered, due to hardship, exposure, want of food, previous disease, etc., that the outsiders gain the victory, capture the stronghold, and put the defenders to rout.

TUBERCULOSIS.

Of all the bacterial diseases with which the dairyman comes in contact, tuberculosis is by far the commonest, and most important. Owing to the concealed character of the disease, to the fact that it may reach an advanced stage before any easily-observable symptoms indicate the diseased condition of the animal, and to the fact that the specific germs (bacilli tuberculosis) of this disease are frequently found in the dairy products offered for sale, and are capable of producing, and occasionally do produce, the disease in man and other animals, it has been unanimously decided that the tuberculous dairy cow is a menace to the community, and must be exterminated as soon as economically possible. And so it behooves the dairyman who would be ahead in the procession to ascertain the health of his own herd by the use of the tuberculin test, to prevent the spread of the disease by the commonly-practiced methods, and to gradually eliminate the reacting cows before the health authorities step in and condemn them for him.

BACTERIOLOGY OF THE SOIL.

The question of soil bacteriology cannot be entered into within the short limits of the present article, but in brief it may be said that this is one of the newer branches of the science, and one which, during recent years, has afforded a very fruitful field for investigators, who have added very considerably to our knowledge of the changes which take place in the soil, and the conditions necessary for the successful growth of several of our most important crops.

There is no doubt whatever that, in the near future, a more intimate knowledge of these tireless workers under our feet will be a necessity for the expert and successful crop-raiser.

BACTERIA IN MILK AND ITS PRODUCTS.

Of most interest to dairymen, outside of the disease-producing bacteria, are those which are commonly found in milk and its products, on account of the close relation which they bear to the quality of the finished article. This is a phase of the subject which is receiving more and more attention every year from large commercial dairy concerns, both collectors and distributors of market milk, as well as manufacturing plants, as they are slowly learning by hard-earned experience that it means dollars and cents to them in their business. The public, as a whole, is in hearty sympathy with the campaign against adulteration and impurities in their food supplies, and in the case of milk, besides requiring that it shall be free from disease-producing germs, there is also an increasing sentiment in favor of clean milk; that is to say of milk free from the miscellaneous dirt of the field and barn, and the bacteria (not necessarily harmful) which always accompany it.

The practical study of the life-history of these germs, their natural habitat or home, the source from which they gain entrance into milk, the various effects produced by their growth and multiplication in milk; the means at our disposal to prevent their entrance in the first place, and to check and destroy them once they have got in, and so preclude altogether, or at least minimize

Station bulletins and reports which are so easily secured in these days of the application of scientific principles to the work of the farm. T. H. L.

For programme of the creamery meeting, to be held at the Dairy School, O. A. C., Guelph, Dec. 8th, at 1.30 p. m., address Frank Hems, Secretary of the Dairymen's Association of Western Ontario, London, Ont.

POULTRY.

Cheap Way of Rearing Chickens.

The results from rearing some 2,500-odd chickens in the Poultry Department at the Ontario Agricultural College this year add another chapter of strong testimony to the colony-house system, affording, as it does, opportunity to keep the birds on fresh range. A member of "The Farmer's Advocate" staff, visiting the College at the end of August, obtained from Prof. W. R. Graham some details and figures, supplemented by later data supplied by Prof. Graham in correspondence. Of the 2,500, some 345 were kept in colony houses in a pasture field, with a run of field and grove, which furnished shade; another 400 were reared in a corn field; 713 in the College orchards; 100 in colony houses back of the barn, and the balance of the number had the run of a poultry field, where a rotation of crops is practiced to keep the land fresh and clean. Just here it is interesting to note how little harm, comparatively speaking, a flock of poultry will do to a grain crop. Some 1,000 birds were reared on a run of 2½ acres, comprising a half-acre strip of oats, some corn, some alfalfa, and an acre of grass. Inspection revealed that they had eaten only about half the oats, damaged the corn slightly, and the second and third cuttings of alfalfa to about one-half. Two tons of alfalfa had been cut from half an acre over which they had ranged. The third crop was still standing, and showed the effects of the range. While a thousand birds were reared on this area, there were probably not more than 800 chickens on it at one time, because many of the earlier-hatched chickens were disposed of as broilers.

Some interesting figures of the cost of raising chickens under this system were submitted. In the first place, Prof. Graham calculates that a chicken, when hatched, stands them 5 cents. The mortality all round in the incubators at the College, counting experimental machines, was this year about 30 per cent., ranging from 0 per cent. to 76 per cent.

As to feed, 345 chickens in the pasture field, on October 7th, represented 4,304 pounds of feed, consisting of wheat, corn and oats, mixed in the proportion of 2½, 2 and 1. They had, in addition, a dry mash of low-grade flour, buckwheat meal and bran, with 5 per cent. of beef scraps. They ate about one-third as much mash as grain. This meant that one of these chickens, on October 7th, represented 12.4 pounds of grain. Their average weight would have been at least 3.88 pounds. Some brought in September 1st had weighed 4 pounds. Crate-fattened chickens were then selling to the local butcher at 15 cents a pound. In June, cockerels hatched April 1st had been sold at 25 cents a pound as broilers, bringing a little over 70 cents apiece. The crate-fattened birds sold at 15 cents a pound, were fed two weeks in the crates after being taken from the range. The gain there was sufficient to produce a pound of flesh for about 8.4 pounds of grain consumed. Just as the chickens came off the range, they might have been valued at 12 cents a pound, though the College authorities do not consider it economical to sell unfinished stock. But, placing them at 12 cents a pound, then, a 3.88-pound bird would have been worth, as he came from the range, a little better than 46 cents.

Or, if the object be eggs, the showing is similarly favorable. Rhode Island Red, Orpington and Rock pullets, hatched April 1st, and reared on free range, were laying on August 10th. The great majority of the pullets were brought in between September 17th and 30th. Many are now laying.

In the orchard, 773 birds were grown to a weight of 2,584 pounds. Of these birds, 218 were sold as broilers previous to August 16th. These birds were brought in to be crate-fed or put in the laying pens, or reserved as breeding stock, between August 16th and November 8th, the majority being brought in in September and the first



A Colony House at the O. A. C.

considerably, the changes brought about by their activities, is a most fascinating piece of work to anyone gifted with an investigative turn of mind. For further details along these lines, the reader is referred to any of the standard text-books on the subject.

To the manufacturer of dairy products, such as butter and cheese, another problem presents itself; for, besides controlling the growth of the many injurious types which are present in his raw material, he has also to acquire skill in fostering and growing to the best advantage the beneficial ones which are necessary before a perfect product can be turned out. Of these, the lactic-acid bacteria lead the van, and, fortunately, by the foresight of Mother Nature, they are generally present in large numbers in all but the very freshest of milk. Their ability in the struggle for existence to overcome many of the bacteria which are the cause of injurious fermentations, the fact that their activities can be easily measured by a determination of the amount of acid which they produce, and their invaluable aid in securing the desirable flavors in both butter and cheese, place them at the top of the tree in the estimation of every butter and cheese maker.

A SUBJECT FOR HOME STUDY.

The whole subject of bacteriology is worthy of more attention from the average dairyman than it receives at the present time, and no better use could be made, especially by the young, of the long winter evenings which will soon be upon us, than a systematic course of home study along the above lines, making use of a good text-book or two, as well as the Government and Experiment

week in October. This figures out to be 8,649 pounds grain consumed, or one pound of flesh represents 3.34 pounds of grain, and the weight of the chickens 3.34, and the grain consumed per bird 11.16 pounds. The lower weight of the chickens here is presumably reduced considerably by the broilers. In addition to this, it is well to remember that there were quite a large number of Leghorns raised in each lot, or, in other words, in each lot were some of practically all the breeds kept at the College—that is, Plymouth Rocks, Orpingtons, Wyandottes, Leghorns, Minorcas, etc.

The colony houses used are very simple and cheap, as will appear from the accompanying illustration. In a 6x6 house are placed two brooders, with a hundred chicks, and it is endeavored to have the number reduced to 50 by the time the birds weigh 4 pounds. This is accomplished by disposing of some as broilers or by taking a number of the more forward ones up to fatten from time to time. If, however, the house becomes too crowded, some may roost in the trees. An open space in front of the house provides ventilation, netting being used to keep out marauders. By the way, it is necessary to close up the door of each house every night to exclude predaceous prowlers.

With hoppers and water barrels large enough to hold a week's supply, the feeding and care are very easy, the health and growth of the chicks is remarkable, the feed bill low, and the injury to crops surprisingly small; while, if kept in an orchard, the birds will render a valuable service by consuming infested fruits, thus helping to keep in check such destructive insects as curculio and codling moth.

APIARY.

Middlesex Beekeepers Meet.

The Middlesex Beekeepers' Association held their annual meeting in the City Hall, London, Ont., on Saturday, November 6th. The year had been to members one fairly satisfactory. Among the questions which came before the convention were the following:

PACKING FOR OUTDOOR WINTERING.

Could outside-wintered bees be packed too warm? The general opinion was that the bees should have about five inches of packing at the sides and ends, and ten inches on top. The packing should not be too close, but moderately firm. The opinion expressed was that the summer covers should be taken off and not even placed on top of the winter packing, as they prevented the moisture from passing off. Again, the winter packing should not come up to the outer cover, and there should be ventilation above the packing, so the moisture would not accumulate during the winter and make the hive damp.

John Newton gave a brief report as to his work as inspector. Of the 22 apiaries he had inspected during the season of 1908, eleven had been cured, the other eleven greatly improved. The condition of his district had been improved, but there was still much work to be done. The time allowed him by the Government had been quite inadequate. Quite a discussion took place as to inspection, and a general feeling expressed in the following resolution:

Resolved, that the Middlesex Beekeepers' Association would thank the Ontario Government for the increased encouragement it is giving to the beekeeping industry of this Province, and that it would respectfully urge that a much greater annual grant be made towards the stamping out of foul brood in this Province; also, that inspectors should be sent out to do their work for a longer time when the disease is known to exist in the district.

Wm. Moore, of the Western Fair, addressed the meeting, seeking to stir up the interest of beekeepers in the fair, and promising greater encouragement on the part of the fair.

R. F. Holtermann, Brantford, suggested that demonstrations be given in the handling of bees, that the interior of the hive be shown to visitors, and the natural history of the bee explained.

A committee was appointed to meet the Western Fair Board, consisting of Messrs. Holtermann and Kimball, to see if a satisfactory arrangement could be made with the board for these demonstrations.

The following are the officers for the ensuing year: President, A. Dowsell, Minesing; Vice-President, Moses Pierce, Brinsley; Sec.-Treasurer, E. Bainard.

[It appears that a large number of the county associations have asked for increased expenditure in the suppression of foul brood, so that likely the request will be granted.]

GARDEN & ORCHARD.

Home-prepared Storable Lime-sulphur.

From a paper read by John P. Stewart, Professor of Experimental Horticulture, State College, Pa., U. S., before the American Pomological Convention, in St. Catharines, this article is abstracted:

Lime-sulphur in the dilute form has been of service to horticulturists and entomologists since the discovery of its value by F. Dusey, at Fresno, Cal., in 1886. The material used by him was a sheep dip borrowed from a neighbor. To a similar happy chance, apparently, are we indebted for the beginnings of our knowledge of the value of the concentrated solution as an insecticide. Some sixteen or eighteen years after the first horticultural use of the dilute material, it appears that in Utah it became the practice of certain purchasers of a concentrated dip solution to buy a few extra barrels each season for application to their trees. This dip was prepared by a Stock Food Co., of Omaha, Neb., who corroborated the practice by sending inquiries and samples for trial to several experiment stations, and since then have been regularly marketing their solution as either a dip or insecticide, without modification, so far as the writer has been able to learn. And it is interesting to note that, although the home preparation of storable dip solutions has been known for years, it is only very recently that the home preparation of a storable insecticide has been even considered.

The concentrated lime-sulphur solution as we know it to-day is a water solution of lime-sulphur compounds, of a bright cherry red or reddish amber color, and of a density that practically may run from 1.20 to probably as high as 1.35 (about 24° to 38° Baume). It differs from the ordinary dilute lime-sulphur chiefly in its ability to be stored, in its freedom from objectionable sediment and solids, and in its availability as a summer fungicide.

Solutions of the densities named above freeze at about 17 degrees F. for the lower density, and somewhat below 0 degrees F. for the higher. From our experiments, we would say that this freezing is rarely injurious to the solutions, which nearly always recover completely on thawing. Their causticity is distinctly less than that of the ordinary dilute material, though without apparent reduction in their effectiveness as scaleicides and fungicides. On continued exposure to air at ordinary temperatures, a crust of solids may be formed, which sometimes becomes very thick and objectionable, and at other times remains thin, and act as a protection to the liquid against further solidification. This crust can be readily skimmed off and re-dissolved by heating either in water or in the mother liquid, and we have prevented it entirely either by covering the solution with a film of oil, or by storing it in closed packages which were filled completely.

The materials needed are either flour or flowers of sulphur, and a high-grade lime. Success depends more on the character of the lime than on the sulphur. After securing lime of proper character, its amount, in relation to the sulphur, is of the greatest importance. Excess of lime is the chief cause of the formation of crystals and most of the hard sediment which are so objectionable. After repeated trials of various ratios of the substances to the 100 gallons of water, it was found that 100 pounds of lime to about 200 pounds of sulphur, and boiled one hour, was most satisfactory.

The next question is to determine the most efficient or optimum concentration of storable density. A storable density is considered to be one which will permit a dilution of at least seven volumes, and will stand fifteen degrees of frost without freezing. Not to mention the results obtained by using different amounts of water, from 65 gallons to 128 gallons to the 100 pounds lime and 200 pounds sulphur, it may be said that, for average qualities of utilization of materials and storage qualities, 100 to 110-gallon volumes, boiled about one hour, are best, as well as simplest, for home manufacture. With the commercial product, where freight rates and cost of package are to be considered, a much greater density is preferable.

The procedure in the actual boiling is not greatly different from that in the making of the ordinary dilute material. The utensils needed are a cooker, strainer, measuring stick, and hydrometer. In making the concentrate, we have found it much more convenient, and at least equally effective, to add the dry sulphur to the slaking lime, rather than adding it in the form of a paste. Care should be taken, however, to maintain a moist condition of the mass, and to thoroughly mix it during the slaking, besides breaking up any lumps that may appear during the process of boiling.

"The material should be boiled until the sulphur granules are evidently dissolved. This fact is best determined by dipping and slowly pouring some of the solution, under close observation. Unduly prolonged boiling is undesirable.

In the application of concentrated solutions, either homemade or commercial, the use of a hydrometer having the specific gravity scale, is recommended for determining the required density.

The value of lime-sulphur used when trees are dormant has been demonstrated and acted upon for years, but it is believed that there is a great future for this mixture as a summer spray for both scab and insects. The exact strength that it is safe to use for the different kinds of foliage cannot be said to have yet been found. Experiments are being conducted to determine this, however, and before a great while, it is safe to say, reliable directions will be issued.

Apples for Bruce Co.—Cherries Between Apples.

1. What would be the best varieties of apples for commercial use in this district, and, also, would it be any advantage to plant a quick-growing variety, and then graft on, say, Northern Spy, etc.? 2. I intend to set out a cherry orchard, and would you advise me to put in apple trees among them? 3. What variety of tomatoes would you think best for this district for commercial use? W. A. MITCHELL.

Bruce Co., Ont.

I could not do better than give you the list of varieties recommended by A. E. Sherrington, of Walkerton, as the most satisfactory commercial varieties for his district. This list is given in the order of season, and has been prepared after ten years' careful experimental work. His list is Astrachan, Duchess, Wealthy, Fameuse (Snow), McIntosh, Blenheim, Greening, Baldwin, Spy, Golden Russet, and Ben Davis. If I were reducing it to half that number, I would select the Duchess, Wealthy, McIntosh, Blenheim, and Spy. I would recommend top-grafting Spy on Talman Sweet. 2. If the apple trees were set 30 or 35 feet apart, you could plant cherries, such as Montmorency, between them, although this practice is not always to be advised, because cherries, with good care, might last quite as long as the apple trees. 3. For your section of the country, I do not know of a better tomato than Earliana or Wealthy. These are both early varieties which are fairly sure of ripening a large proportion of the crop, even though the season may be late or unfavorable. H. L. HUTT.

O. A. C., Guelph.

B. C. Fruit-growing Notes.

M. S. Middleton, Provincial Fruit Inspector for the Kootenay district, with headquarters at Nelson, is emphatically in favor of summer instead of winter pruning. Mr. Middleton's duties are to visit the various orchards, and as well as seeing that they are free from disease, to make a study of fruit conditions in general, with a view to introducing new methods and arriving at some conclusion as to the best varieties to plant.

With reference to pruning, when interviewed he said that he was advising the ranchers to prune their trees in the fall—from August 1st to September 15th was the best time—instead of cutting back their trees in winter. Up to the present it has been the practice of Kootenay growers to do almost all their pruning in winter, and while this method was not without its advantages, it had a tendency to promote a too exuberant growth of wood. On the other hand, summer pruning had the effect of producing fruit-carrying spurs. By nipping back the twigs according to their strength the sap was forced into the lower buds, and energy was stored up in them in preparation for the spring blossoms.

If the cutting off of the terminal growth were left until the late fall or winter, all the energy of the trees was taken up by these terminal shoots and the lower buds lay dormant and unproductive. The result was that long, lanky trees, producing fruit only at their extremities, were far too general throughout the Province. There were some varieties of apple, such as the Northern Spy, to which this applied particularly, but his experience and training had taught him that summer pruning is the most advantageous in every case, no matter what kind of apple was under cultivation.

Another advantage of summer pruning was that the ingrowing shoots could be more easily and successfully cut back, so that they too became fruit producers. These shoots should be pruned to about four inches in length. If this plan were adhered to, the trees, after they would reach the age of five years, would need very little attention with the knife, apart from cutting back the ingrowing branches.

In making a tour of the district, Mr. Middleton had stated that he had found the green aphid was somewhat prevalent. This could be done away with to a very large extent by summer pruning, as the fly was to be found in almost every instance on the terminal and ingrowing branches, generally on the former. If the pruner when doing his work carried a sack with him, he could throw the tips of the branches into it and then burn them, aphid included. In very bad cases the trees should be sprayed with Blackleaf mixture, one

part to seventy of water, or with the ordinary whale-oil quassia mixture.

Mr. Middleton is in favor of fall spraying with full-strength lime and sulphur solution, or double-strength Bordeaux mixture, in preference to winter or spring spraying, owing to the prevalence of black spot or Oregon canker, the spores of which mature and start to grow in the fall.

E. W. D.

THE FARM BULLETIN.

Winter Fair Lectures.

In connection with the Ontario Provincial Winter Fair, which will be held at Guelph, December 6th to 10th, 1909, the following programme of practical addresses will be given:

Tuesday, December 7th, 7.15 p. m.—Poultry Session—Address, "Profitable Production of Poultry on the Farm," by W. R. Graham, O. A. C., Guelph. Address, "Poultry Feeds and Feeding," by Miss Yates, Guelph.

Wednesday, December 8th, 9.30 a. m.—Dairy Cattle Session—Address, "Lessening Cost of Milk Production," by Prof. H. H. Dean, O. A. C., Guelph. Address, "Breed Type of the Different Breeds of Dairy Cattle" (illustrated)—Ayrshires, John McKee, Norwich; Holsteins, R. S. Stevenson, Ancaster; Jerseys, R. Reid, Berlin.

Wednesday, December 8th, 1.30 p. m.—Address, "Underdraining" (illustrated), by Prof. W. H. Day, O. A. C., Guelph.

Wednesday, December 8th, 3.00 p. m.—Beef Cattle Session—Address, "Breed Type of the Different Breeds of Beef Cattle" (illustrated)—Shorthorns, Herefords, Aberdeen-Angus, Galloways—by Prof. G. E. Day, O. A. C., Guelph.

Thursday, December 9th, 9.30 a. m.—Horse Session—Address, "Breed Type of the Different Breeds of Horses" (illustrated)—Clydesdales, Wm. Smith, Columbus; Shires, John Gardhouse, Highfield; Hackneys and Thoroughbreds, Dr. Hugo Reed, O. A. C., Guelph; Standard-breds, Dr. Routledge, Lambeth; Ponies, Robert Miller, Stouffville.

Thursday, December 9th, 1.30 p. m.—Sheep Session—Address, "Breed Type of the Different Breeds of Sheep" (illustrated)—Shropshires, Robert Miller, Stouffville; Southdowns, Lt.-Col. R. McEwen, Byron; Dorset-Horns, R. H. Harding, Thorndale; Leicesters, A. W. Smith, M. P., Maple Lodge; Cotswolds, D. McCrae, Guelph; Oxfords, Lincolns, Hampshires, Suffolks, Prof. H. S. Arkell, Macdonald College, Que.

Thursday, December 9th, 3.30 p. m.—Swine Session—Address, "Breed Type of the Different Breeds of Swine" (illustrated), by Prof. G. E. Day, O. A. C., Guelph.

Thursday, December 9th, 7.30 p. m.—Seed Session—Address, "Best Types of Ensilage Corn for the Various Stock-raising Districts of Ontario," by J. H. Grisdale, Central Experimental Farm, Ottawa. Discussion, A. McKenny, Secretary Ontario Corn-growers' Association, Essex. Address, "Observations and Conclusions from the Work in Judging Seed Exhibits at the Winter Fair," by J. Buchanan, B. S. A., O. A. C., Guelph. Address, "Seed Control Act and the Farmers," by T. C. Raynor, B. S. A., Ottawa. Short addresses giving some practical lessons obtained from the work in judging the fields of standing grain in Ontario, by Simpson Rennie, Toronto; by B. J. Waters, B. S. A., Coldstream.

P. E. Island Notes for November.

Dry Rot of Potatoes—Jointworm Passing—Dairy-ing and Hog-raising Expanding—Sheep Profitable—Bright Outlook.

After a prolonged wet spell, which made it difficult to harvest the potato and root crops, we are having now, at the middle of November, beautiful Indian Summer. Plowing has gone right along till now without a break, and all fall work is well ahead. Shipping has been quite active this month, and farmers are marketing oats and potatoes in considerable quantities. Oats sell at 40 cents, and potatoes bring 20 to 25 cents per bushel. Dry rot is developing to an alarming extent in potatoes since they have gone into the cellars, and farmers who have quantities of them are marketing them, or feeding them to cattle and hogs, rather than risk keeping them over winter.

Oats are threshing out well, and the crop is above the average. Potatoes in the northern and western sections are above the average, but in the eastern section are below on average. The jointworm seems to be passing again, and sections of the Island that were infected with it during the last five or six years are again growing wheat, with fairly good success. Considerable of carcass pork is now finding a market here at about 9 cents per pound. The high prices of the last few years are stimulating the bacon business, which has been losing ground during recent years. There is big money in hogs now, if properly handled. There will be more hog-feeding here than usual this winter. Winter dairying and hog-feeding go well together. Skim milk and cooked potatoes, with a little ground barley and oats, are an ideal

ration for producing the best quality of bacon at a good profit.

Winter dairying began here the first of the month, and a large proportion of the dairy companies are operating butter plants. The supply of milk is quite large, and the price promises well. Our largest dairy station is operating on the cream-gathering plan, and others will soon follow. Separator agents are getting busy here, but as yet only a few farmers have purchased.

The make of cheese was larger than last year, and is all marketed, at a price that will average over 11 cents. Most patrons' accounts will be larger than last year, though the price was a little lower.

The Island crop of lambs is mostly marketed, at prices considerably in advance of last year, \$5.00 a cwt. for the best quality, and \$4.00 to \$4.50 for lower grades. Sheep are beginning to have their innings again, and at such prices are exceedingly profitable.

All stock have gone into the stables in prime condition, with plenty of feed in sight to carry them through in good shape. There will be rather more stall-feeding of beef this winter, as good prices are expected for well-finished steers towards spring. The ram sales, held here by the Department of Agriculture, gave our sheep-breeders a chance to get good sires for their flocks at reasonable rates. The grass still looks green, and the new-seeded meadows have a good coat of clover on them to help them to stand the winter. The season just closing has been one of the most profitable that Island farmers have ever had, and those who farm intelligently find themselves in a better condition financially than they ever have been. And to all such the agricultural outlook is bright.

W. S.

Canadian Naval Expenditure.

Editor "The Farmer's Advocate":

The navy is a new and momentous issue in Canadian politics, and public opinion is naturally divided. Four views are advanced by their respective advocates:

First, those who conscientiously object to the legalized slaughter of human beings and the destruction of homes and property, in the name of war, and those who believe in the efficacy of arbitration as a means of settling international differences—a rapidly increasing class—are opposed to any taxation for the creation of new navies or the enlargement of old ones.

Second, those who believe in the possibility of Britain's need of military and naval assistance, and are willing to do their share towards maintaining British supremacy, but hold that Canadians, unimpaired by useless war expenditures in time of peace, can do that share most effectively as the occasions arise, and in the manner suited to the circumstances, as they did, for example, in the South African war.

Third, those who think that German naval activity is now an occasion, and whose view was expressed in the reported declaration of Sir James Whitney, at Morrisburg, on the 26th of May, that "The proper attitude would have been to cable immediately to the War Office the offer of one Dreadnought, or more."

Fourth, those who hold that Canada should build and maintain a navy of her own, to be placed by direction of Parliament at the service of the British War Office whenever it should be needed.

I shall not ask space to compare the chief objections to each of the proposed lines of action, or even to state them. The probability is that today no one of them is upheld by the majority of the people. The fact that the political party leaders appeared to be agreed on one of the courses may have the unfortunate effect of preventing the frank and full discussion of the subject in Parliament and in the press. General discussion, turning, as it does, a fierce light on each view, tends to bring the strongest one into popular favor. If action is not postponed until after the next general election, it ought, in the interests of patriotism, to be made the subject of a referendum.

J. DEARNESS.

The United Counties Council of Dundas, Stormont and Glengarry, at its June sessions, made a grant toward the Agricultural High School at Morrisburg, but it is reported that a petition has now been sent to the Provincial Department of Agriculture, signed on behalf of the Counties Council, praying that, as only one pupil has been in attendance (presumably in the agricultural class) since the establishment of the Department, and that only for a brief period, and as they see no reason to anticipate a betterment in this respect, therefore they would like to have the agricultural department of the school abolished, and be relieved of the statutory \$500 grant now made compulsory under subsection 2 of section 33 of the High Schools Act of 1909.

Inside Information.

In these days of progressiveness and keen competition, the man who is prepared to meet any contingency, is the man who is going to win out over his less-competent neighbor. This principle holds in every line of work, and the farmer who knows just what to do with a poor piece of land to make it yield, is the one who is going to be a success. He has INSIDE INFORMATION, and where a neighbor is at a loss, he goes right ahead, confident of his own ability.

At this age, a farmer does not need to spend his life experimenting to find out the great truths of his profession. All he has to do is to purchase a journal which tells him what he wants to know, and, besides, this gives him an interesting book, telling of the latest important events in the agricultural world. There is only one journal in Canada which does all this, and more. It is "The Farmer's Advocate," of London, Ont.

An accurate account of all the market prices from the most important centers of Canada and the United States, adds to its interest and value as an educative magazine.

The farmer who reads "The Farmer's Advocate" is the one who will know that his money account is large enough to have any bank anxious for his patronage.

The yearly subscription is \$1.50; our clubbing rate with that popular journal is \$2.25.—[The Gazette, Barrie, Ont.]

Road Tax for Motorists.

Editor "The Farmer's Advocate":

I read with interest that account of "Automobiles on Country Roads," by a Lambton County Subscriber. Is it not about time that our Government should collect a road tax from such gentry? I maintain that if a person can invest so much money in a vehicle, for business or pleasure, that causes so much discomfort to the general user of the roads, he should pay a good tax (say, at least, \$50.00 annually, and that it be increased in proportion to the horse-power of his machine). I read that in England it is claimed that fifty per cent. of the wear on roads is laid to automobiles. If that is true on their macadam roads, what is the per cent. on our plain earth roads? The money collected should be expended in the townships. The towns or cities can assess his property higher. His scorching is not done there, but in the adjoining three or four townships, which should receive the money. Our automobile manufacturer should pay a road tax. I live near a town with such an industry, and it is impossible to drive in without meeting a machine out for testing purposes, with its engine all exposed, which should never be allowed.

Our Legislature will be in session soon. What member has the courage to introduce a motion to give his country friend assistance to maintain the roads, and also restore some of the lost pleasures of a drive?

Durham Co., Ont.

Referendum First.

Editor "The Farmer's Advocate":

Canada, I believe, has never invested any Premier or any Parliament with the right or the power to incept such a revolutionary and far-reaching movement as the proposed creation of a Canadian navy, without, in some way, obtaining the will of the people. Such an act is in line with Russian despotism, and not with the genius of our democracy. Separate the question from politics. Give us a plebiscite; for, as much as I respect my party and revere my Premier, I would have to vote against party sooner than for a navy, for these reasons: "I believe a Canadian navy is absolutely unnecessary, and infinitely inferior to a policy of cultivating a goodwill among nations, as a means of protection; it would impose upon us an ever-increasingly grievous burden of taxation, especially upon the rural classes; it would be a wrong, and a crime against a loving and omnipotent God."

It were better if we devoted a small part of the sum proposed for a navy to celebrate, five years hence, the completion of Canada's century of peace, and display before the world the freedom, contentment, prosperity and marvellous development it has insured for her. In the beginning of her era of power, let her not lose her head. The policy of peace that has made her great can surely keep her great.

Middlesex Co., Ont.

J. H. S. Johnstone, erstwhile of Toronto, author of the well-known standard work, "The Horse Book," and an agricultural journalist of long standing, has joined the staff of the Chicago Live-stock World, as editorial and business manager of the pure-bred stock and horse departments.

A Breeze from Pennsylvania.

Editor "The Farmer's Advocate":

You will please find enclosed money order of \$2.50 for the renewal of my subscription to your paper. I wish to say that it is a crackerjack; has more common sense and good reading matter to the square inch than any farm journal I take, and I take a number of others. It is always delivered regularly, and we are just as regularly after it as soon as it is on deck. If you were to double the price, we would have to stay in the game, and call on you every fifty-two weeks regularly, as I surely think I get my money's worth. A man doesn't have to be a farmer, stockman, merchant, or have to follow any one specialty, to get common sense out of it, as you are there with the goods, facts, and figures.

I have read Sandy Fraser's notes, including his trip to Chicago, and fully agree with him when he says, "Think twice before you sell the old farm and move to town." We are living down here in the heart of the hard-coal region, and when the mines are working everything is sympathetic and responsive. The town has twenty thousand people, and all the male population can work when it wishes to, and yet there aren't two out of ten of the men who work for wages that can pay their bills and live and keep out of debt, and it takes the best-working man in the country to pay his way, raise a family, and either buy or build his own home, and know that it is to be his when the whistle blows and he cashes in, knowing that he doesn't leave a plaster against it larger than the house.

I guess about the only trouble with all of us, either on the farm or off, is, if we were to expend the same amount of steam in our own line as we do in wondering how the other fellow does it, we would surely come out on top of the heap.

I had forgotten to tell you what we are engaged in. My father is in the fruit-and-produce business (wholesale only), and if your farmer friends and readers will give the same attention to details that we, or any other man who is in business, has to give, in order to make a success of it, they will come out on top of the heap; but it takes six days a week on the job, and sometimes seven, and also includes the fifty-two weeks that are in the year.

Well, I will pull the string, as you will think I am too windy to make a stayer, or too poor to be a doer. J. ARTHUR SYLVESTER.

Pottsville, Penn.

Ontario Crops.

Fall wheat in Ontario this year, according to a bulletin by the Provincial Department of Agriculture, averaged 24.1 bushels per acre, as compared with 24.2 in 1908, and 20.8 the average for 28 years. Spring wheat is estimated at 16.5 bushels; barley, 27; oats, 33.5, as compared with a 28-year average of 35.6; peas, 20; beans, 18.4 bushels; potatoes, 145 bushels per acre, as compared with a previous annual average of 111; mangels, 410 bushels (annual average, 458); sugar beets, 353; turnips, 447, as compared with 341 in 1908, and an annual average of 429; corn for husking, 70.1 bushels per acre (in the ear), as compared with 78.8 in 1908, and 71 in the annual average; corn for silo, 11.70 tons per acre, as compared with 11.68 and 11.45, respectively; hay and clover, 1.20 tons, against 1.42 last year, and 1.45 the annual average. The total yield of fall wheat in the Province is placed at 15,967,653 bushels; spring wheat, 2,223,567 bushels; barley, 18,776,777 bushels, and oats, 90,235,579 bushels; husked corn, 22,619,690 bushels; corn for silo, 3,374,655 tons; hay and clover, 3,885,145 tons.

Bills to Amend Railway Act.

E. A. Lancaster, Member of Parliament for Lincoln and Niagara, has moved in the House of Commons for leave to introduce three separate Bills to amend the Railway Act. The first has reference to section 340 of the Act, which provides that the shipper shall not be bound to accept anything less than his ordinary and actual damages, unless he signs a contract which must be approved by the Railway Commission. The Ontario Court of Appeals has given a decision which weakens the evident intention of the Act, and this Bill is for the purpose of having the intention of the Act made clear and distinct.

The second is to limit the appeals from the Board of Railway Commissioners. A time limit is asked for—within thirty days; also, that there must be some doubtful question of law involved before appeal be granted. The third would throw all of the expense of protecting level crossings on railways constructed before the passing of the Act, on the Railway Company, unless otherwise provided for by agreement approved by the Board. All of these motions were agreed to, and the Bills read the first time.

A Temiskaming Settler's Experience.

In the spring of 1901 I came to Temiskaming on the Ontario Government excursion, for the purpose of showing the farming possibilities of this district. I well remember this first trip from Lambton County, by London and Toronto to Carleton Junction, and west to Mattawa Station on the C.P.R. From Mattawa north a colonization railway was built along the shores of the Mattawa River to Temiskaming Station, at the foot of Lake Temiskaming, then by boat New Liskeard was reached. Coming through hundreds of miles of very rough-looking country the day previous made me feel dubious, but when we arrived at New Liskeard those previous suspicions were quickly dispelled. Along the sloping banks of the lake the grass was growing luxuriantly, and as no rocks were to be seen, I felt that I had arrived surely in a district that would make a farming center. The next morning a party of twelve land-seekers, headed by a guide, travelled fifteen miles north and west from New Liskeard. The deep, rich soil made me feel secure in locating. Having three grown-up sons at home, I also located a farm for each, making four farms in all. Readers will be anxious to know if I was deceived. In the fall of 1901 my son and I came back to start improvements, leaving the rest of family in East Lambton. The last four miles of our journey to our farms was over the trail. The jumper roads made by the first settlers are never to be forgotten—but you get there just the same. The first winter in Temiskaming surpassed my expectations, being one of the most enjoyable I had ever experienced. My family and myself returned to Temiskaming in the fall of 1902. In the spring of 1903 my boys and myself cleared about five acres of this virgin soil of the timber. The first crop I sowed was oats, on the 15th June. With a spring-tooth harrow my son, with a lively pair of horses, gave the field a good stroke of the harrows. On the 16th I sowed this to timothy. I could not at that time procure clover seed. He gave this another cross stroke with the harrows. This is all the cultivation that field got. On the 20th August the oats measured 5 feet 11 inches, and the timothy on the same day and date measured from 4 feet 7 inches to 5 feet. The majority of the timothy stalks grew to this height right in the thick crop of oats. On this field I have had excellent crops of hay every year since. This is an object lesson, from actual experience.

We have now very good travelled roads, and instead of coming around by Mattawa and Lake Temiskaming, we have the Temiskaming and Northern Ontario Railway, operated by the Ontario Government, with trains twice daily. We raise successfully every variety of cereals, excepting corn, in a most perfect manner, and all vegetables grow luxuriantly. All kinds of poultry do well, and our cows are producing a gilt-edge article.

NEIL A. EDWARDS.

Automobiles in the Country.

Editor "The Farmer's Advocate":

The automobile season is practically over for the year, and farmers, with their wives and daughters, may again travel on the roads without fear of being run down by an auto driven by a reckless person. It is a well-known fact that many chauffeurs and owners drive their machines recklessly, without heeding any signals from those driving horses, relying, no doubt, on their speed and the dust covering the numbers, to escape identification.

An instance of recklessness on the part of the driver which took place in an Ontario village during the past summer will illustrate it clearly. A party from a city some distance away came over in a car, to spend the day with some friends. When they arrived, they left their auto standing on the roadside in front of the house, without even taking the precaution to lock the engine—a requirement of the law. The number on the machine was dull, and so covered with dust as to be scarcely visible. When nearly seven o'clock, the party started for home. Proceeding along to the first corner, they suddenly turned into a narrow street filled with vehicles bound for church, and, although signalled to stop, proceeded on to the main street. Fortunately, no runaways occurred, although several horses cut-up very badly. Undoubtedly, the reason for such absurd conduct was that they lived a long distance away, and felt assured no attempt would be made to bring them to justice.

Another cause for complaint by the farmer is the American tourists. From the list of permits published last May, it is seen that nearly 50 per cent. of the licenses to run motor vehicles have been taken out by Americans. These heavy touring cars come over, and travel long distances, destroying the roads in dry weather by sucking up great quantities of dust, and by cutting up the gravel in wet weather with the chains on the wheels.

To me it appears rather unjust that we should be required to maintain the roads for American

millionaires to destroy. I think the evil might be lessened if three things were done: First, materially increase the cost of American licenses; second, increase the number of constables who have authority to arrest offenders against the Motor Act on sight; and third, fine those prosecuted more heavily. SUBSCRIBER'S SON.

Registration of Cheese Factories and Creameries.

The Dairy Branch of the Ontario Department of Agriculture, Toronto, is sending out to proprietors, presidents and secretaries of cheese factories throughout the Province a circular letter drawing attention to the fact that, after January 1st, next, factories, creameries and other establishments cannot legally manufacture milk products in Ontario without being duly registered.

Those factories which are undertaking the manufacture of milk products for the first time in 1910, will require to have their plants approved of by the Minister of Agriculture, so far as equipment and sanitary conditions are concerned, and it is advised that those who contemplate the erection of factories or creameries notify the Director of the Dairy Branch, when a representative of the Department will be sent to confer with the persons interested. A valuable service can thus be rendered the manufacturers of cheese and butter by consulting with them and making recommendations before sites are selected and plans are completed for the building of new factories or the equipment of old ones. It has been the policy of the Department to give advice as to location, equipment, etc., and often serious mistakes have been avoided by following the advice of the instructors who have had the opportunity of inspecting factories and creameries in different sections. These men are placed at the disposal of the dairymen of the Province, and it is hoped the Department will have the hearty co-operation of all interested in the cheese and butter business, in its endeavor to place the industry upon a permanent basis.

Dominion Estimates for Agriculture.

\$50,000 FOR EXPERIMENTS IN COLD-STORAGE OF FRUIT.

Out of a total of \$127,670,993 asked for in the estimates of the Dominion Finance Minister, Hon. W. S. Fielding, the vote for arts, agriculture and statistics is \$1,114,000, being an increase of \$165,500, of which \$25,000 is for exhibitions, \$25,000 for the establishment and maintenance of Branch Experimental Farms in Western Canada, \$38,500 for the Census and Statistics Branch, and \$50,000 for experiments in cold-storage of fruit. The immigration vote remains substantially the same, at \$915,801. The estimates call for a new item, in the vote of \$3,676,500, asked for naval services; also \$27,000,000 for the National Transcontinental Railway.

New Deputy Minister of Agriculture for B. C.

R. M. Palmer, Deputy Minister of Agriculture for British Columbia, has resigned, and W. E. Scott, of Salt Spring Island, is his successor. Mr. Palmer is an enthusiastic promoter of the fruit industry, and while he occupied the position of Deputy Minister he gave valuable service, and much of the rapid progress of the fruit industry of the Province is due to his efforts. It is his intention to devote his entire efforts to practical work in the business. Mr. Scott is a successful fruit-grower, and held the position of president of the Board of Horticulture for the Province.

Brandon Fair Dates.

The management of the Interprovincial Fair, at Brandon, have selected as dates for the 1910 exhibition, July 25, 26, 27, 28 and 29.

Dates have been set for several important agricultural events, which will be held during the coming winter in the Province of Alberta. The Provincial Seed Fair, which was held in Calgary last year, will be held in Edmonton on February 2nd, 3rd and 4th. During the same week, on February 2nd and 3rd, the convention of the Alberta Fairs Association will be held in Edmonton. This latter association has been put entirely in the control of the farmers of the Province, who have an efficient secretary in E. J. Fream, of Innisfail.

H. H. Miller, M. P. for South Grey, has moved for leave to introduce a Bill to amend the Criminal Code respecting the matter of race-track gambling. Not the betting, but the business of betting and gambling upon race-tracks, is aimed at.

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ASSETS, \$44,000,000.

MARKETS.

Toronto.
LIVE STOCK.

At West Toronto, on Monday, November 22nd, receipts numbered 78 cars, comprising 1,416 cattle, 29 hogs, 718 sheep, 10 calves, 142 horses. The quality of cattle was generally medium; trade good. Prime picked butchers scarce, at \$5.25 and \$5.50; good loads, \$4.75 to \$5; medium, \$4.25 to \$4.60; common, \$3.75 to \$4.25; cows, \$3 to \$4.60; feeders, firm, at \$3.75 to \$4.75; milkers, \$46 to \$65; veal calves, \$3.50 to \$7 per cwt. Sheep, \$3 to \$4 per cwt.; lambs, \$5.50 to \$6 per cwt. Hogs, \$7.60 to \$7.65, fed and watered, and \$7.35 to \$7.40, f. o. b. cars at country points.

REVIEW OF LAST WEEK'S MARKET.

Receipts of live stock at the City and Union Stock-yards last week were:

	City.	Union.	Total.
Cars	312	151	463
Cattle	4,457	2,109	6,566
Hogs	5,648	1,587	7,235
Sheep	5,041	3,231	8,272
Calves	239	108	374
Horses	4	125	129

The quality of fat cattle was, generally speaking, common to medium, with a very few good to choice loads being offered. Not even at the Union yards, where the best animals of Western Ontario are marketed, were they up to the usual standard, not more than half a dozen loads of exporters, that could be called good, being on sale. But, notwithstanding this fact, there was a fair to good trade for all classes of cattle.

Exporters.—Prices ranged from \$5.25 to \$6, only one load bringing the latter figure. Export bulls sold at \$3.75 to \$4.75, and one of prime quality, weighing 1,800 lbs., brought \$5 per cwt. Butchers.—Prime picked lots sold from \$5 to \$5.25; good, \$4.75 to \$5; medium, \$4.40 to \$4.70; common, \$3.50 to \$4.25; cows, \$2.50 to \$4.50; canners, \$1.50 to \$2.25.

Milkers and Springers.—There still prevails a strong market for good to choice young milkers, and early springers, at unchanged prices, ranging all the way from \$30 for common, light cows, to \$40 and \$50 for medium to good, and \$60 to \$70 for choice cows.

Veal Calves.—Heavy, rough, horsey calves, that have been on grass, sold at \$3 per cwt. Medium to good calves, \$5 to \$6.50; prime new-milk-fed calves were readily picked up at \$7 to \$7.25 per cwt.

Feeders and Stockers.—Good feeders were scarce, at \$4 to \$4.50, and \$4.60 in some instances were paid; medium feeders, \$3.50 to \$3.90; common feeders, \$3.50 to \$3.75; good-quality stockers, \$3 to \$3.25; common light stockers, \$2 to \$2.50 per cwt.

Sheep and Lambs.—Receipts were moderate. Prices, at latter end of the week, were slightly firmer. Good export ewes

sold at \$3.90 to \$4; cull ewes and rams, \$2.75 to \$3 per cwt.; good lambs, \$5.90 to \$6 per cwt.; cull lambs, \$5 per cwt.; light yearling butchers' ewes sold at \$4.25 per cwt.

Hogs.—Receipts were not large enough for the demand, but prices were probably about 10c. per cwt. lower. Selects, fed and watered at the market, \$7.65, and \$7.40, f. o. b. cars at country points.

Horses.—Trade at the regular auction sales, held at the Union Horse Exchange on Monday and Wednesday of last week, was much better. Over one hundred horses changed hands, at about the same quotations as last week. The bulk of them went to outside points in Ontario at the following quotations: Drafters, \$180 to \$225; general-purpose horses, at \$150 to \$195; wagon and express horses, \$140 to \$190; drivers, \$100 to \$160; serviceably sound, \$30 to \$70 each. The special sale of imported Shire fillies and stallions, held on Thursday, was a success, the entire lot being sold, at prices ranging from \$300 to \$625 each. Several were bought to go to Michigan, but the bulk went to the Canadian Northwest.

BREADSTUFFS.

Wheat.—No. 2 white, \$1.03 to \$1.04; No. 2 mixed winter wheat, \$1.02 to \$1.04, at outside points. Manitoba—No. 1 northern, \$1.04; No. 2 northern, \$1.02½, on track, at lake ports. Rye—74c. to 75c., at outside points. Peas—88c. to 90c. Buckwheat—No. 2, 55c. to 56c., outside. Barley—No. 2, 60c.; No. 3X, 56c. to 57c.; No. 3, 50c. Oats—No. 2 white, 37c. to 38c., outside, and 39c. to 40c., on track, Toronto. Corn—American No. 2 yellow, 74c. to 75c., track, Toronto. Flour—Ontario 90 per cent. patent, for export, \$4.15 to \$4.20, outside points; Manitoba first patents, \$5.60; second patents, \$5.10; strong bakers', \$4.90.

HAY AND MILLFEED.

Hay.—C. Caldwell & Co., Front street, Toronto, reports No. 1 timothy, \$14.50 to \$15; No. 2, \$13.50 to \$14, in car lots, track, Toronto. Straw.—Baled, in car lots, \$7.50 to \$8, track, Toronto. Bran.—Ontario bran, in bags, \$22, track, Toronto. Shorts.—Car lots, on track, Toronto, \$24. Flaxseed Meal.—Pure ground flaxseed, \$3 per cwt. Mr. Caldwell is introducing from England, molassine meal, which sells at \$3 per cwt.

COUNTRY PRODUCE.

Receipts of choice creamery butter are reported light. Creamery pound rolls, 27c. to 29c.; creamery solids, 26c.; separator dairy, 25c. to 26c.; store lots, 20c. to 22c. Eggs.—Cold-storage eggs, 25c. to 26c.; strictly new-laid, in case lots, 40c. Cheese.—Market steady, with prices unchanged. Twins, 13½c., and large, 13c. Beans.—Trade slow, with prices about the same. Primes, \$1.75 to \$1.80; hand-picked, \$1.90 to \$2. Poultry.—Receipts moderate. Live weight: Turkeys, 14c. to 16c.; geese, 9c. to 10c.; ducks, 10c. to 11c.; chickens, 9c. to 11c.; fowl, 7c. to 8c. Dressed weight, about 2c. to 3c. higher. Potatoes.—Receipts large. Car lots, on track, Toronto, 50c. per bag.

HIDES AND WOOL.

E. T. Carter & Co., 85 Front street East, Toronto, have been paying as follows: No. 1 inspected steers and cows, 13½c.; No. 2 inspected steers and cows, 12½c.; No. 3 inspected steers, cows and bulls, 11½c.; country hides, cured, 12½c. to 13c.; calf skins, 14c. to 16c.; horse hides, No. 1, \$3.00; horse hair, per lb., 32c.; tallow, per lb., 5½c. to 6½c.; sheep skins, 75c. to \$1. Wool, prices on request.

SEED MARKET.

The William Rennie Co. report the seed market as being easy, with little business. Ontario farmers are holding for higher prices. American farmers are selling at lower prices, and, of course, are getting the trade away from the Canadian farmers. Alsike, fancy, bushel, \$6.50 to \$6.75; alsike, No. 1, bushel, \$6 to \$6.25; red clover, No. 1 red, \$7.50 to \$8.25; red clover (containing buckhorn), \$5 to \$6.

FRUITS AND VEGETABLES.

Fall cooking apples, \$2 to \$2.50; winter apples, \$2 to \$3, and \$3.25; Snows, for table use, \$3 to \$3.50; grapes, 15c. to 30c. per basket; onions, per bag, \$1 to \$1.10; carrots, per bag, 40c. to 50c.; beets, per bag, 40c. to 50c.; cabbage, per 100, \$4; parsnips, 60c. per bag.

Montreal.

Live Stock.—Exports from Montreal during the second week of November amounted, to 3,980 head, against 2,766 head the previous week.

Owing to the unfavorable weather, demand for cattle was rather light last week, but, as the supply was small, the market continued fairly strong. Some really choice steers sold at 5c. to 5½c. per lb., but good stock sold at 4½c. to 4¾c., and, in fact, as low as about 4c., medium ranging around the latter figure, and down to 3½c. or 3¾c. Bulls sold at 3½c. to 3¾c., for good quality, and 2½c. to 3c. for canners, cows being 1½c. to 1¾c. per lb. There was a very fair supply of sheep and lambs, and the demand was good, quite a quantity going into store for winter consumption. Sheep brought 3½c. to 3¾c. per lb., and lambs 5½c. to 5¾c. per lb., according to quality, while calves were being traded in at \$3 to \$5 each, for common, and up to \$10 or \$12 for fine. For live hogs, demand was good, though prices were lower, being 8½c. to 8¾c. per lb., for selects, weighed off cars.

Horses.—The market continued steady, at the following prices: Heavy draft, weighing from 1,500 to 1,700 lbs., \$225 to \$300 each; light draft, 1,400 to 1,500 lbs., \$180 to \$240 each; small horses, 1,000 to 1,100 lbs., \$100 to \$150 each; broken-down animals, \$75 to \$100 each, and choice driving and saddle animals, \$350 to \$500 each.

Dressed Hogs and Provisions.—Prices for dressed hogs were easier, at 11½c. to 11¾c. per lb., for abattoir-killed, choice. The rest of the market for hams, bacon and provisions of all kinds, held fairly steady. Extra-large hams, weighing 25 lbs. and more, sell at 15c. per lb.; those weighing 18 to 25 lbs., 16c.; all smaller weights, 16½c. per lb. Hams with the bone out, large, rolled, 16 to 25 lbs., 17½c.; small, 9 to 12 lbs., 18c. Smoked breakfast bacon, 17c. per lb. for English boneless; Windsor bacon, 17c.; Wiltshire sides, 17c.; spiced roll, boneless, short, 15c. Barrelled pork, \$30 to \$32, and beef, \$15. Compound lard, 11½c. to 12½c.; pure lard, 16½c. to 17½c. per lb.

Potatoes.—Prices held about steady, 40c. to 50c. per 90 lbs., carloads, on track, being the range, according to quality.

Apples.—Shipments continued very large, some 70,000 barrels being sent out the second week of November, as against 56,000 the previous week. Mixed Greenings, Spies, Baldwins and Russets were sold here at \$2.75 per barrel, it is reported. No. 1 Spies sold, east of Toronto, at \$3.25 and \$3.50, to \$4 here.

Poultry.—A sale of fine turkeys was made here last week at 15c. Had the weather been finer, it is thought that the price would have been 16c.

Eggs.—The market continued to advance, the supply being very light. No. 1 candled eggs sold at around 26c. per dozen to grocers, selects being 29c., and new-laid, 35c. There were very few of the latter offering, and the quality was indifferent.

Butter.—The finest September and October makes sold here at 25c. to 26c. per lb., in a wholesale way, to grocers. From these prices, creamery ran down considerably, according to quality. Shipments for the season only 40,000 boxes, against 93,000 in 1908.

Cheese.—Shipments continued large, and were 1,790,000 boxes, against 1,696,000 a year ago. Prices are a shade down. Quebec cheese was quoted at 11c. to 11½c., Townships at 11½c. to 11¾c., and Ontarios at 11½c. to 11¾c.

Grain.—The market for oats was easier, No. 2 Canadian Western being 41½c. to 41¾c. per bushel; No. 2 barley, 66c. to 67c.; Manitoba feed barley, 52c. to 53c.; buckwheat, 58c. to 58½c. per bushel.

Flour.—There was a very good demand for flour for export. Domestic prices steady, at \$5.70 per barrel, for No. 1 patents, Manitobas; \$5.20 for No. 2 patents, and \$5 for strong bakers'; Ontario winter wheat patents, \$5.50 to

IMPERIAL BANK OF CANADA

CHARTERED 1875

Capital Authorized, \$10,000,000.00
Capital Paid Up, 5,000,000.00
Reserve, 5,000,000.00

SAVINGS DEPARTMENT

\$1.00 opens an account. Interest paid at highest current rate from date of deposit.

Farmers' sale notes discounted. Branches throughout the Dominion of Canada.

\$5.60, and straight rollers, \$5.10 to \$5.25.

Feed.—Dealers had been trying to get quotations on cotton-seed meal, but none had so far been obtained. Gluten meal was quoted at \$31 to \$32 per ton, in ton lots, bagged, Montreal, oil-cake meal being \$35.50 to \$36. Ontario bran, \$21 to \$22, middlings being \$23.50 to \$24, pure grain mouille \$32 to \$33, mixed mouille \$25 to \$27, Manitoba bran \$20 to \$21, and shorts, \$23 to \$24.

Hay.—Market steady. Baled hay, No. 1, \$12.50 to \$13 per ton, cars, on track; No. 2 extra, \$11.50 to \$12; No. 2, \$10.50 to \$11; clover mixed, \$9.50 to \$10; clover, \$9 to \$9.50.

Hides.—The market advanced somewhat on sheepskins, these being 90c. each. Hides, 13c., 14c. and 15c., respectively, for Nos. 3, 2 and 1; calf skins, 15c. and 17c. per lb., respectively, for Nos. 2 and 1; horse hides, \$1.75 for No. 2, and \$2.25 for No. 1. Tallow, 1½c. to 3½c. for rough, and 5c. to 6c. for rendered.

Chicago.

Cattle.—Steers, \$5.60 to \$9.25; cows, \$3.50 to \$5; heifers, \$3 to \$6; bulls, \$3 to \$4.75; calves, \$3 to \$8.50; stockers and feeders, \$3.75 to \$5.25. Hogs—Choice, heavy, \$8.15 to \$8.25; butchers', \$8.10 to \$8.20; light, mixed, \$7.85 to \$7.95; choice, light, \$8 to \$8.10; packing, \$8.05 to \$8.15; pigs, \$6 to \$7.65; bulk of sales, \$7.95 to \$8.10. Sheep—\$4 to \$5.25; lambs, \$6.50 to \$7.50; yearlings, \$5 to \$6.55.

Buffalo.

Cattle.—Prime steers, \$6.75 to \$7.00. Veals—\$6 to \$10. Hogs—Heavy, \$8.45 to \$8.50; mixed, \$8.40 to \$8.50; Yorkers, \$8.15 to \$8.45; pigs, \$5 to \$8.15; dairies, \$8.15 to \$8.35. Sheep and lambs—Lambs, \$5.25 to \$7.75; yearlings, \$5.75 to \$6; wethers, \$5 to \$5.25; ewes, \$4.50 to \$5; sheep, mixed, \$2 to \$5; Canadian lambs, \$7.50 to \$7.60.

Cheese Markets.

Picton, Ont., 11c. to 11 8-16c.; Ottawa, Ont., 11½c.; Kingston, Ont., 11c.; Brockville, Ont., 11c. bid, no sale; Belleville, Ont., 11½c. to 11 5-16c.

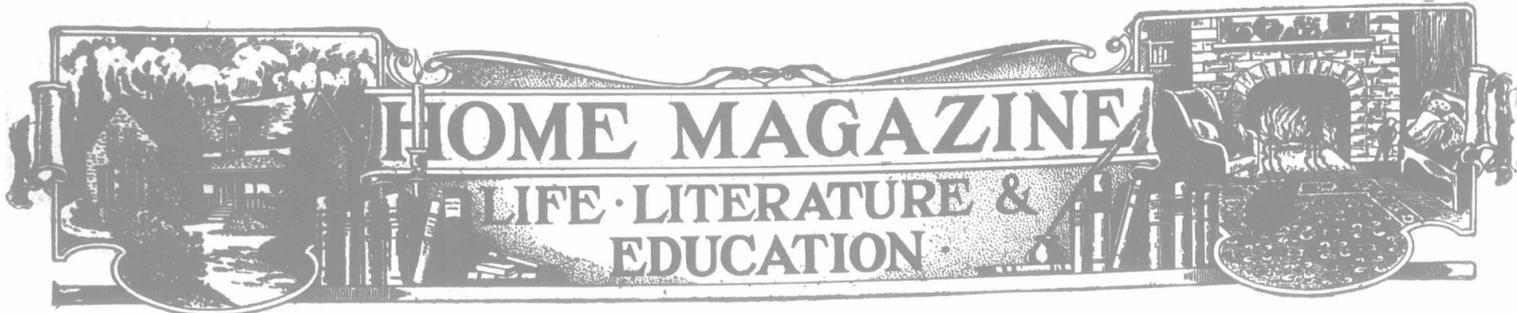
British Cattle Markets.

Liverpool and London cable 12½c. to 13½c. per pound for live cattle, dressed weight; refrigerator beef, 10c. to 10½c. per pound.

Attention is drawn to a new advertisement of Chester White swine by Chas. E. Rogers, one and a half miles from Dorchester, Ont., and eight miles from London.

FRENCH-CANADIAN HERDBOOK.

The first volume of the French-Canadian Cattle Herdbook, just issued, and bearing the date 1909, has been received from the office of the National Live-stock Records, Ottawa. Besides the pedigrees of 1,571 cattle, printed in French, it contains much historical and other information about the breed, printed in both French and English. The volume is neatly gotten up with red cloth binding, and will be welcomed as marking a milestone in the development of a distinctive Canadian breed of stock.



A More Beautiful Canada.

[Fourth Annual Convention of the Ontario Horticultural Association, City Hall, Toronto, November 9th and 10th.]

We went down to the Fourth Annual Convention of the Horticultural Association this year filled with the intention of keeping a weather-eye open for those points, and those points only, which might bear upon the welfare of the farming community. Upon this occasion, however, there were singularly few points or papers that had any direct relation to the farming districts. The City Beautiful, the Town Beautiful, the coal-bed waterfront of Toronto, and the carelessness of the Queen City in fighting weed and insect pests; the care of parks in general, and the especial advisability of preserving the natural beauty and adding to the scenic effects of Queen Victoria Park, Niagara Falls; the construction of boulevards; the work of the C. P. R. in distributing flower seeds to the railway stations; the utilization of the vacant town lot for vegetables, flowers and fruits; these and a host of similar questions were brought up and discussed at this very enthusiastic convention, but of country roads, country homes, scarcely a word.

Yet, how could this be otherwise? At the Horticultural Convention, as in the House of Parliament, farmers are scarce as hen's teeth. There was not, we believe, even a single, solitary farmer among either speakers or audience, unless, indeed, the very alert representative of the Horticultural Department at the Central Experimental Farm, Ottawa, Professor Macoun, and the worthy Superintendent of Agricultural Societies, Mr. J. Lockie Wilson, be included in that category.

Now, there were several seats in the big court-room at the City Hall—at least half a dozen of them—quite empty, and by reason of them, little wonder was it that the questions that kept intruding themselves upon our consciousness were these: Why are these seats not filled with farmers, or, at least, as one delegate suggested, "Why have not the farmers horticultural societies of their own?"—with a separate convention, if need be, to consider especially the questions that pertain to the beautification of the rural districts? Why are not the farmers taking up the question of a more beautiful Canada, as these city men are so effectively beginning to do? Has not the time arrived when the Canadian farmer can no longer bring forth the plea of excessive busyness to excuse him from such deliberations (the time-saving of modern machinery must mean something), and could not the farmers, by united effort, and by the expenditure of a little time each year, accomplish tremendous results in removing from our splendid country the appearance of crudeness and ugliness—yes, plain downright "ugliness"—so invariably noticed by newcomers from European lands, or by those of our own who have been fortunate enough to avail themselves of a trip abroad?

There seems no reason, except the want of awakening to the advisability of such steps, to prevent such a movement; and, if once started, the ball is sure to keep rolling. There is no work more delightful than that of beautifying the homes, lawns and roadways of one's neighborhood; there is no work that gives more immediate results; there is no work that does more to encourage a spirit

of unselfishness, a doing of things for the common good; there is no work that redounds more to personal satisfaction, unalloyed by the sordidness which always, to some extent, accompanies transactions carried on solely for personal gain. Like the quality of mercy, the work "blesseth him that gives and him that takes." . . . A man plants a tree at his gates and sets a wild clematis clambering over the fence; even the passing stranger is cheered thereby.

THE PROGRAMME.

And now to our notes: They were all there, the old reliables of the Horticultural Association, and a few new ones—the retiring President, Major Snelgrove; Mr. Lockie Wilson, the Secretary; Messrs. Cowan, and Groff, of Simcoe; R. B. Whyte, of Ottawa; Jaffray, of Galt; Prof. Hutt, of the O. A. C.; Gammage and Liddicott, of London; Burgoyne, of St. Catharines; Rev. A. H. Scott, of Perth; and many others. Mr. C. C. James, Deputy Minister of Agriculture, found time for a call and a short address.

The President, in his opening address, urged the co-operation of the various branches of the Association; co-operation is a power. He again denounced the bill-board nuisance (one which is not, unfortunately, confined to the town.—Ed.), and declared his conviction that the man who holds a lot in weeds and idleness should be taxed to the limit. He (the President) was in favor of Henry-Georgeism and Lloyd-Georgeism, in so far as it applies to such cases. The culture of flowers, as a refining influence, should be encouraged, and the Government should be asked to reduce the duty on flowering roots. . . . To all interested, he would recommend the procuring of a pamphlet, "Herbaceous Perennials," by Prof. Macoun, which might be got by applying to the Department of Agriculture, at Ottawa. He thought our list of ornamental and useful plants might be greatly increased by procuring foreign plants from similar climates. A representative of the United States Government, just returned from a trip through China, had found alfalfa growing on the Great Wall, walnuts with shells thin as paper, wheat, barley, pears and plums, all inured to the severe climate of the northern provinces; seedless dates that will grow in alkali soils; and, in Wei, peaches that weighed a pound.

Mr. Lockie Wilson spoke of the extension of horticultural societies during the past year. Among others, Haileybury had filed its application for a society, and Fort William had begun a warfare against ugliness. But the societies were as yet scarcely active enough; only Ottawa and St. Catharines were as yet eligible for the maximum grant. In order to awaken a more general interest, he would suggest that prizes be offered in each district for the best-kept lawns and gardens.

Mr. Powell, of Alabama, U. S., emphasized the point that the basic object of the Association is to lead men and women up to higher ideals. Beautiful surroundings always uplift. Especially has it been noted among the poor in towns and cities that "contact with the soil" improves the worker physically, mentally and morally. . . . In the evening session, Mr. Powell gave a graphic account of the town in Alabama, created somewhat on Socialistic principles, in which he lives.

Mr. H. H. Groff, of Simcoe, the

noted developer of the gladiolus, gave an interesting scientific dissertation on "The Physical Disintegration of the Tissues, or Natural Death of Plants." Science really knows little about death. Natural death is a phenomenon in the nature of an organism; those deaths due to external accident or disease should not be called natural death. In the plants this usually follows after the maturity of the reproductive organs; in other words, after they have produced seed. Death from exhaustion caused by this physical effort can be deferred for a time by preventing maturity of bloom and seed-raising, as when the gladiolus is cut immediately after the opening of the first bloom on a spike. (A well-known illustration is the lengthening of the blooming season of sweet peas, nasturtiums, Shirley poppies, etc., by cutting the flowers as soon as they open.—Ed.). The duration of life depends upon the vital processes, and there are inherent qualities that prolong or shorten life; hence, in his work with the gladiolus, he had aimed at infusing all possible vitality into the plant, and to increase, not only size, beauty, and quality of coloring, but also hardness, and adaptability to various soils.

Prof. Macoun here noted that at the Experimental Farm they had found change of seed in potatoes very important. They had found that for four years a certain variety of potatoes did not deteriorate. Then came in succession three bad crops, and the vitality lowered very much, only 17 bushels, instead of 300 bushels per acre, being the final yield. At the same time, seed from the United States, growing side by side with these, and under the same conditions, were yielding five times as much.

In a vigorous plea for the improvement of parks, Mr. Jaffray, the very enthusiastic horticulturist from the beautiful and enterprising town of Galt, struck a note which may be as suggestive to the country as to the town. "Form your committees," he said, "and something will be done." This is a truth that is too often overlooked. What is everybody's business is nobody's business. Let a committee be formed, and it immediately feels that it has something definite to do.

Prof. Hutt here remarked that, during a recent trip out West, he was forced to observe that the new Western towns will be immeasurably beyond ours in appearance. They have profited by our mistakes. . . . Incidentally, we may remark that, while mistakes have been made in the country, these mistakes are not yet irreparable, or may be retrieved with much less expense than can the mistakes of the town. WE HAVE NOT EVEN BEGUN TO BEAUTIFY THE COUNTRY, AS YET, IN A CO-OPERATIVE WAY. WE HAVE A CLEAN SHEET TO BEGIN UPON.

A Toronto man referred to the necessity of watching out for insect pests. The Tussock moth and elm-tree scale was spreading from Toronto to the surrounding country. Such insects could be checked by vigorous measures, if taken early enough. The elm-tree scale, he noted, is, next to the San Jose scale, the most injurious pest that can infest a fruit orchard.

A FLOWER GARDEN.

Miss Blacklock, in a suggestive paper on this subject, emphasized the advisability of working out our own individual ideas, which, however, should be based on certain underlying prin-

ciples that make for beauty. Two or three shrubs and a clump of hollyhocks may be a thing of beauty, but if the shrubs are dotted over the lawn, and the hollyhocks planted in a straight row, the effect is only displeasing. There should always be a free lawn space, clear of shrubs and flower-beds; a long, narrow lot should have shrubs chiefly at the end, or to hide a vegetable garden. Three shrubs she would recommend are the Persian lilac, Rugosa rose, and Spiraea Van Houttei. Among vines, Wild Clematis, Bittersweet, Moonseed and Virginia Creeper are all good, and will grow almost anywhere; Honeysuckle and Trumpet Vine prefer a sunny spot. The Scarlet Runner is not to be despised, while Nasturtium and Morning Glory should have a place in every garden. . . . As a rule, plants look best where they do best—Poppies in a sunny spot; Iris near a pond or stream; lilies in partial shade, with a background of shrubs, etc. Give up straight lines for borders; think of the lawn as a small lake, with an irregular shore line. A beautiful garden may be had with but few flowers in bloom at a time, if one studies the effect of shrubs, plants and trees, using the sturdier plant or tree as a foil for the finer; e. g., Spiraea Van Houttei against the sturdy lilac, the Lady Birch as a companion to the stronger Sugar Maple.

Supply prostrate plants, such as Rock Cress, Golden Tuft, Moss Pink, Mouse-eared Chickweed, Soapwort, Stonerops, etc., to cover bare-ground patches between taller plants. A straight path may be made attractive by building a pergola over it, while a pond at the end of a garden may be made a fascinating adjunct, especially if partially screened. A little reserve in gardens is as necessary as in people.

In the ensuing discussion, Prof. Macoun said he thought the time is coming when most of the gardeners will be ladies. Woman's artistic sense stands her in good stead in this work. When in Ireland, he saw a lady directing the operations of two men who were doing the manual labor in a garden.

During the evening, an interesting talk on school gardens, illustrated by slides, was given by Miss Louise Klein Miller, Curator of School Gardens, Cleveland, Ohio. Of this, mention will be made at a later date.

SECOND DAY'S SESSIONS.

The morning of the second day was chiefly devoted to the election of officers, and reading of reports. Mr. R. B. Whyte, of Ottawa, was elected President for the ensuing year; Mr. J. Lockie Wilson, Toronto, Secretary, and Mr. H. B. Cowan, Peterborough, Treasurer.

During the afternoon, an address on "Furthering the Work of Smaller Horticultural Societies," by Mr. Jas. Mitchell, Goderich, called forth an interesting discussion. Among other suggestions by the speaker and others, the donation of seeds to schools, the giving of prizes for the best-kept premises, and the buying of spraying outfits by corporations, were recommended. The distribution of seeds, bulbs and plants among the members of the Society itself was especially remarked as instrumental in extending a general interest in flowers.

RESPONSIBILITY OF THE RURAL DISTRICTS.

Prof. Craig, of Cornell, a Canadian "old boy," by the way, gave an interesting talk, and an outline of the



Plenty of vines and shrubbery will often make the difference between a house and a home. Vines should not, however, be permitted to grow over a roof. They are best over a brick or stone wall.

work of the American Civic League, which has extended its interests until it embraces national questions, such as the conservation of natural resources, the building of great highways, establishment of national parks, etc. . . . Every town, city and village is in need of improvement. There are badly-paved streets and unkempt lots everywhere; trees are too many or too few, and too often the waterfront is a mere dumping-place, a river and sewer combined. These conditions are as prominent in the country as in the city. Even the very water supply of the country is often a source of infection and disease. Typhoid fever has often been traced back to country wells that have been used for watering cattle. Rural organizations are needed, and one of their first concerns should be to urge stable sanitation and care in regard to the water supply. Convenience of construction of the dwelling-house, too, is a factor too often lost sight of in the rural district; saving steps to lessen labor is a possibility too often overlooked. A taste for the garden beautiful, a determination to have a sanitary and convenient home, should be promoted in the rural districts. There must be a beginning; let us find the individual in a community, and use him as a germ to leaven the whole. Sixty years ago, a man of culture and training, and with a love for flowers, settled in a certain backward locality in New York State. To-day, as a direct result of his influence, that locality is noted for its beautiful lawns, comfortable homes, and cheerful citizens.

Prof. Craig then referred to cheap vaudeville and moving-picture shows in small towns. As a rule, they are not uplifting. He thought the civic-improvement leagues should take up such problems. . . . After all, the man who is going to do the best work is the one who looks on opportunity as one of service. The one who unselfishly gives "himself" is the one who makes for leadership in the end. In the discussion that followed, Mr. Jaffray referred to the Grand River Improvement Association, which has been formed to unite Brantford, Paris, Galt, and other towns, all the way up to Fergus, in a strong effort for improvement of the Grand River, the raising of the water, reforestation of waste lands, etc.

Mr. Whyte said he had been struck with what had been done in this way

at Vankleek Hill, where some of the most energetic members are farmers. He suggested that rural horticultural societies might very well affiliate with the Women's Institutes.

Mr. Jones, of Brantford, advised individual work. Some one must start, and carry a campaign through, to achieve results. He believed that a good work was being done by sending seeds to schools, and encouraging fall fairs and flower shows. The love of flowers is contagious, if given a chance. He believed, as Rev. A. H. Scott had said in the morning, that "flowers are God's messengers, and that the love of them raises a man morally."

Mr. Whyte observed that, in case of doubt as to the purity of water, all

that is necessary to do is to send a pint of it to the chemist at the Experimental Farm, Ottawa, where it will be examined free of charge.

SOME CONCISE SUGGESTIONS.

Prof. Hutt, of the O. A. C., in a well-condensed paper on "How to Make the Work of the Horticultural Societies More Effective," advised: (1) Holding frequent meetings on horticultural subjects; (2) the circulation of horticultural periodicals; (3) the procuring of seeds and plants of new and valuable kinds; (4) the offering of prizes for essays on questions of scientific inquiry relating to horticulture; (5) the awarding of premiums for the invention or improvement of horticultural machines,

and for excellence in any horticultural production and operation.

The purpose of horticultural societies, he pointed out, is to benefit the members and the community at large. The benefit of the community should be the keynote, and success is bound to be in direct proportion to the unselfishness of the members. At least five meetings should be held during the year, at which timely topics should be discussed. The programmes should be arranged by the directors at the beginning of the year, and a careful selection of seeds, plants, etc., suitable to the locality, should be made, and entered on the premium list. The premium list, however, should not be made the chief incentive. The good the Society may do as an educational institution to the whole community should ever be held as the paramount object.

The interest of the community may be secured (1) by distributing seeds and bulbs among the school children, and encouraging them to hold a fall fair. In Guelph, this fair had been found most satisfactory when held in the schoolrooms, under supervision of the teachers. "Get the young people, and you have the old people." (2) Interest the citizens by instituting lawn and garden competitions, prizes to be given for vegetable gardens, too. (3) Interest all the citizens by appealing through meetings and through the press.

To accomplish the best results, there must be united effort. The officers should try to get the interest of every citizen, teachers, members of the Boards of Education and of Trade, Councils, etc. He believed in advertising, and in securing reports in local and other papers. Every society, too, should endeavor to get in touch with other societies, by sending delegates to this annual convention, that they may take note of what is being done elsewhere, and be in a better position to help on the work in their own community when they return.

The last address of the session was that given by Mr. James Wilson, Park Commissioner, Toronto, on "Public Playgrounds." With this, we of the country have little to do; we have room and to spare for exercise and for fresh air. Suffice it to say that he recommended the school garden, also the supervision of public playgrounds for the suppression of



A Beautiful Farm Lane.

Going for the cows along such a lane as this would be a pleasure.

roughness, and for the direction which the trained physical-culturist can give in developing the body properly through sports and gymnastic exercises. Play should be encouraged in children. The impulse to it is as natural as to eat or sleep.

Before the meeting adjourned, Rev. A. H. Scott displayed before the members a handsome silver cup, bought by the St. Catharines Horticultural Society as a trophy to be competed for by the various societies, and which is to become the property of the first society winning it twice in five years, the competition to be in cut-flowers at the Niagara District Exhibition in September of each year. Earlier in the session a committee had been appointed to select the flowers for competition in 1910. This report was now read, viz.:

Asters—50 flowers in 5 vases.
Gladioli—50 flowers in 10 vases.
Geraniums—20 flowers in 4 vases.
Hydrangea—3 flowers in one vase.
Phlox Drummondii—50 flowers in 5 vases.
Stocks—12 flowers in 3 vases.

It was advised that entries be made at an early date, and universal appreciation of the St. Catharines Society's initiative and generosity was expressed.

A no less pleasant episode was the presentation to the Secretary, Mr. J. Lockie Wilson, of a handsome Crown Derby tray, encircled by a band of sterling silver, the address of presentation being read by the retiring President, Major Snelgrove, of Cobourg.

* * * * *

In a report, of necessity considerably abbreviated, we have not found it possible to make mention of all who spoke, or who brought forward suggestions. As noted above, we have tried to fix on those points only which might prove suggestive to our farm readers. In closing, then, may we urge once more that our rural communities join hands with these town and city communities in a united effort for a more beautiful Canada. Do not merely think about it. Do something. Start the nucleus of an improvement society in your own neighborhood. "Form a committee"; it will then be bound to act. Beautify the homes, the concessions, the sidelines, and study first the best way in which this can be done. These town and city members who have had experience will help you with suggestions if you apply to them. Try them. And remember, the work of improvement is "catching," and it is your duty to see that, so far as possible, it shall be so. Be generous. If you have signal success in growing a flower or vine, tell your neighbors how you "did it." When you are dividing your perennials, give an odd root away; or, if you have plenty of seeds of annuals, present a few to your neighbor over the line fence. Stir up a "bee" now and again for the planting of trees along roadsides and the cutting of thistles and brown dock, that they may not spread. So may be promoted good-fellowship and the spirit of working for the general good, as well as the larger, though inevitable, result, the Making of a More Beautiful Canada.

Hope's Quiet Hour.

Thou Meetest Those That Remember Thee.

Thou meetest him that rejoicest and worketh righteousness, those that remember Thee in Thy ways.—Isa., 64: 5.

I have not received nearly as many answers as I expected to the question whether the farmers of to-day were less interested in religion than those of thirty years ago. However, those who have answered do not seem at all pessimistic. A Presbyterian minister writes: "Though I am a Western man, and not a native of Ontario, I am inclined to think from what I hear, that, though there is a good deal of indifference and self-satisfaction, there is less atheism and ag-

nosticism than there was thirty years ago amongst the people of the rural district. But there is abundant field for your preaching in 'The Quiet Hour,' and I hope you will persevere."

Another writer expresses her opinion in these words: "Hope . . . has asked whether or no interest in religious matters is declining among the Canadian farmers. I cannot think so, and especially in Ontario, for to watch—as I often do while driving to church—buggies of every description, wending up the hills to the little old country church (surrounded by God's acre where lies all that is mortal of our beloved ones), makes me say, that in proportion to our city churches, the attendance in the country church is just as good . . . our best writers, our deepest thinkers, and all our most religious men and women, have either been brought up in the country, or spent many years of their lives among nature; and, as time goes on, Canadians will not be behind in giving, from some country corner, ideas and thoughts that may live and grow for ever.—Leaves."

Another letter on the same subject is given below. I suppose most of our farmers are too busy in the practice of everyday religion to have time to write about it. But we all have need to watch and pray against the temptation to be so occupied in business or pleasure as to forget God. Our King invites us to meet Him many times each day. His hands are full of gifts. He offers power for the work we have to do; He wants to cheer our discouragement, rest our weary hearts, and pour His golden sunshine all about us. And yet we struggle along painfully and slowly, just because we do not keep the tryst with our Divine Lover. The Bible has been called "The Love Story of God," but all His messages of Love are not written yet. He is still ready to whisper secret words of love and joy and wonderful peace to the heart that is kept shining and holy as a temple, with doors always open to Him.

Baring Gould says that in Belgium he has seen railway porters kneeling in silent prayer in church, between trains. Even the boys, he says, on their way to and from the hayfield, often step into a little church and kneel for a few minutes in devotion. He describes how, in a Tyrolean village, where the church bell rings at twelve, the mowers put down their scythes, take off their caps, and pray for a minute, then go on with their work. In the market, the sellers and buyers stop for a space, and prayer crowds out bargaining.

Habits of prayer can be cultivated. It is worth a great deal to us to form the habit of remembering God in our beds, and thinking of Him in the moment of waking, as the Psalmist says. A touch of consecration glorifies the whole day when we open our eyes and smile up into our dear Lord's face the very first thing. Then we can remember that our real business in life is to do the work He has set before us. And at night, as we render up to the Master an account of our stewardship, we must learn to regard success or failure from His point of view. If we have gained money by fraud or hardness—that is failure. If we have seized an opportunity for helping or cheering a comrade, especially if it cost something in the way of giving up time, money, or inclination—that is success. If we have lost control of temper, or have been "blue," discontented, or cross—that is failure. If we have gained admiration which was undeserved—that is failure. If we have really rejoiced at another's success—that is success.

The prophet says that God "meetest" those who rejoicingly work righteousness and who remember Him. What joy can be found in those meetings? On the first Easter Day, the women were eagerly running on their Lord's errand, with fear and "great joy," when He met them, saying "All hail!" He has not changed in all the centuries since. Still He stands in the way, to meet and reveal Himself to those who consider it their highest privilege to serve Him.

In the parable of The Prodigal Son, the elder brother was angry because he thought his brother had been having all the good times, while he had been having the tiresome home-work to do. He did not realize that it was far pleasanter to live in the home-love than to be thrown among care-less strangers. He

had the right of sharing all his father's possessions. And so have we. Never imagine that those who plunge recklessly into sin are having a "good time." The way of transgressors is "hard," and not at all a way to be desired. If you would like to be a prodigal, and are only kept straight by the fear of consequences, then you are not likely to meet God while you do your daily work. He meetest one who "rejoiceth" and worketh righteousness, one who says, like a servant of old to his master, "I will not go away from Thee"; because he loveth his Master and his Master's house, and feels that it is the most desirable place to be.—Deut., xv: 16.

Christ does not seek only servants to do His work, He wants the enthusiastic friendship of each busy servant. He wants us to take time to be alone with Him every day, and often during the day. If life seems difficult and its burdens heavy, go into the quiet and shut the door of the heart, allowing no one but Christ to meet you there. You will come out with new strength and courage for the work that can afford to wait in the meantime. The Master is waiting to meet you now. Are you going to disappoint Him?

DORA FARNCOMB.

Editor "The Farmer's Advocate":

In looking over the columns of "Hope's Quiet Hour" in your paper, I saw the statements under the heading, "A Startling Change," and desire to express my opinion on the subject.

In regard to the decline of attendance of church and reading among farmers, it is true that, to a great extent, man lives far behind his privileges wherever one may find him, in either town or country.

Times do not demand the long-distance drives, the churches being more numerous as compared with pioneer days. However, since "Church Union" is in vogue, a person's "ism" won't count for anything, and the long drives abandoned.

In my opinion, the farmers more readily appreciate their privileges than do the town citizens. For example, a farmer who is used to driving, does not mind a two or three, or possibly, five mile drive to church, while the town citizen, living but a block away from church, finds some ready excuse for absenting himself.

The country appointments do not admit of as much variety, either in oratory or music. Our leading ministers find a position in a town or city church, and who is there who does not enjoy harmony in music (as compared with our country churches)—in music, as one may term it, of to-day. Our forefathers, the majority of them, at least, enjoyed the slow, drawing singing. The town ministers at that time had country appointments, so town and country fared much alike.

The farmer of to-day, instead of his yoke of oxen, has in his stables seven or eight horses, and about forty or fifty head of cattle, thus necessitating his time for feeding.

The statement made in regard to the buying of religious books may be true, but, by the time he has read the church paper, Sunday-school papers, and the Sunday columns, as found in our weekly newspapers, he has about all he can digest, until the next week's paper comes.

However, a person acts as he thinks. A person who says "good literature is declining," must speak from the standpoint he views, or from what he reads.

A cultured person, no matter if he has but an ordinary education, looks for nothing but the best literature, and good reading, in such books as have been lately published, Marian Keith's books, Robt. E. Knowles, or Robert Barr.

These are only my opinions, and I hope someone who is more able than I, will further take up the discussion and try to impress we are living in an ennobling age, not a degrading one.

FARMER'S FRIEND.

The Vision of His Face.

By Dora Farncomb. (London: The William Weld Company, Limited.) Cloth, \$1.00.

"The author has been a regular contributor to the Home Department of 'The Farmer's Advocate,' and has been a favorite with the many readers of that

journal. Her book is a series of chapters of a devotional character, deeply spiritual, wholesome and helpful throughout. Religion is shown to be a definite relation to Jesus Christ, which transforms and ennobles life and all its relations. It is a homely, everyday sort of thing; the Vision of His Face is a possibility even in the common days and the common experience of life. We need very often to be reminded of that fact, and our author has rendered us a real service in helping to bring religion close home to life."—The Christian Guardian.

The Roundabout Club



The late Mr. H. J. Brillinger,
Malcolm, Ont.

Reopening of the Literary Society.

In opening the serious work of the Literary Society for the coming season we have little to say. Our readers and students know as well as we the quality of the work done during the past three winters. From a humble beginning on "The Three Fishers"—a simple poem, however replete with literary beauty—during the first season, our students advanced steadily, until it was not considered too daring to venture, in the winter of 1908-9, upon a study of Browning himself. Of the work done upon "Rabbi Ben Ezra," our readers still have a lively recollection. We were proud of our students; we trust our students were pleased with themselves. Still better, we trust that they have become impressed with the idea that one is never too old to study, and that it is always possible to make room for a little study, a little reading, even in the busiest life.

"I entered the competition with no expectation of taking a high standing," wrote one of our competitors at the end of the last season, "but just that I might learn. I studied as I never studied before—at my daily round of duties—a farmer's wife with two small children has very limited opportunities for study. . . I thank the Literary Society for bringing me through a peculiarly trying winter fresher mentally than I have been for years. . . I shall look forward with eagerness and enthusiasm to the fall study."

Yet another wrote:—"I think I wished rather than expected to secure one of your very generous prizes, and, as it was my first attempt at writing an essay, I am in no wise discouraged, but shall be ready and certainly more "fit" for the fray again. I realize that the study of 'Rabbi Ben Ezra' has been of value to me far exceeding any prizes. . . 'The Farmer's Advocate' is like an old friend in our home. There is no more welcome sight in our mail than the dear old red cover of 'The Farmer's Advocate.'"

These are but two quotations from dozens which might be given. There were letters of appreciation from members not more than sixteen years of age.

There was a letter from our revered "Milla," of Quebec Province, and another from "Fair, tho' Forty."

We do not care to be personal, often, in "The Farmer's Advocate," but we feel that it will be interesting to our members to hear that Milla's literary study last winter was carried on under peculiarly difficult circumstances. Like Greene, the historian, she carried on her work while enduring severe bodily suffering, and it was not until the season was over, and her prize had been won, that she wrote us in regard to her condition. We feel sure that we may here, and now, convey to her the sympathy and warmest regards of this Society.

There is another announcement which we make with profoundest regret, namely, the death of Mr. H. J. Brillinger, about the time of the closing of our Society last spring. Our students will remember that to him we owe the existence of our Society. He it was who suggested its organization, and during its three years of work, he never ceased to be one of the most faithful and enthusiastic of our members. His replies and essays were always marked by a depth and sincerity of thought, a certain maturity which gave us the impression that he must be a man of middle age. Judge of our surprise, then, when on hearing of his untimely death, we learned that he was but twenty-four. The Great Change came to him very suddenly. He was at work in the fields with his team one day, and failed to come to dinner; a search was made, and all that remained of him on this side of the Beyond was found.

But he has left a rich memory, and possibly through this short sketch of his life, and the recollection of his writings under the signature of H. J. B., an influence that may affect the lives of many young men throughout the vast area which the circulation of our journal covers. One who knew him intimately says of him: "Among young and old alike he was a favorite. In the Malcolm Presbyterian Church he took an active part as Sunday-school teacher and Manager. He was sent as a delegate to the Laymen's Missionary Congress, held in Toronto last spring, and many expected to see him one day in the foreign field. In the home, only those who lived with him can know to the full his kindness and gentleness."

It is usually futile to speak of intentions, yet we may mention that at the headquarters of the Literary Society here, a plan was afoot to ask our members for some token of appreciation, an illuminated address, or some such remembrance, to be presented to Mr. Brillinger, in recognition of his services in the foundation of the Society. An initial letter had been drafted, to be sent to some of the members who, it was thought, would be more than pleased to carry the scheme through. The news of his death came, and the letter was never sent.

We shall miss Mr. Brillinger this winter. We shall miss his hearty co-operation, and the inspiration of his work. To those who knew him more intimately still, we can only give the sympathy which, individually, and as a Society, we feel.

Our Plan for the Coming Season.

The matter of prizes is one which scarcely touches this Society. "Work for the work's sake," is our keynote, and it would be regrettable indeed if any other idea intruded itself into our competitions. We desire to keep the idea of commercialism as far away as possible from this Department of our paper; nevertheless, we feel that it is only fair to state to our students what we are prepared to award as souvenirs for their work.

Last year we gave three prizes for the writers' work, the awards being announced at the end of the season. This year we propose to set a number of subjects for essays, covering a variety of topics, the prizes to be awarded from time to time during the winter. By setting topics of different kinds, political, literary, practical, etc., we feel that we can meet minds of different bent and so find it possible to distribute the awards among a greater number of students. One first subject, then, will be:

"Give a description (imaginary, or from actual experience) of an Ideal Rural Club."

For the best essay on this subject, we offer a choice of the following souvenirs:

(1) Four copies, bound in leather, of standard literary works, the choice to be made from a list of titles submitted to you.

(2) One copy, illustrated, of "Guide to the Wild Flowers," a large volume, bound in cloth.

(3) One copy, cloth-bound, and illustrated in color, of Neltje Blanchan's "Bird Neighbors."

(4) One copy, cloth bound, and illustrated, of Dugmore's "Bird Homes."

(5) One copy, cloth-bound and illustrated, of Clute's "Ferns in Their Haunts."

For the second-best essay, an award of three copies of standard literary works, bound in leather, will be given; for the third, two similar copies.

These books are all treasures, worthy of a place in any library, and the offer will hold good for each succeeding competition that may be given during the winter.

Kindly send all essays so that they may reach us within two weeks from the date upon which this paper is issued. Address: "The Roundabout Club," "The Farmer's Advocate," London, Ont.

Succeeding Topics.

In order that plenty of time may be given for study during the winter, we have decided to announce at once all the topics that are to be given. These are:

II. The Farmer as a Power in Government.

III. A Midwinter Reverie.

IV. The Highest Type of Farmer: How He is Evolved.



Ragged Rapids, on Severn River, near Orillia.
Sent by Howard Langman.

V. Essay on the Fall Fair, and How to Improve It.

VI. Choice of the following:

- (1) My Library.
- (2) Descriptive Essay on Spring.
- (3) Wild Birds: Their Relation to the Farmer.
- (4) Frogs and Their Habits.
- (5) Humorous Essay on Weeds.
- (6) The Rural School Teacher.

Write these essays whenever you have the inspiration, but do not send them to us until announcement is made.

For Housekeepers.

When renewing your own subscription, send us subscriptions for one or more of your friends, and receive for your trouble one of the following:

1. One kitchen set consisting of bread knife, butcher knife, sharpening steel, cake-beater, paring knife, and griddle-cake turner. Given to every present subscriber who sends one new subscription to "The Farmer's Advocate," for one year, at \$1.50.

2. Three pairs scissors—cutting shears, embroidery scissors, and buttonhole scissors—to every present subscriber who sends us one new subscription, as above.

3. One 40-piece tea-set, handsome Austrian china, dainty pattern—to every present subscriber who sends us four new subscriptions.

Kindly state which of the above you prefer when sending in subscriptions.

The Beaver Circle.

[All children in second part and second books, will write for the Junior Beavers' Department. Those in third and fourth books, also those who have left school, or are in High School, between the ages of 11 and 15, inclusive, will write for Senior Beavers'. Kindly state class at school, or age, if you have left school, in each letter sent to the Beaver Circle.]

Dear Beavers, please read the above notice, which will be kept standing each week. We have come to the conclusion that the plan is a more fair one than going by age alone.—Puck.

Our Letter Box.

Dear Puck,—This is my second letter to the Circle, and I am going to tell a little about my town. I live just at the corner of the town of Orillia, between the 4th concession and the Coldwater road. We can get a good view of part of the town, and across the lake to Heaverton on a clear day.

The Couchiching Beach park is very nice. We have another park that we call Victoria park, which is an old one.

Our post office is situated on West street. I forgot to say in my last letter that my father had taken "The Farmer's Advocate" for quite a few years.

At the market there is a very big building called the Opera House. There is a place in it where we get library books. I have just taken three books, which were all adventures and wars mixed, which I like very much.

The biggest fire I have ever seen was here. This was Tudhope's factory, and some other places around it, but they

people prefer to buy the materials all ready for use.

If, however, you wish to make the mixtures yourself, you might try the following, taken from Scientific American. The processes seem rather tedious, and, of course, would require great care, and accurate measurements, with a measuring glass. Have you a red lantern?

For blue prints—Float the paper for one minute in a solution of—

Ferricyanide of potash..... 1 oz.
Water 5 oz.

Dry it in the dark room and then expose beneath negative until the dark shades have assumed a deep blue color; then immerse the print in a solution of—

Water 2 oz.
Bichloride of mercury 1 grn.

Wash the print, and then immerse in a hot solution of—

Oxalic acid 4 drm.
Water ½ oz.

Wash again, and dry.

A Sensitizing Solution for Paper:—Nitrate of silver, 6 parts; nitrate of magnesia, 6 parts; distilled water, 50 parts. Each time after sensitizing a sheet in this solution, 1 drm. of a one-per-cent. solution of nitrate of silver should be added to the bath for every 100 square inches of paper sensitized.

I, too, am an amateur in photography, Milton. If you send us one of your photos for our Circle, I will have one of mine printed, too. Is that a bargain?

[Here is a letter that came in June, but missed its turn, somehow. It is very interesting. Perhaps Ethel will tell us how her woodchucks are now.]

Dear Puck,—I have become so interested in the letters of this Circle that I thought I would write one, too.

One day, over a week ago, one of my brothers found two little woodchucks, which were nearly dead. He brought them to the house, and, after giving them a little warm milk with a spoon, we put them in a box beside the stove. We fed them with a spoon for a few days, but they soon learned to drink milk themselves, and now they will eat clover or anything they find. They are not much larger than a squirrel, and are a brown color, mixed with gray. They are very fond of sugar, and, if given a lump, they will hold it in their front paws, and sit up to eat it.

Wishing the Circle success.
ETHEL TAYLOR.

Daniston, Ont.

Dear Puck,—I thought I would write to you again. I have a little story I wrote myself for you, so I guess I had better not take up too much room with other things. The name of it is, "Our Emblem, the Beaver."

When the knights of France or England used to go to war, they wore on their arms or banner, an emblem or mark, which told to which army they belonged. Each country has its own emblem, as the Russian Bear, the British Lion, the American Eagle, and the Canadian Beaver.

Long ago, when the first settlers came to Canada, they found thousands of beavers. When they found out that the beaver skins made warm caps and other warm garments, they started to trap them, and send the skins to France. The people in France who got these articles began to think of Canada as the "Land of the Beaver." After some time, the beaver was chosen to be the emblem of Canada.

The beaver is about three feet long, counting the tail. Its nose is round and blunt, and there are four long, sharp teeth in the front of its mouth. It has very small ears. The front feet are short, and are sometimes used as hands, while the hind feet are longer, and have webbed toes, which make them good paddles while in the water. It uses its tail as a rudder. Its tail is not covered with soft fur like the rest of the body, but is covered with black skin.

The beaver chooses a place where there is water for its home. If the water is not deep enough, it cuts down trees and makes a dam. It nibbles a ring of bark off all around the trunk of a tree, and then gnaws and gnaws, till the tree falls. It cuts off all the branches with

are building the factory up again, and hope to be running it by the end of December. Eaton's factory, which was just across the road, had a very hard fight.

I take much pleasure in reading the Beaver Circle. I think that Puck is a man who attends to the letters of the Beaver Circle.

I must close now, wishing the Beavers every success.

W. HOWARD LANGMAN (age 11).
Orillia, Ont.

Dear Puck,—I have read the Beaver Circle since it was started, and I like it very much. I have not seen any questions from Beavers, though. As I live on a farm and have no companions, I got a camera.

Now, I would like to ask if you could give me a sensitizing formula, as I think it would be nice to print pictures and handkerchiefs and other things. Hoping to see this answered.

AN AMATEUR.

Springfield, Ont.

Bravo, Milton. Your question came like a refreshing breeze into the Beaver Circle. I went straight down to a photographer to get an answer for you. He says sensitizing solutions may be bought, all ready for use, from any large dealer in photographic supplies, but that they are very little called for, as most

its teeth, and then drags the parts down to the water's edge. It makes the dam out of these pieces, and mud and stones. Beavers always build in company, and each beaver helps the others. One beaver acts as sentinel, and, if there is any danger near, he slaps his tail on the water, and all the other beavers go to a place of safety.

The Indians believe that there were once giant beavers, which carried the mud to make the mountains. They believed that they had the power of speech, but when God created man, He took away that power from them, and made them smaller, so they would not be too powerful for man.

The beaver is a good emblem for Canada, because Canadians want to be industrious and to help one another.

GERTRUDE DEADMAN.

Brussels, Ont.

[This is a very good composition, Gertrude. Don't you think we chose a good name for our Circle? If we could all be as busy and helpful as beavers—eh?]

Dear Puck and Beavers,—My home is in New Durham. I live about half a mile from the school, church, and post office. Our schoolhouse is a white frame one. We have a nice library in the schoolhouse. I passed my examination last July for the Junior Fourth. I am ten years old now, but will be eleven on June 2nd.

We had a little entertainment in our schoolhouse for Thanksgiving. We had letters cut out and trimmed with cedar. When the letters were put together they would spell Thanksgiving. We had Thanksgiving "Songs and Recitations." The schoolhouse was decorated with maple leaves, grain, vegetables, nuts, and fruit. It made the schoolhouse look pretty.

I will close now, wishing your paper every success.

MINDAH McCLELLAN.

New Durham, Ont.

Our Next Competition.

Do you believe that dogs think? If so, write a letter for us, telling why you believe so. If possible, tell a story about your own dog, or some dog that you have known, to show that he used thinking powers. Tell how a dog should be treated, what food you think good for him, etc. If you ever built a doghouse, tell how you did it.

Prizes will be given for the best letters. Send all letters so that they will reach us within two weeks of the date upon which this paper is issued, and be sure to address "The Beaver Circle," "The Farmer's Advocate," London, Ont.

Picture Competition.

Results of the picture competition will appear next time.

The Golden Dog (Le Chien D'Or.)

A Canadian Historical Romance.

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CHAPTER XLII.—Continued.

They sprang forward, and each seizing a lamp, the two men rushed into the narrow passage. It was dark and still as the catacombs. No trace of anything to the purpose could they perceive in the vaulted subterranean way to the turret.

They speedily came to the other end; the secret door there stood open, also. They ascended the stairs in the tower, but could see no trace of the murderers. "It is useless to search further for them at this time," remarked Cadet; perhaps not safe at any time, but I would give my best horse to lay hands on the assassins at this moment."

Gardeners' tools lay around the room. "Here," exclaimed Cadet, "is what is equally germane to the

matter, and we have no time to lose."

He seized a couple of spades and a bar of iron, and bidding Bigot go before him with the lights, they returned to the chamber of death.

"Now for work! This sad business must be done well, and done quickly!" exclaimed Cadet. "You shall see that I have not forgotten how to dig, Bigot!"

Cadet threw off his coat, and setting to work, pulled up the thick carpet from one side of the chamber. The floor was covered with broad, smooth flags, one of which he attacked with the iron bar, raised the flagstone and turned it over; another easily followed, and very soon a space in the dry brown earth was exposed, large enough to make a grave.

Bigot looked at him in a sort of dream. "I cannot do it, Cadet! I cannot dig her grave!" and he threw down the spade which he had taken feebly in his hand.

"No matter, Bigot! I will do it!

slender form in their last winding-sheet. Bigot was overpowered with his feelings, yet strove to master them, as he gulped down the rising in his throat which at times almost strangled him.

Cadet, eager to get his painful task over, took from the slender finger of Caroline a ring, a love-gift of Bigot, and from her neck a golden locket containing his portrait and a lock of his hair. A rosary hung at her waist; this Cadet also detached, as a precious relic to be given to the Intendant by and by. There was one thread of silk woven in the coarse, hempen nature of Cadet.

Bigot stooped down and gave her pale lips and eyes, which he had tenderly closed, a last despairing kiss, before veiling her face with the winding-sheet as she lay, white as a snowdrift, and as cold.

They wrapped her softly in the blankets, and without a word spoken, lowered the still, lissome body into its rude grave.

ly as she had come, and no further inquiry would be made after her. In this Cadet was right.

It was necessary for Cadet and Bigot now to depart by the secret passage to the tower. The deep-toned bell of the Chateau struck three.

"We must now be gone, Bigot, and instantly," exclaimed Cadet. "Our night's work is done! Let us see what day will bring forth! You must see to it to-morrow, Bigot, that no man or woman alive ever again enter this accursed chamber of death!"

Cadet fastened the secret door of the stair, and gathering up his spades and bar of iron, left the chamber with Bigot, who was passive as a child in his hands. The Intendant turned round and gave one last sorrowful look at the now darkened room as they left it. Cadet and he made their way back to the tower. They sallied out into the open air, which blew fresh and reviving upon their fevered faces after escaping from the stifling atmosphere below.

They proceeded at once towards their horses and mounted them, but Bigot felt deadly faint and halted under a tree, while Cadet rode back to the porter's lodge and roused up old Marcele to give him some brandy, if he had any, "as of course he had," said Cadet. "Brandy was a gate-porter's inside livery, the lining of his laced coat which he always wore." Cadet assumed a levity which he did not really feel.

Marcele, fortunately, could oblige the Sieur Cadet. "He did line his livery a little, but lightly, as his Honor would see!" said he, bringing out a bottle of cognac and a drinking-cup.

"It is to keep us from catching cold!" continued Cadet, in his peculiar way. "Is it good?" He placed the bottle to his lips and tasted it.

Marcele assured him it was good as gold.

"Right!" said Cadet, throwing Marcele a louis d'or. "I will take the bottle to the Intendant to keep him from catching cold, too! Mind, Marcele, you keep your tongue still, or else—!" Cadet held up his whip, and bidding the porter "good-night!" rejoined Bigot.

Cadet had a crafty design in this proceeding. He wanted not to tell Marcele that a lady was accompanying them; also not to let him perceive that they left Beaumanoir without one. He feared that the old porter and Dame Tremblay might possibly compare notes together, and the housekeeper discover that Caroline had not left Beaumanoir with the Intendant.

Bigot sat faint and listless in his saddle when Cadet poured out a large cupful of brandy and offered it to him. He drank it eagerly. Cadet then filled and gulped down a large cupful himself, then gave another to the Intendant, and poured another and another for himself, until, he said, he began to feel warm and comfortable, and got the damnable taste of grave-digging out of his mouth!"

The heavy draught which Cadet forced the Intendant to take relieved him somewhat, but he groaned inwardly and would not speak. Cadet respected his mood, only bidding him ride fast. They spurred their horses, and rode swiftly, unobserved by anyone, until they entered the gates of the Palace of the Intendant.

The arrival of the Intendant or the Sieur Cadet at the Palace at any untimely hour of the night excited no remark whatever, for it was the rule, rather than the exception with them both.

Dame Tremblay was not surprised next morning to find the chamber empty and the lady gone.

She shook her head sadly. "He is a wild gallant, is my master! No wilder ever came to Lake Beauport when I was the Charming Josephine and all the world ran after me. But I can keep a secret, and I will! This secret I must keep at any rate, by the Intendant's order, and I would rather die than be railed at by that fierce Sieur Cadet! I will keep the Intendant's secret safe as my teeth.



A Little New Ontario Boy, Ray Le Orais, Dryden, Ont.

Ray was not old enough to write a letter, so he sent his photo instead.

Indeed, you would only be in the way. Sit down while I dig, old friend. Par Dieu! this is nice work for the Commissary-General of New France, with the Royal Intendant overseeing him!"

Bigot sat down and looked forlornly on while Cadet, with the arms of a Hercules, dug and dug, throwing out the earth without stopping for the space of a quarter of an hour, until he had made a grave large and deep enough to contain the body of the hapless girl.

"That will do!" cried he, leaping out of the pit. "Our funeral arrangements must be of the briefest, Bigot! So come help me to shroud this poor girl."

Cadet found a sheet of linen and some fine blankets upon a couch in the secret chamber. He spread them out upon the floor, and motioned to Bigot without speaking. The two men lifted Caroline tenderly and reverently upon the sheet. They gazed at her for a minute in solemn silence, before crowding her fair face and

The awful silence was only broken by the spasmodic sobs of Bigot as he leaned over the grave to look his last upon the form of the fair girl whom he had betrayed and brought to this untimely end. "Mea culpa! Mea maxima culpa!" said he, beating his breast. "Oh, Cadet, we are burying her like a dog! I cannot, I cannot do it!"

The Intendant's feelings overcame him again, and he rushed from the chamber, while Cadet, glad of his absence for a few moments, hastily filled up the grave, and, replacing with much care the stone slabs over it, swept the debris into the passage and spread the carpet again smoothly over the floor. Every trace of the dreadful deed was obliterated in the chamber of murder.

Cadet, acutely thinking of everything at this supreme moment, would leave no ground of suspicion for Dame Tremblay when she came in the morning to visit the chamber. She should think that her lady had gone away with her master as mysterious-

which he praised so handsomely and so justly!"

The fact that Caroline never returned to the Chateau, and that the search for her was so long and so vainly carried on by La Corne St. Luc and the Baron de St. Castin, caused the dame to suspect at last that some foul play had been perpetrated, but she dared not speak it openly.

The old woman's suspicions grew with age into certainties, when at last she chanced to talk with her old fellow-servant, Marcele, the gate-keeper, and learned from him that Bigot and Cadet had left the Chateau alone on that fatal night. Dame Tremblay was more perplexed than ever. She talked, she knew not what, but her talk passed into the traditions of the habitants.

It became the popular belief that a beautiful woman, the mistress of the powerful Intendant Bigot, had been murdered and buried in the Chateau of Beaumanoir.

CHAPTER XLIII.

Silk Gloves Over Bloody Hands.

It was long before Angelique came to herself from the swoon in which she had been left lying on the floor by La Corriveau. Fortunately for her it was without discovery. None of the servants happened to come to her room during its continuance, else a weakness so strange to her usual hardihood would have become the city's talk before night, and set all its idle tongues conjecturing or inventing a reason for it. It would have reached the ears of Bigot, as every spray of gossip did, and set him thinking, too, more savagely than he was yet doing, as to the causes and occasions of the murder of Caroline.

All the way back to the Palace, Bigot had scarcely spoken a word to Cadet. His mind was in a tumult of the widest conjectures, and his thoughts ran to and fro like hounds in a thick brake darting in every direction to find the scent of the game they were in search of. When they reached the Palace, Bigot, without speaking a word to anyone, passed through the anterooms to his own apartment, and threw himself, dressed and booted as he was, upon a couch, where he lay like a man stricken down by a mace from some unseen hand.

Cadet had coarser ways of relieving himself from the late unusual strain upon his rough feelings. He went down to the billiard-room, and joining recklessly in the game that was still kept up by De Pean, Le Gardeur, and a number of wild associates, strove to drown all recollections of the past night at Beaumanoir by drinking and gambling with more than usual violence until far on in the day.

Bigot neither slept nor wished to sleep. The image of the murdered girl lying in her rude grave was ever before him, with a vividness so terrible that it seemed he could never sleep again. His thoughts ran round and round like a mill-wheel, without advancing a step towards a solution of the mystery of her death.

He summoned up his recollections of every man and woman he knew in the Colony, and asked himself regarding each one, the question, "Is it he who has done this? Is it she who has prompted it? And who could have had a motive, and who not, to perpetrate such a bloody deed?"

One image came again and again before his mind's eye as he reviewed the list of his friends and enemies. The figure of Angelique appeared and reappeared, intruding itself between every third and fourth personage which his memory called up, until his thoughts fixed upon her with the maddening inquiry, "Could Angelique des Meloises have been guilty of this terrible deed?"

He remembered her passionate denunciation of the lady of Beaumanoir, her fierce demand for her banishment by a lettre de cachet. He knew her ambition and recklessness, but still, versed as he was in all the ways of

wickedness, and knowing the inexorable bitterness of envy, and the cruelty of jealousy in the female breast—at least in such women as he had for the most part had experience of—Bigot could hardly admit the thought that one so fair as Angelique, one who held him in a golden net of fascination, and to whom he had been more than once on the point of yielding, could have committed so great a crime.

He struggled with his thoughts like a man amid tossing waves, groping about in the dark for a plank to float upon, but could find none. Still, in spite of himself, in spite of his violent asseverations that "it was impossible"; in spite of Cadet's plausible theory of robbers—which Bigot at first seized upon as the likeliest explanation of the mystery—the thought of Angelique ever returned back upon him like a fresh accusation.

He could not accuse her yet, though something told him he might have to do so at last. He grew angry at the ever-recurring thought of her, and turning his face to the wall, like a man trying to shut out the light, resolved to force disbelief in her guilt until clearer testimony than his own suspicions should convict her of the death of Caroline. And yet in his secret soul he dreaded a discovery that might turn out as he feared. But he pushed the black thoughts aside; he would wait and watch for what he feared to find.

The fact of Caroline's concealment at Beaumanoir, and her murder at the very moment when the search was about to be made for her, placed Bigot in the cruellest dilemma. Whatever his suspicions might be, he dared not, by word or sign, avow any knowledge of Caroline's presence, still less of her mysterious murder, in his Chateau. Her grave had been dug; she had been secretly buried out of human sight, and he was under bonds as for his very life never to let the dreadful mystery be discovered.

So Bigot lay on his couch, for once a weak and frightened man, registering vain vows of vengeance against persons unknown, vows which he knew at the moment were empty as bubbles, because he dared not move hand or foot in the matter to carry them out, or make open accusation against any one of the foul crime. What thoughts came to Bigot's subtle mind were best known to himself, but something was suggested by the mocking devil who was never far from him, and he caught and held fast the wicked suggestion with a bitter laugh. He then grew suddenly still and said to himself, "I will sleep on it!" and pillowing his head quietly, not in sleep, but in thoughts deeper than sleep, he lay till day.

Angelique, who had never in her life swooned before, felt, when she awoke, like one returning to life from death. She opened her eyes wondering where she was, and half remembering the things she had heard as things she had seen, looked anxiously around the room for La Corriveau. She rose up with a start when she saw she was gone, for Angelique recollected suddenly that La Corriveau now held the terrible secret which concerned her life and peace for evermore.

The thing she had so long wished for, and prayed for, was at last done. Her rival was out of the way! But she also felt that if the murder was discovered her own life was forfeit to the law, and the secret was in the keeping of the vilest of women.

A mountain, not of remorse, but of apprehension, overwhelmed her for a time. But Angelique's mind was too intensely selfish, hard, and superficial to give way to the remorse of a deeper nature.

She was angry at her own cowardice, but she feared the suspicions of Bigot. There was ever something in his dark nature which she could not fathom, and deep and crafty as she knew herself to be, she feared that he was more deep and crafty than herself.

What if he should discover her hand in this bloody business? The thought drove her frantic, until she fancied she repented of the deed.



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Had it brought a certainty, this crime, then—why, then—she had found a compensation for the risk she was running, for the pain she was enduring, which she tried to believe was regret and pity for her victim. Her anxiety redoubled when it occurred to her that Bigot, remembering her passionate appeals to him for the removal of Caroline, might suspect her of the murder as the one alone having a palpable interest in it.

"But Bigot shall never believe it, even if he suspect it!" exclaimed she at last, shaking off her fears. "I have made fools of many men for my pleasure; I can surely bind one for my safety; and, after all, whose fault is it but Bigot's? He would not grant me the lettre de cachet, nor keep his promise for her removal. He even gave me her life! But he lied; he did not mean it. He loved her too well, and meant to deceive me and marry her, and I have deceived him and shall marry him, that is all!" and Angelique laughed a hysterical laugh, such as Dives in his torments may sometimes give way to.

"La Corriveau has betrayed her trust in one terrible point," continued she; "she promised a death so easy that all men would say the lady of Beaumanoir died of heartbreak only, or by God's visitation! A natural death! The foul witch has used her stiletto and made a murder of that which, without it, had been none! Bigot will know it, must know it, even if he dare not reveal it! for how in the name of all the saints is it to be concealed?"

"But, my God! this will never do!" continued she, starting up, "I look like very guilt!" She stared fiercely in the mirror at her hollow eyes, pale cheeks, and white lips. She scarcely recognized herself. Her bloom and brightness had vanished for the time.

"What if I have inhaled some of the poisoned odor of those cursed roses?" thought she, shuddering at the supposition; but she reassured herself that it could not be. "Still, my looks condemn me! The pale face of that dead girl is looking at me out of mine! Bigot, if he sees me, will not fail to read the secret in my looks."

She glanced at the clock; the morning was far advanced towards noon; visitors might soon arrive; Bigot himself might come; she dare not deny herself to him. She would deny herself to no one to-day! She would go everywhere and see everybody, and show the world, if talk of it should arise, that she was wholly innocent of that girl's blood.

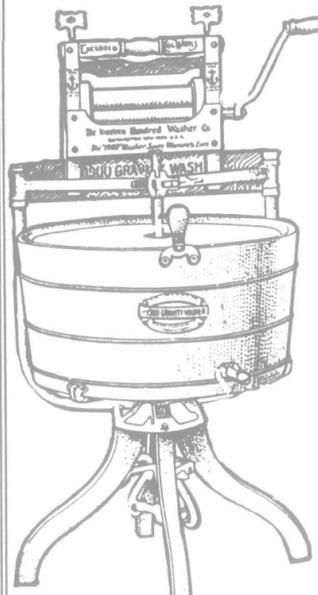
She would wear her brightest looks, her gayest robe, her hat and feathers the newest from Paris. She would ride out into the city—go to the Cathedral—show herself to all her friends, and make everyone say or think that Angelique des Meloises had not a care or trouble in the world.

She rang for Fanchon, impatient to commence her toilet, for when dressed she knew that she would feel like herself once more, cool and defiant. The touch of her armor of fashionable attire would restore her confidence in herself, and enable her to brave down any suspicion in the mind of the Intendant—at any rate, it was her only resource, and Angelique was not one to give up even a lost battle, let alone one half gained through the death of her rival.

Fanchon came in haste at the summons of her mistress. She had long waited to hear the bell, and began to fear she was sick or in one of those wild moods which had come over her occasionally since the night of her last interview with Le Gardeur.

The girl started at sight of the pale face and paler lips of her mistress. She uttered an exclamation of surprise, but Angelique, anticipating all questions, told her she was unwell, but would dress and take a ride out in the fresh air and sunshine to recruit.

"But had you not better see the physician, my Lady?—you do look so pale to-day, you are really not well!"



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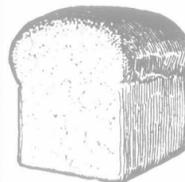
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"No, but I will ride out"; and she added in her old way, "perhaps, Fanchon, I may meet someone who will be better company than the physician. Qui sait?" And she laughed with an appearance of gaiety which she was far from feeling, and which only half imposed on the quick-witted maid who waited upon her.

"Where is your aunt, Fanchon? When did you see Dame Dodier?" asked she, really anxious to learn what had become of La Corriveau.

"She returned home this morning, my Lady! I had not seen her for days before, but supposed she had already gone back to St. Valier—but Aunt Dodier is a strange woman, and tells no one her business."

"She has, perhaps, other lost jewels to look after besides mine," replied Angelique mechanically, yet feeling easier upon learning the departure of La Corriveau.

"Perhaps so, my Lady. I am glad she is gone home. I shall never wish to see her again."

"Why?" asked Angelique, sharply, wondering if Fanchon had conjectured anything of her aunt's business.

"They say she has dealings with that horrid Mere Malheur, and I believe it," replied Fanchon, with a shrug of disgust.

"Ah! do you think Mere Malheur knows her business, or any of your aunt's secrets, Fanchon?" asked Angelique, thoroughly roused.

"I think she does, my Lady—you cannot live in a chimney with another without both getting black alike, and Mere Malheur is a black with as sure as my aunt in a white one," was Fanchon's reply.

"What said your aunt on leaving?" asked her mistress.

"I did not see her leave, my Lady; I only learned from Ambroise Garipey that she crossed the river this morning to return to St. Valier."

"And who is Ambroise Garipey, Fanchon? You have a wide circle of acquaintance for a young girl, I think!" Angelique knew the dangers of gossiping too well not to fear Fanchon's imprudences.

"Yes, my Lady," replied Fanchon, with affected simplicity, "Ambroise Garipey keeps the Lion Vert and the ferry upon the south shore; he brings me news and sometimes a little present from the pack of the Basque pedlars—he brought me this comb, my Lady!" Fanchon turned her head to show her mistress a superb comb in her thick black hair, and in her delight of talking of Ambroise Garipey, the little inn of the ferry, and the cross that leaned like a failing memory over the grave of his former wife, Fanchon quite forgot to ease her mind further on the subject of La Corriveau, nor did Angelique resume the dangerous topic.

Fanchon's easy, shallow way of talking of her lover touched a sympathetic chord in the breast of her mistress. Grand passions were grand follies in Angelique's estimation, which she was less capable of appreciating than even her maid; but flirtation and coquetry, skin-deep only, she could understand, and relished beyond all other enjoyments. It was just now like medicine to her racking thoughts to listen to Fanchon's shallow gossip.

She had done what she had done, she reflected, and it could not be undone! why should she give way to regret, and lose the prize for which she had staked so heavily? She would not do it! No, par Dieu! She had thrown Le Gardeur to the fishes for the sake of the Intendant, and had done that other deed! She shied off from the thought of it as from an uncouth thing in the dark, and began to feel shame of her weakness at having fainted at the tale of La Corriveau.

The light talk of Fanchon while dressing the long golden hair of her mistress, and assisting her to put on a new riding-dress and the plumed hat fresh from Paris, which she had not yet displayed in public, did much to restore her equanimity.

Her face had, however, not recovered from its strange pallor. Her eager maid, anxious for the looks of her mistress, insisted on a little

rouge, which Angelique's natural bloom had never before needed. She submitted, for she intended to look her best to-day, she said. "Who knows whom I shall fall in with?"

"That is right, my Lady," exclaimed Fanchon, admiringly, "no one could be dressed perfectly as you are and be sick! I pity the gentleman you meet to-day, that is all! There is murder in your eye, my Lady!"

Poor Fanchon believed she was only complimenting her mistress, and at other times her remark would only have called forth a joyous laugh. She pushed her maid forcibly away from her, and was on the point of breaking out into some violent exclamation, when, recalled by the amazed look of Fanchon, she turned the subject adroitly, and asked, "Where is my brother?"

"Gone with the Chevalier de Pean to the Palace, my Lady!" replied Fanchon, trembling all over, and wondering how she had angered her mistress.

"How know you that, Fanchon?" asked Angelique, recovering her usual careless tone.

"I overheard them speaking together, my Lady. The Chevalier de Pean said that the Intendant was sick, and would see no one this morning."

"Yes, what then?" Angelique was struck with a sudden consciousness of danger in the wind. "Are you sure they said the Intendant was sick?" asked she.

"Yes, my Lady! and the Chevalier de Pean said that he was less sick than mad, and out of humor to a degree he had never seen him before!"

"Did they give a reason for it? that is, for the Intendant's sickness or madness?" Angelique's eyes were fixed keenly upon her maid, to draw out a full confession.

"None, my Lady, only the Chevalier des Meloises said he supposed it was the news from France which sat so ill on his stomach."

"And what then, Fanchon? you are so long of answering! Angelique stamped her foot with impatience.

Fanchon looked up at the reproof so little merited, and replied quickly, "The Chevalier de Pean said it must be that, for he knew of nothing else. The gentlemen then went out and I heard no more."

Angelique was relieved by this turn of conversation. She felt certain that if Bigot discovered the murder he would not fail to reveal it to the Chevalier de Pean, who was understood to be the depository of all his secrets. She began to cheer up under the belief that Bigot would never dare accuse anyone of a deed which would be the means of proclaiming his own falseness and duplicity towards the King and the Marquise de Pompadour.

"I have only to deny all knowledge of it," said she to herself, "swear to it if need be, and Bigot will not dare to go farther in the matter. Then will come my time to turn the tables upon him in a way he little expects! Pshaw!" continued she, glancing at her gay hat in the mirror, and with her own dainty fingers setting the feather more airily to her liking. "Bigot is bound fast enough to me now that she is gone! and when he discovers that I hold his secret, he will not dare meddle with mine."

Angelique, measurably reassured and hopeful of success in her desperate venture, descended the steps of her mansion, and, gathering up her robes daintily, mounted her horse, which had long been chafing in the hands of her groom waiting for his mistress.

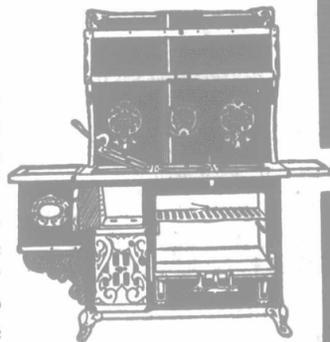
She bade the man remain at home until her return, and dashed off down the Rue St. Louis, drawing after her a hundred eyes of admiration and envy.

She would ride down to the Place d'Armes, she thought, where she knew that before she had skirted the length of the Castle wall half a dozen gallants would greet her with offers of escort, and drop any business they had in hand for the sake of a gallop by her side.—(To be continued.)

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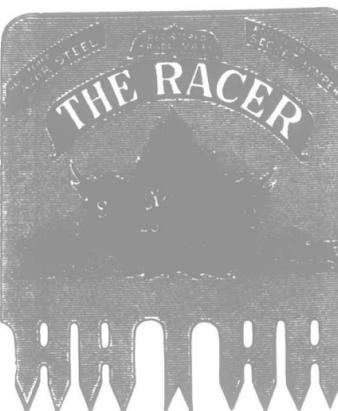


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The Razor Steel, Secret Temper, Cross-Cut Saw.

We take pleasure in offering to the public a saw manufactured of the finest quality of steel, and a temper which toughens and ruins the steel, gives a keener cutting edge, and holds it longer than by any process known. A saw to cut fast "must hold a keen cutting edge." This secret process of temper is known and used only by ourselves. These saws are elliptic-ground thin back, requiring less set than saws now made perfect taper from tooth to back. Now, we ask you, when you go to buy a saw to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best. Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand. It does not pay to buy a saw for one dollar less, and lose 25 cents per day in labor. Your saw must hold a keen edge to do a large day's work. Thousands of these saws are shipped to the United States and sold at a higher price than the best American saws. Manufactured only by

SHURLY & DIETRICH, GALT, ONT.



ELECTRIC BEANS

ARE A BRACING

BLOOD & NERVE TONIC.

They are unequalled for Biliousness, Sick Headache, Constipation, Heart Palpitation, Indigestion, Anæmia. Write for sample and booklet of testimonials. 50c. a box at all dealers, or THE ELECTRIC BEAN CHEMICAL CO. LIMITED, Ottawa

DISPERSION SALE

OF HIGH-CLASS REGISTERED

Holstein Cattle

on WEDNESDAY, DEC. 15, '09.

15 head of reg. cattle and a few grade cows (fresh), the property of L. SUMMERFELDT & SONS, Unionville Sta., York Co., on Mid. Div. of G. T. R., 20 miles east of Toronto. All morning trains will be met.

TERMS—\$50 and under cash over that amount 10 months' credit on approved security. CATALOGUES ON APPLICATION.

L. SUMMERFELDT & SONS, Props.
J. H. PRENTICE, Auctioneer.

CHRISTMAS SALE

\$2⁷⁵ 1800 FEATHERS \$4⁹⁵



ON SALE ON AND AFTER NOVEMBER 29th

Every feather has been carefully made specially for this sale—they're perfect beautiful plumes with full long fibre, glossy and well curled

The illustration briefly tells the story, giving size and price. The colors are black and ivory.

We advise an early selection as they won't last long at these prices. Such prices are rare and if you are not perfectly satisfied your money is quickly refunded.

Fashion centres claim that Ostrich Plumes are going to be popular all through the winter.

Therefore, nothing will be more acceptable to your mother, sister or lady friend, for a Christmas present, than one of the handsome plumes.

They come to us direct from the manufacturer, then direct to you.

NOTE THE SIZE AND PRICE

No. 909.	Length 17½ inches.	::	Sale Price 2.75
No. 3.	Length 20½ inches.	::	Sale Price 4.95

1800 FEATHERS IN THE LOT

All Mail Orders filled in order as received as long as this quantity lasts

Special Jewelry Catalogue sent free upon request

THE T. EATON CO. LIMITED
TORONTO - CANADA

For Christmas Suggestions get our Christmas Catalogue

HOCKEY SKATES



GIVEN FOR SELLING XMAS POSTCARDS, 6 FOR 10c

Best Steel, finely finished; Puck stop; for boys or girls, for selling \$3.00 worth of Lovely Christmas Postcards; 50 designs; all gems of art; exquisitely colored; many richly embossed in gold. Worth 5c each. At 6 for 10c they go like hot cakes. Write to-day. The Gold Medal Premium Co., Dept. A81 Toronto.

Improved CHESTER WHITES



Present offering: Young sows of breeding age. Some already bred. Also choice young pigs of both sexes, 6 to 8 weeks old. Joe No. 5629, first-prize boar at Toronto and London, 1909, at head of herd. Also offering two grand young Jersey bulls, March and April calves. Write for prices. **Chas. E. Rogers, Thames Valley Farm, Dorchester, Ont.**

HAMPSHIRE SWINE!

A few choice boars ready for service, 5 months and over, well marked, at \$25 each, F.O.B. Also Brown Leghorn cockerels at \$1 each, F.O.B. **H. A. BUCK, Sydenham, Ont.**



6490 Boy's Indian Suit, 4 to 12 years.

Above patterns will be sent to subscribers at ten cents per pattern. Address: Fashion Dept., "The Farmer's Advocate," London, Ont.

Resolve not to be poor: whatever you have, spend less. —Johnson.

Current Events.

Dr. Grenfell, of the Labrador, was married in Chicago on November 18th to Miss Anna McClannahan.

Revolt is again rife in Nicaragua, and more than 500 revolutionists have been executed, by order of Pres. Zelaya.

A scheme to make Montreal the rival of New York in the excellence of its harbor accommodation is to be laid before Parliament.

Dr. Louise Robinovitch, on November 18th, successfully demonstrated that she can bring life again upon subjects declared dead from electric shock. Her apparatus was employed upon a rabbit.

Parliament, at present in session at Ottawa, plunged at once into discussion of the Canadian navy question. A bill to suppress race-track gam-

bling, and a proposal to make the law dealing with combinations more effective, will be part of the programme. Mr. Lancaster will again introduce a bill looking to better protection at railway crossings.

The naval programme, as laid on the table of the House on Nov. 17th, provides for the construction of three cruisers and four destroyers, two cruisers to be placed on the Pacific coast, and the other, with the destroyers, on the Atlantic. The total number of men necessary for manning the vessels is estimated at 1,408, and the total cost of construction at \$7,300,000.

TRADE TOPICS.

CHRISTMAS STAMPS.—The sale of Christmas Stamps in aid of the Muskoka Free Hospital for Consumptives will be carried on this year as last. For information and supplies, write to Mr. J. S. Robertson, National Sanitarium Association, 347 King street west, Toronto.

Out They Go



Some farmers and dairymen first buy disk filled or other common cream separators—use them a while—discover they are not modern—then out they go for Sharples Dairy Tubulars.

That is paying dear for experience—but is better than continuing to use common separators. This is proved by the fact that Tubulars probably replace more common separators every year than any maker of such machines sells.

The only place used in Dairy Tubular bowls.

Other farmers and dairymen look more carefully into the subject. They talk with Tubular users. They convince themselves that Tubulars are the only modern separators—The World's Best—and buy Tubulars in the first place.

The manufacture of Tubulars is one of Canada's leading industries. Oldest separator concern in America. Sales easily exceed most, if not all, others combined.



Write for Catalogue No. 193

THE SHARPLES SEPARATOR CO.
Toronto, Ont., Winnipeg, Man.

POULTRY AND EGGS

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 30 cents.

BUFF ORPINGTONS—100 pure-bred, stout, vigorous cockerels, \$2; yearling hens, pullets, \$1.50 each. Order early. Get choice. Satisfaction guaranteed. *Hugh A. Scott, Caldonia, Ont.*

FOR SALE S.-C. Red cockerels, also a few hens and pullets, \$1 and \$2 each. *Thomas Amos, Moffatt, Ont.*

FOR SALE—Barred Rocks (Pringle and Millard strain), Buff Orpington (Lark strain), Light Brahmas, White Leghorn, Columbia Wyandotte, Black Minorcas. Cockerels \$1. *S. L. Anderson, Crossland, Ont.*

MAMMOTH Bronze turkeys for sale. Pairs not akin. *Cullis & Lean, Powle's Corner, Ont.*

MAMMOTH Bronze turkeys and Toulouse game for sale, also Bred Plymouth Rock cockerels (Pringle and Hawkins strain). All fine large show birds. *A. S. Vens, Lambeth Ont.*

Strictly New-Laid Eggs Wanted!

We will pay highest prices for strictly new laid eggs—laid within four days, and will make prompt returns. We are open for shipments from now until the 1st February next. Correspondence solicited.

HENRY GATEHOUSE,
Fish, Game, Poultry, Eggs and Vegetables,
348-350 West Dorchester St., Montreal.

DRESSED POULTRY

If any for sale it will pay you to write or ship to **P. Poulin & Co., Montreal,**

and get the top market price. Prompt returns. No commission. Open for any quantity. References: bank.

FURS Do you trap or buy Furs? I am Canada's largest dealer, I pay highest prices. Your shipments solicited. I pay mail and express charges; remit dealer in Beehives, Sheepskins, etc. Quotations and shipping tags sent free.

JOHN HALLAM, TORONTO

7% GUARANTEED

Returns absolutely secure. A postal card will bring you information of a highly satisfactory investment

ROBERT E. KEMERER,
Confederation Life Building, Toronto, Ont.

GOSSIP.

The annual meeting of the Canadian Hereford Breeders' Association will be held in the Wellington Hotel, Guelph, on Wednesday, December 8th, at 10 o'clock a. m., for the purpose of electing President and other officers, and the transaction of general business. The members are requested to attend and help boom the Hereford interest.

CANADIAN HEREFORD HERDBOOK, VOL. 5.

A copy of Volume 5, of the Canadian Hereford Herdbook, just issued from the press, containing the pedigrees of bulls from 5620 to 7907, and of cows from 5619 to 7904, has been received from the office of the National Live-stock Records. Besides pedigrees, the volume contains the constitution, minutes of meetings, lists of breeders and owners, and also of members of the Association.

"SIR HENRY" 13200.

Editor "The Farmer's Advocate":

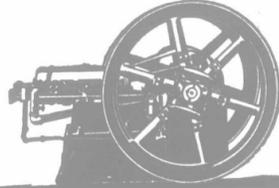
I am instructed by the Council of this Society to intimate through your columns, to all whom it may concern, that the horse exported from this country to Canada by Smith & Richardson, Columbus, Ont., in August, 1906, as "Sir Henry" 13200, is not "Sir Henry," but "Braidie Prince" 12871. Responsibility for the error does not lie with Smith & Richardson, on whom no reflection whatever is made. The mistake was made by the seller in this country, and has been corrected by him. It might have been detected at time of shipment, had the description of "Braidie Prince" been more fully detailed in his entry in Stud-book. The question of identity is settled in the most conclusive fashion, and the horse in Canada is unquestionably "Braidie Prince" 12871, and not "Sir Henry" 13200.

ARCHIBALD MacNEILAGE,
Secretary Clydesdale Horse Society Great Britain and Ireland.

The sale of imported Shire stallions and fillies, consigned by John Chambers & Sons, of Holdenby, England, held at the Union Stock-yards, West Toronto, on Thursday, November 18th, drew together a fairly-large crowd of representative Shire men from different parts of Ontario, the Northwest, and from the United States. The animals offered were excellent representatives of the breed, some of them really high-class animals, mostly two- and three-year-olds, and, while the bidding was not as brisk as it probably should have been, the interest displayed by those present indicated that the large English drafters have very many admirers in Canada. Twenty-one fillies, including some yearlings, were sold for a total of \$4,950, an all-round average of \$235.70, which, all things considered, was fairly satisfactory. Part of these went to Uncle Sam's country. Two stallions, both of them two-year-olds, were sold for \$620 and \$425, respectively.

SALE OF HOLSTEIN CATTLE.

Holstein cattle as an investment and revenue-producer can give points to oil stock these days, and then spare some. Before us is an announcement and catalogue of a dispersion sale of high-class registered Holstein cattle and Clydesdale colts, to be held on Wednesday, December 15th, at 1 p. m., by L. Summerfeldt & Sons, at the "Elms Stock Farm," lot 21, con. 5, Markham, York Co., Ont., Unionville P. O. The fifteen head of registered Holsteins are descended from two cows, Duchess of Rooker and Princess of Rooker, which proved to be large producers and excellent breeders. Duchess of Rooker's grandam was Madam Staple, one of the best cows ever imported from Holland. In the offering is that fine bull, Sir Mercedes Paul De Kol, a grandson of Pietertje Hengerveldt Paul De Kol, half-brother to Aggie Cornucopia Pauline, with a record of 34 pounds butter in seven days. There are also a few fresh grade cows in the offering. Terms of the sale, for pure-bred cattle: All sums of \$50 and under, cash; over that amount, ten months' credit on approved security, or 5 per cent. off for cash. Write for catalogue.



GET AN I.H.C. GASOLINE ENGINE TO WORK FOR YOU

I. H. C. engines and prosperity are going hand-in-hand on thousands of farms. I. H. C. gasoline engines are the farmers' willing workers that do not ask for wages or days off or refuse to work when the weather is bad.

Just give the wheel a turn—and a whole string of your other machines will get busy. You can run half a dozen of them at once, if you like—sawing, grinding, churning, separating cream, pumping water, etc. Your simple, powerful I. H. C. gasoline engine will furnish power for them all.

One great advantage of these engines is their ever readiness. They enable you to do your hardest jobs faster, better and easier than ever you have been able to do them before.

There are hundreds of places where you would like to use a power—sometimes for just a little while, other times for a long, steady run. Many a time you can have the job done with your I. H. C. gasoline engine before you could even get ready with your old-style power. If it's a long, steady run, like a day's job of sawing wood, the engine will keep your saw going steadily hour after hour. The engine will take care of itself—all you have to do is to just 'saw wood'.

The expense is only a few cents for gasoline for the whole day's work. There's no waste of time and fuel in starting up. And all expense stops the instant the work stops.

You need an I. H. C. engine to take the short cut on your work. Figure on the matter—see how soon it will pay for itself by getting full service for you out of your other machines. The engines are simple and easy to understand. You will have no trouble in learning to operate one of them.

Go to our local agent and look over the line. It includes an engine for every section and every problem, of all sizes and all costs, for all farm uses—vertical and horizontal (both stationary and portable); engines on skids; sawing, pumping and spraying outfits. It also includes I. H. C. gasoline tractors—first-prize gold-medal winners—the best all-round farm tractor by test.

Call on our local agent in your town and talk the matter over with him. He will supply you with catalogues and all information. Or, if you prefer, write nearest branch house for catalogue and full particulars.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg.

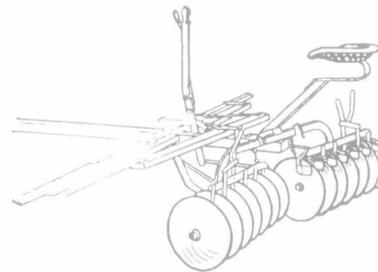
INTERNATIONAL HARVESTER COMPANY OF AMERICA
(Incorporated)
Chicago, U. S. A.



Buy the Harrow with the greatest capacity and the lightest draft.

The "Bissell"

Thousands of Canadian farmers have tested the "Bissell" Disk Harrow in the same field with other makes, and found that the "Bissell" has the greatest capacity and lightest draft. Because of the special shape of "Bissell" Pates they cut into the ground easier. They turn all the soil, whereas other disks only scrape it or set it on edge. The "Bissell" does clean work where others make a ragged job of it. Steel scrapers meeting the edges of the plates "chisel-fashion" and "movable" clod-irons keep the machine free from dirt or trash. The "Bissell" stays right down to its work. It won't bind, buckle or hump up in the centre no matter how stiff or hard the soil may be. It is built to withstand the hardest usage. A simple method of balancing the driver's weight removes neck weight. It is the harrow you should know more about. So write Dept. W for catalogue, or see your local dealer.



T. E. BISSELL
Company, Limited
ELORA, ONTARIO.

The annual meeting of the American Shetland Pony Club will be held Wednesday evening, December 1st, 1909, at 7.30 o'clock, in the Library of the Saddle and Siroin Club, Records Building, Union Stock-yards, Chicago, Illinois, during the time of the great International Show. At 7 p. m., on December 2, the Club members, with their wives, will enjoy a banquet at the Saddle and Siroin Club. A sale of 100 Shetland ponies, which was to have taken place

at Dexter Park Pavilion, Chicago, December 2nd, under the auspices of the American Shetland Pony Club, has been called off by the Sales Committee until some future date. The committee report that they have not received sufficient applications for entry to justify the expense connected with such a sale.

Life is not so short but there is always time enough for courtesy.

—Emerson.

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, \$1.00 must be enclosed.

Veterinary.

CONTINUOUS HEMORRHAGE—UNTHRIFTY MARE.

1. About the first of June my mare started a slit bleeding. She foaled in two weeks, but the bleeding has continued ever since.

2. Another mare remains very thin, although well fed. She seems to feel well.

W. R.

Ans.—1. I must confess that I do not understand what you mean by "started a slit bleeding." If you mean a wound that refused to heal, and bleeds a little, you must have it thoroughly washed out with a 5-per-cent. solution of carbolic acid in water, the edges of wound scarified and stitched, and then dress three times daily with the above lotion until healed. If this be not the trouble, if you explain what you mean by a slit, I will probably be able to help you.

2. Have her teeth dressed by a veterinarian, and give her a tablespoonful of the following three times daily, viz.: Equal parts sulphate of iron, gentian, ginger, and nux vomica.

V.

Miscellaneous.

SILLO QUERIES.

1. How much material will be required to build a silo 12 x 30, inside?

2. Which would you advise, gravel and cement, or sand (good, gritty), and use small field stones?

3. What thickness should walls be, and what reinforcement is required? Please give any information you can, as there are likely to be several erected in this locality the coming summer.

J. R. P.

Ans.—1. About 6½ cords of gravel and 30 to 35 barrels of cement.

2. Gravel is the best. There is no reason why small field stones should not be imbedded in gravel concrete.

3. A good foundation is important. It is not out of the way to have the wall at the bottom 18 inches wide. After it is clear of the ground, a thickness of 8 inches is sufficient, tapering to 5 inches thick at the top. A triple or quadruple thickness of No. 9 wire, or of barbed wire, every two and a half feet, would answer for reinforcement. It more convenient, a hoop of quarter-inch round iron, looped together where ends meet, would be all right. It is better to have too rich a concrete than one not rich enough. A proportion of one to six or seven of gravel is quite safe. Many are built one to nine or ten, but it is just possible that time will prove this to be a mistake.

GOSSIP.

MAPLE LEAF SHORTHORNS.

The Maple Leaf herd of Scotch Shorthorns, the property of Israel Groff, Elmira, Ont., are showing to proper good advantage just now, in prime condition, and their thick, smooth forms and mossy coats certainly look well. There are 22 head in all, imported and Canadian-bred, C. Bessies, C. Duchesses of Glosters, Crimson Flowers, Clementinas, Rosemarys, Miss Ramsdens and C. Lady Fannys, an exceptionally well-selected lot, without doubt the best lot ever seen on this noted Shorthorn-breeding farm. This is particularly true of the younger things, notably some eight or ten heifers from two months' up to two years of age, sired by the former stock bull, Chancellor's Model, probably the best breeding son of the noted sire, Imp. Bapton Chancellor. This bull has certainly done great things for the herd, and we are convinced Mr. Groff made a mistake when he let him go. Among the lot is a grand show heifer, two

years old, a Crimson Flower; this one will take some beating at Toronto next fall. Another of the good two-year-olds is a red Rosemary, and another red Crimson Flower; also a red C. Lady Fanny, same age. These heifers are exceptionally good ones, all they want is the proper fitting to go in any company. A youngster which we thought extra-well of is a July, Lady Fanny, calf, she is a lump sure, as square as a block, and her coat is something to be proud of. For the cow class at Toronto next fall is a three-year-old C. Bessie, a daughter of that grand old sire, Imp. Scottish Hero. She is a rare good one, and the one that beats her will be a marvel. For the yearling class is a red Miss Ramsden, put up strictly on show lines. The present stock bull is Valley Farm Argonaut, a son of Scottish Fashion, by Pride of Fashion, dam Duchess of Gloster 2nd, by Village Champion. This bull is a high-class type, a very thick and mellow chap, and should prove a right royal sire. In young bulls there is only one left, a red, six months old, by Chancellor's Model, dam a Crimson Flower. He bids fair to develop into something good. Parties wanting high-class heifers should see this lot.

A Reflected Diet.

Everybody's dieting some ailment to be quieting, and hunger goes a-rioting where plenty once made gay; Ban's on food and fishes, and we have no need for dishes, and the stomach of me wishes it could find the means to stay

The clamor of its cravings, for its food is mostly shavings, and it hears naught but the ravings of the daily diet list;

Nothing much for dinner, with a luncheon somewhat thinner, and I think as I'm a sinner I shall melt away in mist.

Mother's eating little in the way of food or victuals and abates no jot or tittle of her diet, she's so stout;

Father's stomach presses on his liver and distresses him extremely, and he blesses fasts and cuts the foodstuffs out;

Breakfast, ah, 'tis cruel, just a dish of mush or gruel, not a stick of worthy fuel for this furnace pit of mine;

Lunch is something lighter, and I pull my belt up tighter, and my hopes grow slight and slighter as the hour comes to dine.

All the kitchen's quiet since the rage began for diet, and the vision of a pie, it would quite turn my head, I swear;

Steak is quite forbidden, all the roasting-pans are hidden, and the cook is crossly chidden if she swells our bill-of-fare.

How my pulse would quicken could I look upon a chicken and see rich cream gravy thicken in the long lost frying-pan!

But the Code Starvation says the bodily elation from fried chicken spells damnation to the health of modern man.

Auntie is rheumatic, and with language quite emphatic says her feelings grow ecstatic on her diet of dry toast;

Uncle who is gouty says he has no bit of doubt he will be cured by cutting out the steak and stew and broil and roast;

Rule One-Twenty-Seven of the skim-milk route to Heaven says no breadstuffs made with leaven may be eaten, so, pray, tell

What's the consolation for a healthy youth whose ration is a share of gaunt starvation just to make some others well?

Mother's getting thinner on no breakfast, lunch or dinner—and her diet is a winner for the stoutness she complains;

Father's girth's reducing since he is no longer using food and drink, and he is losing all his once so-fearful pains;

Auntie's getting better, keeps her diet to the letter, and dear Uncle he is debtor to the scheme of toast and tea.

Dier works its wonders when assimilation blunders and its praise the family thunders—but it's simply killing me!

—J. W. Foley, in Saturday Evening Post.

The Price of the Edison Phonograph

An Edison Phonograph can be bought for your price whether it is \$16.25 or a higher price up to \$162.50, all playing both Amberol and Standard Records.

But you cannot measure the Phonograph by money. Whether the price is \$16.50 or \$162.50, it is not much to pay for an instrument that will last a lifetime, which will furnish you good music every day, which will furnish you better entertainment than you can buy in any other way, which will teach your children to love the best music, which will bring into your own home what other people pay large sums and go a long distance to hear.



Edison Standard Records 40c
Edison Amberol Records (twice as long) 65c
Edison Grand Opera Records 85c

There are Edison dealers everywhere. Go to the nearest and hear the Edison Phonograph play both Edison Standard and Amberol Records. Get complete catalogs from your dealer or from us.

NATIONAL PHONOGRAPH COMPANY
300 Lakeside Ave., Orange, N. J., U. S. A.

A famous dean was once at dinner, when, just as the cloth was removed, the subject of discourse happened to be that of extraordinary mortality among lawyers.

"We have lost," said a gentleman, "not less than six eminent barristers in as many months."

The dean, who was quite deaf, rose as his friend finished his remarks, and gave the company grace—"for this and every other mercy, make us truly thankful."

Mark Twain once asked a neighbor if he might borrow a set of his books. The neighbor replied ungraciously that he was welcome to read them in his library, but he had a rule never to let his books leave his house. Some weeks later the same neighbor sent over to ask for the loan of Mark Twain's lawnmower.

"Certainly," said Mark, "but since I make it a rule never to let it leave my lawn, you will be obliged to use it there."

The highest medical authority on foods, Sir James Crichton Browne, LL.D.—F.R.S. of London, gives the best reasons for eating more Quaker Oats

In an article published in the Youth's Companion of September 23rd, 1909, Dr. Browne, the great medical authority on foods, says, about brain and muscle building—

"There is one kind of food that seems to me of marked value as a food to the brain and to the whole body throughout childhood and adolescence (youth), and that is oatmeal."

"Oats are the most nutritious of all the cereals, being richer in fats, organic phosphorus and lecithins."

He says oatmeal is gaining ground with the well-to-do of Great Britain. He speaks of it as the mainstay of the Scottish laborer's diet and says it pro-

duces a big-boned, well-developed, mentally energetic race. His experiments prove that good oatmeal such as Quaker Oats not only furnishes the best food for the human being, but eating it strengthens and enlarges the thyroid gland—this gland is intimately connected with the nourishing processes of the body.

In conclusion he says— "It seems probable therefore that the bulk and brawniness of the Northerners (meaning the Scotch) has been in some measure due to the stimulation of the thyroid gland by oatmeal porridge in childhood."

The Scotch eat Quaker Oats because it is the best of all oat meals.

HORSE OWNERS! USE



GOMBAULT'S CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, best BLISTER ever used. Removes all blemishes from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Toronto, Can.

SAVE THE HORSE'S SPAVIN CURE



THIS TELLS THE STORY.

71 Beaver Hall Hill, Montreal, P. Q., Sept. 30, 1909. Troy Chemical Co., Binghamton, N. Y.:

Gentlemen, - Some time ago I wrote you and obtained your remedy for my Brazilian mare, "Mollie," whose tendons were in bad shape for past year, and am pleased to report that she is sound as a new-milled dollar, standing all kinds of hard road work. I have also given your remedy a thorough trial otherwise. In five weeks one bottle removed a bad bunch from hind ankles of a matched pair of chestnuts, which had resisted under competent veterinary treatment here for seven months. Said team sold and went to Burlington, Vt. Killed lameness in bone spavin on horse and two splints from another subject all for \$5.00. Respectfully, R. VARIAN.

\$5.00 a bottle, with legal wri ten guarantee or contract. Send for copy, booklet and letters from business men and trainers on every kind of case. Permanently cures Spavin, Thoroughpin, Ringbone (except low), Curb, Splint, Capped Hock, Windpuff, Shoe Boli, Injured Tendons and all Lameness. No scar or loss of hair. Horse works as usual. Dealers or Express Paid. Troy Chemical Co., 148 Van Horn St., Toronto, Ont., and Binghamton, N. Y.

For Lamé Horses

For curb, splints, spavin, wind puffs, sprains or swellings of any kind, use Tuttle's Elixir. Results are quick and permanent. Tens of thousands of farmers, the owners of great city stables, the race horse men, all swear by

Tuttle's Elixir

Best for colic, distemper and founder. Also makes the most effective leg and body wash.

Only 50 cents a bottle at all dealers. Keep Tuttle's Worm Powders, Condition Powders and Hoof Ointment on hand also. If not at your dealers, we'll ship by express.

Valuable Veterinary Book Free. Write for a copy today. Full of important pointers to every horse owner. A 100-page illustrated guide free, but it is worth dollars.

Tuttle's Elixir Co., 66 Beverly St., Boston, Mass. 32 S. Gabriel St., Montreal, Can.

Shoe Boils, Capped Hock, Bursitis 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. Horse can be worked. \$2.00 per bottle, delivered. Book 6 D free.

ABSORBINE, JR., (mankind, \$1.00 bottle.) For Boils, Bruises, Old Sores, Swellings, Goures, Varicose Veins, Varicocelites, Allays Pain. W. F. YOUNG, P. B. F., 259 Temple St., Springfield, Mass. LYVANS Ltd., Montreal, Canadian Agents.

Peachblow Clydesdales AND AYRSHIRES

Clydesdale stallions and fillies, Imported and Canadian-bred. Ayrshires of high-class quality and productiveness, 40 to 50 lbs. of milk a day; females of all ages and bull calves. My prices are right.

R. T. BROWNLEE, Hemmingford, Que.

Pure-bred Clyde for Sale—One yearling entire colt. For particulars address W. W. LEFNEY, Chelsea, Que.

Sammy's mother talked to him long and earnestly about the poor marks he had been getting in his work at school. She painted in alluring colors the career of the little boy who studies his lessons and gains the love and respect of his teachers. She went even farther: she promised him that if he got good marks she would give him a whole dime, all for his own. Sammy seemed impressed.

That afternoon he returned from school fairly dancing with joy. "I got a hundred, mamma!" "Did you," she said, clutching him up and hugging him for joy. Then, after duly delivering the dime, "and what did you get a hundred on?"

"Two subjects—40 on reading and 60 on spelling."

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They mend all leaks in all utensils—tin, brass, copper, graniteware, hot water bags, etc. No solder, cement or rivet. Anyone can use them: fit any surface, two million in use. Send for sample pkg.—10c. COMPLETE PACKAGE ABSORBENT, 25c. POSTPAID. Agents wanted. Collette Mfg. Co., Dept. K, Collingwood, Ont.

QUESTIONS AND ANSWERS. Veterinary.

TWO VENTS IN TEAT.

Cow has two holes in one teat, one about half-way up the teat, from which milk escapes freely. J. G. R.

Ans.—Leave her alone until she goes dry. Then cast and secure her, and scarify the edges of the upper vent until they are raw. Then stitch with carbolized silk suture, and dress three times daily until healed, with a 5-per-cent solution of carbolic acid in water. V.

PARTIAL DISLOCATION OF PATELLA—LUMP ON KNEE.

1. When sucking, colt had a cracking sound in stifle. He is now two years old, and the cracking has ceased, but there is a soft lump the size of a goose egg just below the joint.

2. For a year, another horse has had a small, hard lump on his knee-cap. It seems to be attached to the knee-cap. L. C.

Ans.—1. This is called a porcelaneous deposit; generally appears when there is partial dislocation of the patella or stifle bone. It cannot be entirely removed, but may be reduced some by absorbents. Get a liniment made of 4 drams each of iodide of potassium and iodine, and 4 ounces each of alcohol and glycerine. Rub a little of this well in once daily.

2. A horse has no knee-cap (the patella is the bone that is at fault in your two-year-old). This lump may be removed, or reduced, by the use of the liniment advised for the colt. V.

CRIBBING—SALANDERS.

1. Colt bites the stall, manger, or any hard thing she can get hold of. When in the field, she bites the fences, etc. What is the cause and cure? Is it from the teeth?

2. Horse is breaking out in front of hock in scuff and cracks. H. J. S.

Ans.—1. This is a vice. In many cases we cannot give any cause. Probably, in most cases, it is due to having nothing to do, at all events idleness and want of exercise predispose to it. It is called cribbing, and is very hard to check. In some cases it can be checked by daubing the objects she cribs with foul-tasting material, as a solution of aloes. By buckling a strap tightly around the throat (of course, not tight enough to interfere with swallowing), the habit can be checked, and, in a young animal, this may effect a cure in time.

2. This is called salanders, and, on account of the situation, is very hard to cure. Dress three times daily with oxide-of-zinc ointment, to which has been added 20 drops of carbolic acid to the ounce. If possible, give him rest and reduce his grain ration. V.

SALIVATION—FISTULA AND LUMP ON JAW.

1. Team, five and six years old, commence to salivate as soon as the bits are put into their mouths, and cease as soon as the bridles are taken off.

2. Three-year-old colt was worked in the spring and became thin. Was turned out on grass after harvest. It has not grown nor put on flesh since. I think it was kicked on the jaw last summer. A lump followed the accident more than a year ago. It broke and has been discharging pus ever since. J. B. W.

Ans.—1. The bits irritate the horses' mouths. See that the front molar teeth have no sharp points. If they have, get your veterinarian to dress them. Use easy, jointed bits, and leave the cheek pieces of the bridle to be long enough to allow the bits to hang a little below the angles of the mouths.

2. I do not think the conditions were calculated to produce growth and flesh. Horses that have been worked and fed grain, always fail when turned on pasture, especially late in the season, when grass is dry and scanty. Feed her well now, and she should improve. It is probable the jaw bone was fractured, and there is a loose piece of bone. In some cases the lump can be opened and the diseased bone removed, after which, healing will take place, but it will not heal until the diseased bone is removed or scraped. V.



20 Imp. Percheron Stallions 20

Our 1909 importation of 20 Percheron stallions, from 1 to 5 years of age, are now in our stables. Up to over a ton in weight. Big, stylish, choke-full of flashy quality, and faultless movers. Prizewinners among them. The best lot ever imported to Canada. All are for sale on terms to suit.

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are now in my stables at Markham, Ont., and, as usual, I have a big range for selection, of a type, breeding and quality seldom equalled, never excelled, by any previous importation. Call and see them. Phone connection. T. H. HASSARD, Markham, Ont.

Clydesdales and Percherons

To my many friends, and the public generally, I wish to say that in my stables at Weston, Ont., I have my 1909 importation of 10 Clydesdale and 8 Percheron stallions; a lot that for true draft character, faultless underpinning, choice quality and breeding were never surpassed. Terms to suit and prices right.

J. B. Hogate, Weston, Ont., & Brandon, Man. W. B. COLBY, MANAGER, WESTON, ONT.

Imported Clydesdales We have a number of newly-imported stallions on hand in our stables in London, Ont., including some very large old, stands 15-3 hands; a superior actor. One Standard-bred and one imported Clydesdale. Saturday, October 16th, from Glasgow. DALGETY BROS., LONDON, ONTARIO.

Imported Clydesdales! I wish to thank my many customers for their patronage the last year. I start for Scotland about December 1st for a new importation. I intend to select the best available. Keep an eye out for my announcement on returning. C. W. Barber, Gatineau Pt., Que.

Hackney Stallions Royal Saxon 468, sired by the champion, Saxon; bred by H. N. Crossley; 4 years old, stands 15-3 hands; a superior actor. One Standard-bred and one imported Clydesdale. HENRY M. DOUGLAS, Box 76, Meaford, or 48, Stayner, Ont.

CLYDESDALES and HACKNEYS

We have for sale a few choice Clydesdale mares, imported and Canadian-bred; also some Canadian-bred Clydesdale stallions. Hackney stallions and mares for sale always. Long-distance phone. Hodgkinson & Tisdale, Beaverton, Ont. G. T. R. and C. N. R.

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Clydesdales Home from the Shows Intending purchasers would do well to see them before buying. Prices moderate. Myrtle, C. P. R. Brooklin, G. T. R. SMITH & RICHARDSON, Columbus, Ont.

CLYDESDALES WITH SIZE AND QUALITY.—My new importation is now in my stables. Several of them are up to the ton and over in weight. Their breeding is unexcelled; their type and quality all that could be desired. If in want of the best come and see them. Terms to suit. Phone connection. WM. COLQUHOUN, Mitchell, Ont.

Imported Clydesdales I have lately landed an importation of 4 young stallions and 5 fillies, whose breeding is unsurpassed. They are the kind the country wants. Big, smooth, stylish, full of quality and straight movers. Will be sold right and on easy terms. Geo. G. Stewart, Howick, Que. Bell Phone.

Clydesdales, Percherons and French Coaches My 1909 importation of Clydesdale stallions and fillies, Percheron stallions and fillies, French Coach and Hackney stallions are now in my stables. In this lot I can supply the most exacting. Size, style, character, quality and breeding. Will sell on terms to suit. Phone connection. T. D. ELLIOTT, BOLTON, ONTARIO.

ORMSBY GRANGE STOCK FARM, Ormstown, P. Q. DUNCAN McEACHRAN, F. R. C. V. S., D. V. S., Proprietor. Importer and breeder of high-class pure-bred Clydesdales. Farmers or ranchmen starting breeding Clydes., pure or grade, specially invited to correspond.

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Commission Agent and Interpreter, LILLE, FRANCE
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EXPORTER OF PEDIGREE STOCK OF ALL DESCRIPTIONS. During the winter months the export of cattle of the beef and dairy breeds will be a specialty. Stock ordered is purchased direct from the breeder, and is shipped straight from his farm to port of entry. In no other way can stock be imported so cheaply. Write for terms and references.

DISMAYING THE DEVIL.

In the window of a little bookstore in Eighth avenue, New York, was recently heaped a great pile of Bibles, marked very low—never before were Bibles offered at such a bargain; and above them all, in big letters, was the inscription: "Satan trembles when he sees Bibles sold as low as these."

—Woman's Home Companion.

QUESTIONS AND ANSWERS. Miscellaneous.

BUCKWHEAT FLOUR VERSUS OIL CAKE—CHURNING.

Will you please answer the following questions in the columns of "The Farmer's Advocate":

1. We have been feeding our dairy cows a grain ration consisting of 2 parts oats, 1 part wheat, and 1 part barley, grown together, and mashed. Lately, we have added buckwheat bran to the mixture, but have given them the same weight of feed, viz.: 6 lbs. per day each. They give more milk since the bran is added. Which will pay better, to mash the buckwheat and give it to them, flour and all, or to give them the bran and sell the flour at \$2 per hundred and buy ground oil cake, which costs us here, \$2.25 per cwt.? The cows also get about 30 lbs. each of turnips per day. Fed directly after milking, we have never had the slightest taint of turnip in the milk or butter.
2. Can you give any reason why butter will separate readily from the buttermilk sometimes, and is very difficult to separate other times, when, as nearly as we can tell, the conditions are the same?
3. Is the Morgan a distinct breed of horses, or just a family?

SUBSCRIBER.

Ans.—1. There would not be any great advantage from a chemical point of view in selling buckwheat flour to buy oil cake. We have not before us the composition of buckwheat flour, but taking buckwheat middlings, we find the following comparison with oil-cake meal:

	Digestible protein.	Digestible carbohydrates.	Dig'ible ether extract or fat.
Oil-cake meal	29.	32.7	7.0
Buckwheat middlings	22.	33.4	5.4

Thus we see that the main net advantage of the oil cake in composition, consists in its having nearly a third more protein. In respect to the fat, it has also some advantage. In addition, its effect on the system is probably a little more favorable, and there is the advantage of variety in rations, resulting from the addition of a totally different kind of feed. Yet again it is charged that buckwheat by-products, fed in quantity, make a white, tallowy butter. Inclusion of some oil meal in the ration would tend to counteract this influence. Everything considered, therefore, we think there would be something to be gained by selling buckwheat flour at \$2, and buying oil cake at \$2.25, particularly if the buckwheat had to be teamed to the mill anyway to be crushed.

2. We cannot account for butter being easier to separate from the buttermilk one time than another, when the conditions are the same. The inference is that conditions must be in some way different. Temperature of churning, richness and ripeness of cream, feed given the cows, fullness of the churn, etc., are factors that each play a part.

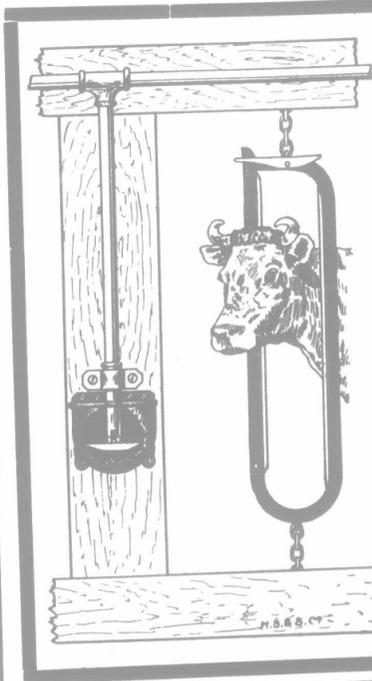
3. Yes; the Morgan might be designated a distinct breed. It is being developed and preserved as such.

Veterinary.

RHEUMATISM.

In August, 1908, cow went very lame behind, and continued lame until we stabled her in the fall, after which she improved gradually. She was all right in the spring, but soon after being turned out to grass, again went lame, both behind and in front, sometimes much worse than at others. Some mornings she is very stiff. E. J. S.

Ans.—The symptoms indicate rheumatism. She should be kept in a dry, warm place. Give her a purgative of warm place. Give her a purgative of 1 lb. Epsom salts and 1 ounce ginger, and follow up with 2 drams salicylic acid three times daily, and rub the joints of the affected limbs well twice daily with camphorated liniment. It would be wise to feed her for beef.



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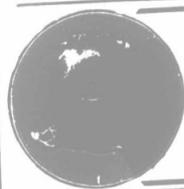
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Claremont Station. Phone connection.



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A FEW YOUNG BULLS and 20 YOUNG COWS and HEIFERS COMPOSE OUR LIST FOR PRIVATE SALE.

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I am offering for sale young stock, both bulls and heifers, of richest Scotch breeding, and of high-class show type. I can show some of the best young things in the country.
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Of Eczema on Her Hands.

We are always glad of an opportunity to send a sample bottle of D. D. D. Prescription to an eczema sufferer, because we are sure it will stop the awful, torturing itch at once, and start the patient on the road to recovery. But no one expects the necessarily small sample bottle to complete the cure.

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Canada's Greatest Show Herd.



For Sale: 25 bulls from 6 to 18 months of age, bred from imported and show stock; also about the same number of heifers, none better. Prices right.

W. H. HUNTER, Orangeville P.O. and Sta.

Balmedie Polled Angus and Oxford Down sheep — Offering several exceptionally nice heifers, and a few young bulls. Discriminating buyers will be pleased with my herd. Anything in the herd will be priced. Also ram and ewe lambs. T. B. Broadfoot, Fergus P. O. and Station.

Imported Bull

To avoid inbreeding, I will sell or exchange the Shorthorn bull, Lad (imp.) (Vol. 52, E) = 60847 =, a splendid sire, active and gentle; also two young bulls by him from English Lady dams.

GEO. B. ARMSTRONG, Teeswater, Ont.

The commercial traveller had been summoned as a witness, and the K. C. for the defence was cross-examining him, and eliciting many interesting details as to "exes," etc.

"You travel for Jobson, Hobson, Slobson & Co., don't you?" said the K. C.

"Yes, sir."

"How long have you been in their employ?"

"About ten years."

"And you have been travelling all that time, have you?"

"Well, no, sir," confessed the nothing-but-the-truthful witness, making a hasty mental calculation, "not actually travelling. I have put in about four years of that time waiting at railway stations."

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A medicine that strengthens the kidneys so that they are enabled to extract the poisonous uric acid from the blood and prevent the chief cause of Rheumatism.

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When ordering specify "Doan's."

QUESTIONS AND ANSWERS. Miscellaneous.

PROFITABLE EXCHANGE OF FEEDS.

I have on hand abundance of corn, barley, and oat straw, to feed milch cows and fattening cattle. Will it pay me to sell the barley and buy bran, in order to have a more balanced ration, and, if so, at what prices? An early reply will oblige.

C. C. J.

Ans.—It will most assuredly pay to sell barley, and perhaps corn, and buy bran and oil-cake meal, especially for the dairy cows. Let us do a little figuring. The Woll (American) standard for a dairy cow, in full milk, calls for 2.15 pounds protein, 13.27 pounds carbohydrates, and .74 pounds ether extract, or fat, the nutritive ratio being 1:6.9. Now, using oat straw as the only roughage with corn and barley meal for concentrates, it is absolutely impossible to supply anywhere near enough protein without allowing a great deal more meal than the cow could probably digest, and, at that, it would be wasteful, and probably too fattening, because of the great excess of carbohydrates. To illustrate the point, let us suppose a ration consisting of these three feeds only:

	Amount.	Digestible protein.	Digestible carbohydrates.	Digestible ether extract or fat.
	Lbs.	Lbs.	Lbs.	Lbs.
Oat straw ...	15	.18	5.790	.120
Barley	6	.522	3.936	.096
Corn	6	.474	4.002	.258
Total	27	1.176	13.728	.474

Here we have a trifle more carbohydrates than the standard calls for, but less fat (though this latter fact is not of prime importance). The great deficiency is in protein, hence the ration is very ill balanced, the nutritive ratio being 1:12.58. Yet this ration, unsuitable though it is, will cost for meal alone, figuring on a basis of Toronto market values, 14.52 cents per head per day.

Now, let us see how to improve, and, at the same time cheapen it. With a view to using as much of the home-grown grains as possible, let us try the following and see how it works out:

	Amount.	Digestible protein.	Digestible carbohydrates.	Digestible ether extract or fat.
	Lbs.	Lbs.	Lbs.	Lbs.
Oat straw ...	15	.18	5.79	.12
Barley	3	.261	1.968	.048
Corn	3	.287	2.001	.129
Oil cake	2	.586	.654	.14
Bran	2	.244	.784	.054
Total	25	1.508	11.197	.491

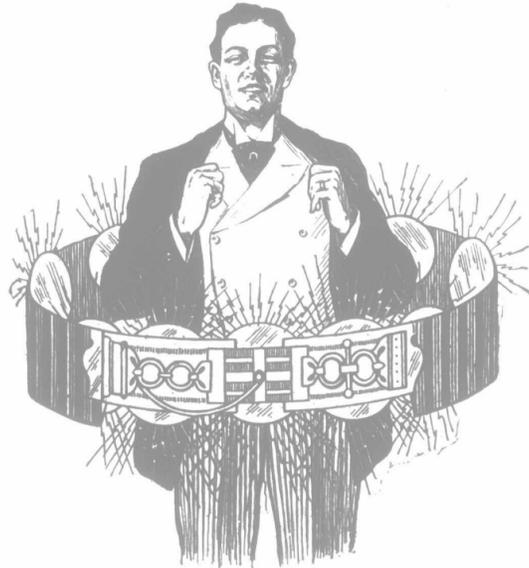
Our ration is still at variance with the prescribed standard, but, nevertheless, it is decidedly improved, as well as cheapened. Its nutritive ratio is as 1:8.157, which is coming down. At the same time, its cost is one and three-quarter cents less than the other, or, to be exact, 12.76 cents per day.

Even this is hardly the thing. Let us try again. Suppose we cut out two pounds of barley and add another half-pound of oil cake, making:

	Amount.	Digestible protein.	Digestible carbohydrates.	Digestible ether extract or fat.
	Lbs.	Lbs.	Lbs.	Lbs.
Oat straw ...	15	.1800	5.7900	.120
Barley	1	.0870	.6560	.016
Corn	3	.2370	2.0010	.129
Oil cake	2½	.7325	.8175	.175
Bran	2	.2440	.7840	.054
Totals	23½	1.4805	10.0485	.494

In this ration we have slightly reduced (Continued on page 1863.)

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Not One Penny in Advance or on Deposit

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30 CHOICE YOUNG COWS AND HEIFERS. 30 All belonging to noted Scotch families, and mostly from imported sires and dams.

Quality, pedigree and prices will please you. Farm ¼ mile from Burlington Junction station. **FRED. BARNETT, Manager. J. F. MITCHELL BURLINGTON, ONT.** Long-distance telephone.

PRESENT OFFERING Two yearling bulls, eight under a year, at very reasonable prices. We can sell some extra well-bred cows, bred or with calves at foot, at prices which should interest intending purchasers. Farms close to Burlington Junction Station. Long-distance phone. **W. G. PETTIT & SONS, FREEMAN, ONTARIO.**

INVERNESS SHORTHORNS I can supply Shorthorns of all ages, with richest Scotch breeding and high-class individuality. **W. H. EASTERBROOK, Freeman, Ont.**

Imp. Scotch Shorthorns—When looking for Shorthorns, be sure to look me up. Young bulls fit for service, and females all ages; bred in the purple, and right good ones. **A. C. Pettit, Freeman, Ont.**

Maple Leaf Shires, Shorthorns, Hampshire Hogs 1- and 2-yr.-old Shire stallions, females from yearling fillies up; Shorthorns, both bulls and heifers; a choice lot of young Hampshire pigs, both sexes beautifully belted. **PORTER BROS., APPLEBY P.O., BURLINGTON STA. Phone.**

JOHN GARDHOUSE & SONS Always have for sale a number of first-class Shorthorns, Shires and Lincolns, of both sexes. Drop us a line, or better, come and see for yourself. **HIGHFIELD P.O., ONTARIO.** Weston Sta., G. T. R. & C. P. R. Long-distance phone in house.

Green Grove Shorthorns and Yorkshires My Scotch Shorthorn herd, among which are many valuable imp. cows, is headed by the A. T. Gordon-bred, Sittytown Butterfly bull, Benachie (imp.) = 69954 =. Present offering: Three choice show bulls now fit for service; also Yorkshires four and five months old, of either sex. **Geo. D. Fletcher, Binkham P. O., Ont.** Erin shipping station, C.P.R.

WILLOWDALE SHORTHORNS

I have for sale some very fine young stock bulls and heifers ready to breed. Descendants of Joy of Morning, Broad Scotch and other noted sires. Also **Chester White Swine** and **Imported Clydesdale Horses.**

J. H. M. PARKER, LENNOXVILLE, QUE.

I Cured My Rupture

I Will Show You How To Cure Yours FREE!

I was helpless and bed-ridden for years from a double rupture. No truss could hold. Doctors said I would die if not operated on. I fooled them all and cured myself by a simple discovery. I will send the cure free by mail if you write for it. It cured me and has since cured thousands. It will cure you.

Fill out the coupon below and mail it to me today

Free Rupture-Cure Coupon

CAPT. W. A. COLLINGS,
Box 30, Watertown, N. Y.

Dear Sir:—Please send me free of all cost your New Discovery for the Cure of Rupture.

Name.....
Address.....

Shorthorn Cattle AND LINCOLN SHEEP.

Females of all ages for sale, of the thick-fleshed, low-down kind, that have been raised naturally, neither stuffed nor starved. Twenty-five Lincoln ewes, bred to our best imported stud ram, also a few choice yearling rams. Prices very reasonable for quick sale.

J. T. GIBSON, DENFIELD, ONT.

SHORTHORNS

One red bull..... 14 months old
One roan bull..... 13 months old
Two reds..... 6 months old
Six heifer calves..... 7 to 8 months old

Cows and heifers. Herd headed by Count Beauty (imp.) 73579. Office: M. C. Ry. and P. M. Ry.

SCOTT BROS., HIGHGATE, ONT.

Maple Grange Shorthorns

Am offering an extra choice lot of 1-, 2- and 3-year-old heifers. Scotch and Scotch-topped. Clarets, Nonpareils, etc., sired by Royal Bruce, imp. and among them are daughters and granddaughters of imp. cows. Young bulls also for sale.

R. J. DOYLE, Owen Sound, Ont.
Phone connection.

1854—Maple Lodge Stock Farm—1909

Shorthorn bulls and heifers of extra quality and breeding, and from best milking strains.

Leicesters of first quality for sale. Can furnish show flocks.

A. W. SMITH, Maple Lodge P.O., Ontario
Lucan Crossing Sta., G.T.R., one mile.

SHORTHORNS, BERKSHIRES COTSWOLDS.

In Shorthorns: 20 calves, either sex; also cows and heifers. A number of young Berkshires, fall litters, and about a dozen good ram lambs.

CHAS. E. BONNYCASTLE,
STATION and P. O., CAMPBELLFORD, ONT.

GLENGOW Shorthorns

Have two excellent bulls left yet, both about ten months old, and good enough for any herd; also a number of choice heifers, all ages. For particulars write to:

Wm. Smith, Columbus, Ont.

Glover Dell Shorthorns

Have several young bulls for sale, of show quality; dark colors, from good milking dams. No fancy prices asked.

L. A. WAKELY, BOLTON, ONT.
Bolton Junction on C. P. R., within 1/2 mile of farm

High-class Scotch Shorthorns

We are now offering choice young bulls of serviceable age, and a number of one and two year old heifers. Most fashionably bred, and high-class show things among them. Also one two-year-old Clydesdale stallion, with size and quality.

Goodfellow Bros., Macville P. O., Ontario.
Bolton station.

SHORTHORNS for Sale

I am offering for sale a number of females of various ages, and four first-class bulls. One two-year-old, one yearling and two bull calves. All good ones, and breeding as good as the best. Come and see me.

HUGH THOMSON, Box 556, ST MARY'S, ONT.

Shorthorns and Leicesters

A number of choicely-bred young bulls and heifers from grand milking dams and imp. sires. And an extra good lot of rams and ewes of all ages in show trim.

W. A. DOUGLAS,
Caledonia Station, Tuscarora P. O.

CALVES

Raise Them Without MILK. Booklet free. The Steele, Briggs Seed Co., Toronto, Ont.

Please Mention Farmer's Advocate.

QUESTIONS AND ANSWERS. Miscellaneous.

(Continued from page 1862.)

the protein, since the addition of half a pound of oil cake hardly compensates for the loss of two pounds of barley. But as we have reduced the carbohydrates much more than the protein, we have improved the balance, the ratio now being 1:7.54. The cost of our present meal ration is reduced to 11.245, or, practically, 11 1/4 cents per head per day. For really good cows, in full milk, it would pay to balance up this ration still further, by adding, or substituting, feeds rich in protein. This might be accomplished in several ways. Clover, or alfalfa hay, as part of the roughage, would greatly improve the ration. If this is not available, we might add a couple of pounds of gluten meal. It should be understood, that it is difficult to compose a well-balanced standard ration with straw as the only roughage, without employing more of the concentrated meals than is advisable in the interests of economy and good digestion. As these meals are expensive, we would prefer to content ourselves with a scant and rather ill-balanced ration, somewhat as indicated in our last table. This should give fair results, much better results than could be obtained with barley and corn alone, and at much less cost, the saving, on a basis of Toronto quotations, being about three and a quarter cents a day. For extra-good cows, or for steers, at the conclusion of the feeding period, a little more oil cake, or the addition of some similar concentrate, might be permissible, but it must be remembered that these very concentrated feeds may not safely be fed in unlimited quantities.

WIREWORMS.

I have a piece of old pasture. I broke it up last spring. It is a very rich soil, along the flats of a creek. This fall I sowed it to wheat, but the wireworm has almost cleaned it entirely.

1. Can anything be done to check the wireworm?
2. What would be best to sow on this land next spring?
3. Would they eat a root crop, or corn? I had a few potatoes on one corner of it this year, and they spoiled most of them. The wireworm has been very busy this fall in this section, and has done a great deal of damage to the wheat crop.

S. J. P.
Huron Co.

Ans.—1. Very little. The use of salt and other chemicals has been proven to be almost useless. In a short rotation with land in grass not more than two years, they are usually kept from giving serious trouble. Late fall plowing, or twice plowing in the fall, it is believed, lessens their numbers. An English farmer claims to have repelled them by fumigating his seed grain with sulphur, but this we cannot vouch for.

2. Barley and clover are less subject to attack than most crops. Would advise sowing barley and seeding with clover.

3. Corn is specially subject to attack, and probably root crops would be injured also, though not so seriously.

BITTERSWEET NIGHTSHADE.

I am sending you part of a branch of a small bush, or vine, with cluster of red berries attached, which I find growing along fences where cattle cannot destroy them. They have only lately appeared in this part. Kindly name them, and state their qualities, and if poisonous? Do they belong to the tomato family?

Ans.—The plant of which a fruiting branch was sent, is the bittersweet nightshade, *Solanum adulcamara*. It belongs, as suggested, to the potato or tomato family, and potato bugs feed upon it. It is somewhat poisonous and medicinal, but not particularly hard to eradicate.

DANGEROUS DOG.

A farmer's dog makes a practice of running after teams as they go by, barking and biting at them. If an accident occurs, is the owner of the dog liable for damages?

Ontario. JOCK.

Ans.—Yes.

A. Edward Meyer

P. O. Box 378, Guelph, Ont.,
Breeds **SCOTCH SHORTHORNS** Exclusively. Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 55042 = (90065) 295765 A. H. B.; Gloster King = 68703 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

Geo. Amos & Sons,

MOFFAT, ONTARIO.
For Sale: Seven bulls, some of them show bulls, most of them from imported sires and dams. Write us, or call and see us before buying.
Moffat Station, 11 Miles East of City of Guelph, on C. P. R.

ESTABLISHED 1865

RAW FURS

E. T. CARTER & CO.
84 Front St., East, TORONTO, ONT.

CONSIGNMENTS SOLICITED

Write For Our Price Lists Issued Regularly

WE PAY ALL EXPRESS CHARGES. PROMPT RETURNS.

HOLSTEINS BY AUCTION

Having sold my farm, 1/2 mile east of Camlachie Village, will sell by public auction on

THURSDAY, DEC. 9, 1909

26 Registered Holsteins, with all other stock, feed, implements and household effects.

TERMS: 12 months' credit on approved joint notes, or 6% off for cash. Catalogues supplied on application.

L. ABBOTT, Camlachie, Ont. G. T. R.

WOODBINE STOCK FARM

Offers a few fine young Holstein bulls and bull calves, sired by Sir Mechthilde Posch. Sire's dam holds world's largest two-day public test record, dam lanthe Jewel Mechthilde, 27.65 lbs. butter in 7 days; average test, 4.46 per cent. fat; out of dams with superior breeding and quality.

Shipping stations—Paris, G. T. R.; Ayr, C. P. R.

A. KENNEDY, Ayr, Ont.

Imperial Holsteins!

For sale: Bull calves sired by Tidy Abbekirk Mercedes Posch, whose seven nearest dams have records within a fraction of 27 pounds, out of show cows with high official records. A most desirable lot of coming herd-heads.

W. H. SIMMONS,
New Durham P. O., Ont., Oxford County.

Holsteins

All ages. Also bull and heifer calves, including daughter and granddaughters of Pietertje Hengerveld Count De Kol, whose TWO famous daughters made over 32 lbs. butter each in 7 days, and sire of the "world's champion milking cow," De Kol Creamelle, which gave 119 lbs. in one day, over 10,000 lbs. in 100 days. Also for sale daughters of De Kol's 2nd Mutual Paul, sire of Maid Mutual De Kol, which gave over 31 lbs. butter in 7 days, also granddaughters of Hengerveld De Kol. Other leading breeds represented.

Putnam station, near Ingersoll.

H. E. GEORGE,
CRAMPTON, ONTARIO.

CENTRE AND HILLVIEW Holsteins

140 head, 45 females in R. O. M. Herd headed by Brookbank Butter Baron, Bonheur Statesman and Sir Sadie Cornucopia Clothilde. The average of dam, sire dam and granddam is: milk in 7 days, 662.85 lbs.; butter in 7 days, 30.58 lbs. We have bulls born Jan. '09, to two weeks old for sale, from Record-of-Merit dams. Long-distance telephone.

P. D. Ede, Oxford Centre, Ont. Woodstock Sta.

HERE AGAIN! E. & F. MALLORY, Frankford, Ont.

With high-class **HOLSTEINS** for sale, of all ages, except bulls for service. **CHEESE IS HIGH.** Why not invest AT ONCE? We sell at BARGAIN prices. Write or call, we're always home. Railway connections good.

Maple Glen HOLSTEINS

For sale: Two 3-year-olds, bred to a son of Brown Bros.' 30-lb. cow, due to freshen next March. Netherland Johanna Mercedes, a 1570-lb. Jr. 2-year-old, due last of December to King Fayne Segis, a son of world's champion cow. Also two bull calves, from tested dam, born last June, sired by King Fayne Segis. **G. A. GILROY,** Glen Bueli, Ont. Long-distance phone.

Lakeview Holsteins

Herd headed by the **ONLY BULL** in the world whose sire has 5 daughters averaging over 30 lbs. of butter in 7 days, and whose dam (26.30 lbs. in 7 days) has a daughter with a record of over 35 1/2 lbs. of butter in 7 days (world's record). Bull calves and cows bred to him for sale. **LAKEVIEW FARM, BRONTE, ONT.**

Maple Hill Holstein-Friesians!

Three-year-olds, two-year-olds and yearlings heavy in calf. Also a few choice heifer calves. Visitors met at station by appointment.

G. W. Clemons, St. George, Ont.

RIVERSIDE HOLSTEINS

Herd contains 100 head; over 90 females in Record of Merit. Headed by Sir Pietertje Posch De Boer, whose dam and sire's dam average 25.87 lbs. butter in 7 days; 87.6 lbs. milk in one day. Prince DeKol Posch, his dam has official 7-day test of over 27 lbs. She was also sweepstakes cow in dairy test at Winter Fair, Guelph. Young bulls for sale. **J. W. RICHARDSON, CALEDONIA, ONTARIO.**

Holsteins at Ridgedale Farm

Eight bull calves on hand for sale, up to eight months old, which I offer at low prices to quick buyers. Write for description and prices, or come and see them. **R. W. WALKER, Utica P. O., Ont.** Shipping stations: Myrtle, C. P. R., and Port Perry, G. T. R. Ontario Co.

HOLSTEIN CATTLE!

If you are thinking of buying a choice young cow or heifer in calf, come and see our herd. Will sell anything. Have a dozen beautiful heifers safe in anything. Summer Hill Choice Goods (imp.), who has calf to Summer Hill Choice Goods (imp.), who has five sisters averaging 29 1/2 lbs. butter in 7 days, and one sister that held world's record as 4-year-old with 31.60 lbs. butter. Write us what you want. We will guarantee everything just as described. Visitors met at Hamilton by appointment.

D. C. Flatt & Son, Millgrove, Ont.
L.-D. Telephone 2471, Hamilton.

HIGH - CLASS HOLSTEINS!

Head of herd, Pietje Korndyke Lad. Two nearest dams average 26.09 lbs. butter in 7 days. His sire's dam, Pietertje 22nd, has a record of 31.62 lbs. butter in 7 days. Present offering: 2 heifers, due to calve in April, at a bargain before Dec. 1 to make room; also 2 bull-calves by Mannor Johanna DeKol, out of officially-tested cows.

WM. C. STEVENS, PHILLIPSVILLE, ONT.

Holsteins—Maple Grove offers a few richly-bred young cows, safely in calf to Sir Abbekerk De Kol 2nd and Mercena's Sir Posch; also young stock sired by above bulls. For description and prices write

H. BOLLERT, Cassel, Ont.

FOR SALE: COWS AND HEIFERS

All ages. Also bull and heifer calves, including daughter and granddaughters of Pietertje Hengerveld Count De Kol, whose TWO famous daughters made over 32 lbs. butter each in 7 days, and sire of the "world's champion milking cow," De Kol Creamelle, which gave 119 lbs. in one day, over 10,000 lbs. in 100 days. Also for sale daughters of De Kol's 2nd Mutual Paul, sire of Maid Mutual De Kol, which gave over 31 lbs. butter in 7 days, also granddaughters of Hengerveld De Kol. Other leading breeds represented.

Putnam station, near Ingersoll.

H. E. GEORGE,
CRAMPTON, ONTARIO.

Fairview Herd

offers for sale a son of Rag Apple Korndyke. His dam is a daughter of Pontiac Korndyke, with an A. R. O. record of 13.08 lbs. butter in 7 days at two years. Price, \$150.00.

E. H. Dollar, Heuvelton, N. Y.
NEAR PRESCOTT.

WORLD'S CHAMPION BRED BULL

Grace Fayne 2nd's Sir Colantha. Sire Colantha Johanna Lad. Dam Grace Fayne 2nd. Average butter record for 7 days of his dam, sire's dam and sister is 32.35 lbs. Average milk for one day of dam and sire's dam is 104 lbs. Choice young bulls for sale.

M. L. & M. H. HALEY, Springfield, Ontario.

Count Hengerveld Fayne De Kol,

Herd headed by the **ONLY BULL** in the world whose sire has 5 daughters averaging over 30 lbs. of butter in 7 days, and whose dam (26.30 lbs. in 7 days) has a daughter with a record of over 35 1/2 lbs. of butter in 7 days (world's record). Bull calves and cows bred to him for sale. **LAKEVIEW FARM, BRONTE, ONT.**

The Maples Holstein Herd!

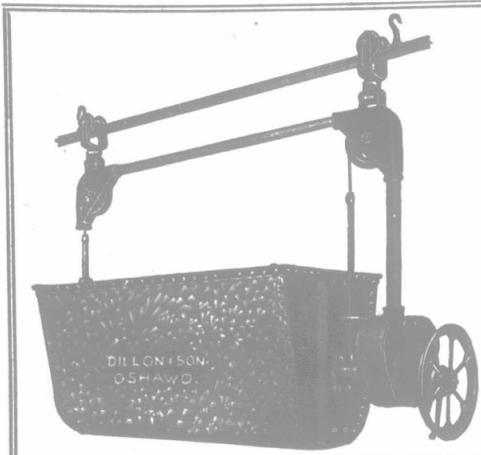
Record-of-Merit Cows. Headed by Lord Wayne Mechthilde Calamity. Nothing for sale at present but choice bull calves from Record-of-Merit dams.

Walburn Rivers, Falden's Corners, Ont.

Glenwood Stock Farm—Holsteins and Yorkshires.

Holsteins all sold out. Have a few young Yorkshire sows, about 2 months old, for sale cheap. True to type and first-class. Bred from imported stock.

Thos. B. Carlaw & Son, Warkworth P. O., Ont.
Campbellford Station.



A Few Reasons Why Our LITTER CARRIERS

Commend Themselves to the Farming Community :

- Because** We have done away with wood as an essential material in its construction.
- Because** We have abandoned the old way of raising and lowering the tub with chains and sprocket wheels.
- Because** We can raise and lower much quicker—with no rattling of gear or chains.
- Because** What gear we use is encased so that it is kept perfectly clean and free from grit or dirt.
- Because** It is perfectly safe, so that neither operator nor children can get entangled or hurt in the gears.

R. Dillon & Son, South Oshawa, Ont.
 MANUFACTURERS OF HAY FORKS, SLINGS, BARN-DOOR LATCHES, BARN-DOOR ROLLERS AND HARDWARE SPECIALTIES.

Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy. FLEMING BROS., Chemists, 75 Church St., Toronto, Ontario

COWS GIVE MORE MILK

—cattle make better beef—Bulls are no longer dangerous when dehorned with the KEystone DEHORNER. Cuts 4 sides at once—No crushing or bruising. Little pain. The only humane method. Write for free booklet. R. H. McKENNA, 219 Robert St. Toronto, Ont. Late of Ficton, Ont.

Brampton Jerseys

Canada's greatest Jersey herd offers for sale 3 choice bulls, about 12 months old; also some younger ones, and one two-year-old. Females of all ages always for sale. B. H. BULL & SON, BRAMPTON, ONT. SPRINGBROOK AYRSHIRES are large producers of milk, testing high in butter-fat. Young stock for sale. Orders booked for calves of 1909, male and female. Prices right. Write or call on W. F. STEPHEN, Box 163, Huntingdon, Que.

Some years ago, when Speaker Cannon was a plain member of the United States Congress, he took one of his constituents to dine with him at rather a good hotel in Washington. It was in the fall, and Mr. Cannon ate very heartily of that American edible, Indian corn; in fact, almost his entire dinner consisted of corn. The Westerner looked at him and said: "Say, Mr. Cannon, what does it cost you to board here?" "About five dollars a day," said Mr. Cannon. "I'll be darned," drawled his constituent, "if I don't think it would be cheaper for you to board at a livery stable!"

QUESTIONS AND ANSWERS. Veterinary.

ELEPHANTIASIS.

Mare has had several attacks of lymphangitis and her leg is greatly enlarged, and the swelling does not go down. She has been on grass all summer, and had a couple of attacks. During the night a matterly substance oozes from below the fetlock, not from the cracks, but from the skin.

Ans.—This condition is called elephantiasis, and is incurable. The administration of 1 dram iodide of potassium three times daily may help her. If this causes loss of appetite, reduce the dose to 40 grains. Feed lightly and give regular exercise. Dress the parts from which fluid oozes three times daily with formalin 1 part to 6 parts of water.

LUMP JAW.

Steer, 2½ years old, has a lump half the size of an egg on his upper jaw, half-way between his eye and nostril. Can it be treated, and will it interfere with the meat?

Ans.—This is an actinomycotic tumor (usually called lump jaw). The flesh of an animal with this disease is not considered fit for consumption. The iodide-of-potassium treatment gives better results than any other, and usually effects a cure when resorted to in the early stages of the disease. It consists in giving iodide of potassium three times daily. Commence with 1-dram doses, and increase the dose by ½ dram daily until iodism is produced. The symptoms of this are a loss of desire for food and water, a discharge of fluid from eyes and mouth, and a scurfiness of the skin. When any of these symptoms become well marked, cease giving the drug. If necessary, repeat treatment in two months.

SUPPURATIVE LYMPHANGITIS.

Clydesdale took lymphangitis. My veterinarian gave me powders and liniment and advised bathing with hot water twice daily, and then applying the liniment, in the meantime giving the powders. The lameness disappeared, but a scale formed on the leg, and some boils formed and burst near the fetlock joint. He also broke out in scratches. He has had scratches on this leg before. After plowing all day the scratches disappear, but are as bad as ever in the morning. He is fed good hay and four quarts of oats three times daily.

Ans.—The horse was properly treated, and I think you would be wise to allow your veterinarian to treat the complications, as he evidently understands what he is doing. In some cases, abscesses form in these cases. There is no great danger of this leg remaining permanently enlarged. This horse is predisposed to skin eruptions on this leg as evidenced by previous attacks of scratches. From the symptoms given, I would advise a long rest, gentle exercise for a few miles daily. Feed no grain, simply hay and bran, and give 1 dram iodide of potassium three times daily. Dress the scratches and other raw surfaces with a lotion made of 1 ounce each sulphate of zinc and acetate of lead to a pint of water. If this dries the parts too quickly, and they are inclined to crack, use oxide of zinc ointment for a few days.



Just Landed with 50 Head CHOICE AYRSHIRES

Including 12 bulls fit for service, a few August calving cows and two-year-old heifers; cows with records up to 70 lbs. per day. I have a choice lot of two-year-olds, yearlings and heifer calves. Anything in the lot for sale. Correspondence solicited. Phone, etc.

R. R. NESS, HOWICK, QUE.

AYRSHIRES AND YORKSHIRES

My new importation of Ayrshires for 1909 have arrived. In my large herd I have a range of selection, either imported or Canadian-bred, of either young bulls or females, unexcelled in Canada. Yorkshires of either sex and any age always on hand.

Long-distance Phone ALEX. HUME & CO., MENIE, ONT.

Stonehouse Ayrshires

all ages. Am now booking orders for bull calves. Hector Gordon, Howick, Quebec.

Ayrshires from a Prizewinning Herd

Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to WM. STEWART & SON, Menie P.O., Ont. Campbellford Stn.

Shannon Bank Ayrshires and Yorkshires

Am now offering young bulls and heifers, true to type and high in quality. Young Yorkshires of both sexes. W. H. Tran & Son, Locust Hill P.O. & Sta., Ont.

ISALEIGH GRANGE AYRSHIRES!

Our herd were all selected on their ability to produce a heavy yield of milk. We have a number of 40, 45 and 50 lb cows, imported and Canadian-bred. From them are young bulls and heifers for sale. None better. JAMES BODEN, DANVILLE, QUEBEC. ISALEIGH GRANGE FARM.

SHROPSHIRE AND COTSWOLDS.

I am now offering a choice lot of shearing rams and ewes of both breeds, also a few of the best ram lambs I ever bred. They are large and extra well covered. JOHN MILLER, BROUGHAM, ONT. Claremont Station, C. P. R.

MAPLE VILLA OXFORDS AND YORKSHIRES.

Present offering: Excellent ewes, choice rams, and the best lot of lambs I ever offered; all sired by imported rams. Yorkshires of both sexes and all ages. Boars fit for service. Sows ready to breed. A high-class lot. Satisfaction assured. J. A. CERSWELL, BOND HEAD P. O., ONT., BRADFORD or BEETON STAS.

POPULAR LODGE SOUTHDOWNS AND BERKSHIRES

For sale: A high-class show flock of Southdowns, also shearing rams and ewes, and ram and ewe lambs. Berkshires of both sexes and all ages; right good ones. An honest representation is my motto. SIMEON LEMON, Kettleby P. O., Ont., Aurora Station.

SOUTHDOWNS AND COLLIES

A few choice young ewes, bred to the imported first prize shearing ram at Toronto this fall. Also a few good yearling rams and ram lambs that will be sold right. Long-distance telephone. ROBERT McEWEN, BYRON, ONTARIO.

SPRING BANK OXFORDS

Rams and ewes of all ages at a great reduction for next 30 days. Order at once and get the pick. WM. BARNETT & SONS, LIVING SPRINGS P. O., ONT. FERGUS STA., G.T.R. and C.P.R.

I HAVE GREAT, THICK, ROBUST SHROPSHIRE YEARLING AND TWO-YEAR-OLD RAMS

and a lot of grand Shropshire and Cotswold ram lambs, ewes and ewe lambs of high class, both breeds, and all of the best breeding. Will sell them in large lots or singly at prices you can afford to pay. Short-horn bulls and heifers, two good registered Clydesdale mares, and a few beautiful Welsh ponies will also be priced at attractive figures. Robert Miller, Stouffville, Ontario

FAIRVIEW SHROPSHIRE OFFERED

12 high-class two-shear ewes. Sired by grand champions; Bred to grand champions. Every one has proved a fine breeder. Considering their breeding and Excellent quality, prices are low. Send for prices and circular to: J. & D. J. Campbell, Fairview Farm, Woodville, Ont.

Cattle and Sheep Labels

You will want them sometime. Now is the time to send for free sample and circular. Write to-day. F. G. James Bowmanville, Ont. Oxford Down Sheep, Shorthorn Cattle, Hogs. Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, Buena Vista Farm, Harriston, Ont.

PINE GROVE YORKSHIRES

including all the firsts and sweepstakes for best dressed carcasses, both at Guelph and the Ottawa Winter Fat-stock Shows of 1908-09. Young pigs for sale, mated not akin, all the progeny of imported stock of superior excellence. Joseph Featherston & Son, Streetsville, Ont.

A New Way to Regain Health and Happiness

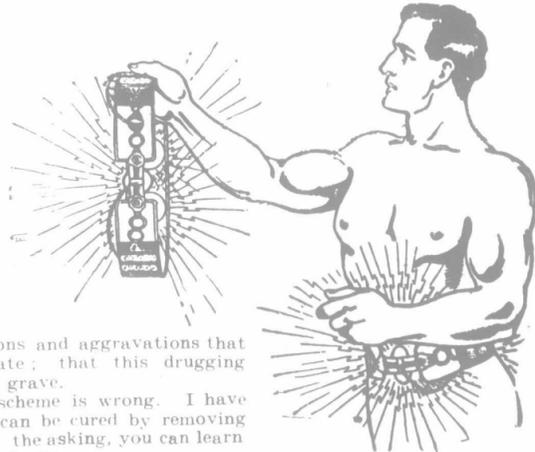


The Old Way.

Long ago, when I first lifted my voice of warning against drugs and patent medicines and began my first great fight in favor of Electricity as a curative agent, I found anything but smooth sailing against superstition and prejudice, but, knowing I was on the right track, I pounded away, backing my judgment with what money I had, and have lived to see the great change of sentiment that has now come over the public.

I have done my part in showing that this whole scheme of taking something out of a bottle, a vest-pocket box, or to have something "rubbed on," in order to regain one's health and strength is principally pure superstition. I have taught that while the drug had a certain known direct effect, it had another and after effect that could not be foretold; that this after effect, or reaction, often causes other diseases, and produces complications and aggravations that require more drugs and still more drugs to mitigate; that this drugging habit, once entered upon, has no end this side of the grave.

The old methods are wrong, I tell you; the whole scheme is wrong. I have proved to the world that nearly all human disorders can be cured by removing



The New Way.

the primary causes, and if you will consult me, if you will read my book, which is free for the asking, you can learn something about this subject that will interest every Man and Woman who is in search of Health.

If you feel that your Health and Strength—your vital stamina—are on the wane, if your liver has got in your eye, your heart in your boots, if you are not the Man or Woman, physically or mentally, you would like to be, I can give you the means of getting back the Strength and Vigor you have lost; a process of treatment founded upon common sense; one in which the use of drugs in any form does not enter.

Again and again I have preached that "Electricity is Life"; that by building up the nervous energy of the body by a constant and steady infusion of this life force, the causes of seven-tenths of the weaknesses and diseases to which human flesh is heir can be effectively overcome.

Do you want proofs, Mr. Skeptic? I will give you an abundance of them. "An Ounce of Proof is Worth a Ton of Assertion." Below is a sample of the kind of evidence I have to offer. Write to me and I'll give you more.

VARICOCELE—WEAK BACK—NERVES.

Kelso, Ont.

Dr. McLaughlin: Dear Sir,—A short time ago I purchased one of your Belts. I am very pleased to say that I have received great benefit from it in every way. My varicocele is almost gone, and my back is much better. Before using your Belt my nerves were in pretty bad shape—so bad that it interfered with my work. Any man can easily know what this means to me, as my health is greatly improved also, and I feel better than I have for the last five years, and only wish I had had one of your Belts before. I have spent a considerable sum of money one way or another for different drugs, and to tell you the truth I never thought there was a cure in the world for varicocele except an operation, as that is what a doctor told me in a London, England, hospital. I thank you for your kindness and all that you have done for me. You are at liberty to make any use of this you like in any of the papers, as I know it is all true, as I have proved it for myself. I intend to recommend your Belt whenever I get a chance, as I think it is a Godsend to any person to be in good health. Wish you every success with your Belt. I remain, Yours respectfully, ALBERT RALPH.

Do you doubt it? If so, any man or woman who will give me reasonable security can have my Belt, with all the necessary attachments suitable for their case, and they can

PAY ME WHEN CURED

My Belt is a success. It is a remedy built upon solid scientific fact. Already it is proved that my Belt is a cure for hundreds of ailments that drugs and other remedies have failed to cure. For weak and broken-down men and women my Belt is the only logical remedy—the only effective remedy.

My Belt has proved a complete and lasting cure for Indigestion (Dyspepsia), Constipation, Headache, Drowsiness, Rheumatism, Neuralgia, Lumbago, Sciatica, Weakness of the Back, Nervous Debility, General Debility, Sleeplessness (Insomnia), also Female Weakness, Menstrual Complaints, Inflammation, Bearing-down Pains, Dizziness. It improves the blood circulation, it restores lost vitality, it corrects every sign of mental impairment and physical breakdown in Men and Women.

Free Book

Every man who admires the perfection of physical strength should read my beautifully illustrated Book. It tells how strength is lost and how I restore it with my Electric Belt. I will send this book, closely sealed, free, upon request. If you are not the man you should be, write to-day. I have a book for women also.

Put your name on this coupon and send it in.
DR. M. S. McLAUGHLIN, 112 Yonge Street, Toronto, Can.
 Dear Sir,—Please forward me one of your Books, as advertised.
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 ADDRESS
 Office Hours—9 a.m. to 6 p.m. Wednesday and Saturday until 8.30 p.m.

QUESTIONS AND ANSWERS. Miscellaneous.

TEMPORARY MOLAR TEETH.

Please tell me, through your valuable paper, about the casting of a horse's molars. We can see and understand the front nippers. My idea is at three years old they cast the first two grinders in each jaw. At four years old they cast one in each jaw next to these; but the three back ones in each jaw they never cast. Am I right? If not, I have been misinformed. E. B.

Ans.—You are almost exactly right. At from two years and three months to three years of age, the first and second teeth in each row are shed. At from three years and three months to four years, the third molar in each row is shed, and replaced by a permanent one. The three back ones in each jaw, as you say, are permanent.

WRONGLY TAXED.

I had a fifty-acre farm rented for a term of five years, till March 1st, 1907. I bought a 100-acre farm, getting possession March 1st, 1907, and I kept the 50 acres until Nov. 1st, 1908, when the landlord sold it, and I gave up posses-

Large White Yorkshires



Am offering during this month a good lot of young boars ready for service, young sows of breeding age, and a choice lot of spring pigs. Pairs supplied not akin. All bred from large imported stock. Write

H. J. DAVIS, Woodstock, Ont.

OHIO IMPROVED CHESTER WHITES—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 6 weeks to 6 months old. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe deliveries guaranteed. **E. D. GEORGE, Putnam, Ont.**

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Sows bred and ready to breed. Nice things, three and four months old.

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Won the leading honors at Toronto last fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. **J. J. WILSON, MILTON, ONT., P. O. AND STATION, C. P. R. AND G. T. R.**

Please Mention Farmer's Advocate.

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With very nearly 100 sows in breeding, of modern type and high-class quality, our herd will stand comparison with any in Canada. We are always in a position to fill large or small orders with despatch. Long-distance phone. **JAMES WILSON & SONS, FERGUS, ONT.**

Hilton Stock Farm

Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes, pairs not akin. **R. O. MORROW & SON, Hilton, Ont., Brighton Tel. and Sta.**

sion. This spring, 1909, the assessor came around and he asked me if I still had the fifty, and I said no, and he assessed me for the 100 only, and I have the slip. When it came time to do roadwork, I was down for 11 days, and I should only have 8 for the 100, but I did the 11 days, as the road boss said he would return it undone, but I wrote to the clerk of the township, and he wrote me saying I was assessed for the fifty, as well as the hundred acres, and that he would have to make the taxes out to me for the fifty as well, and that I would be compelled to pay them, and then to look to the owner of the fifty to pay me.

1. Can I be made pay taxes for fifty?
2. What had I better do if they try to make me pay them?
3. Can I get pay for the three days' roadwork I did for the fifty?

Simcoe Co., Ont. J. E. B.
 Ans.—1. No.

2. Defend any action or other proceeding that may be brought against, and instruct a solicitor for the purpose. There has evidently been a slip made by some officer of the municipality, and you ought not to be the loser by it.

3. We think that the present owner ought to pay you, but we doubt if you are in a position legally to compel him to do so.

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THERE WILL BE A SPLENDID SHOW OF

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Every facility is offered visitors to examine exhibits and to study the individual merits of each one.

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An attractive PROGRAMME OF LECTURES has been prepared. A special feature of the lectures will be a discussion of the proper type to be sought for in the breeding of all the leading breeds of live stock. Representative animals of the various breeds will be used for illustration purposes. Lectures will also be given on lessening the cost of MILK PRODUCTION, profitable poultry production, underdraining, and on a number of other timely subjects relating to live stock, poultry and seed grain.

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Make sure your new range has a steel oven, and "Pandora" name-plate on the door. Go, at once, to nearest McClary Agency and pick out size desired.

McClary's Pandora Range

Please Mention this Paper.

QUESTIONS AND ANSWERS.
Miscellaneous.

TENANT REMOVING STRAW.

1. If A rents a farm from B, can he, A, remove clover straw off farm, it being the second crop, or cut second?

2. Can A take cattle home at nights, through the winter, and bring them back in the morning to B to feed on straw all day, causing a waste of manure along road, also losing the manure made through the night, from 4 p. m. till, say, 8 a. m. next day; it also has a tendency to carry wild seeds.

A SUBSCRIBER.
Ontario.

Ans.—1 and 2. For all that appears from the statement of facts, we should judge that he can lawfully do so.

BUILDING ICE HOUSE—FEEDING QUESTIONS.

1. Would you please publish plans and specifications for the building of an ice-house to contain 2,000 cubic feet of ice?

2. Please tell me the value, as regards feeding for milk production, of three tons of mangels, as compared with one ton of bran?

3. What is the value of gluten-meal as compared with bran, for milk production?

MRS. W. E. H.
Ontario.

Ans.—1. It is well to have the block of stored ice as near the perfect cubic shape as possible, as melting goes on on every side, including top and bottom. For the quantity specified, 2,000 cubic feet, a block 13 feet square by 12 feet high, would be about right. Let the building be planned to measure 15 feet square, by 14 feet in height, inside measurement, to allow for a foot of saw-dust on all sides. Board lining should be placed on the inside of timbers, which, if of cedar, may simply consist of posts planted in the ground and extending up to plates. A gable roof is suitable, the north end gable of which may be largely left unboarded up for the sake of good ventilation.

2. It is not easy to compare these feeds, for the reason that mangels derive a considerable part of their value from their succulence. They thus have a favorable effect upon appetite and digestion. Bran, though not succulent, also possesses these virtues in some degree. Comparing the two feeds on a basis of their dry matter, we find the following figures:

	Digestible protein.	Digestible carbohydrates.	Digestible ether extract or fat.
	Lbs.	Lbs.	Lbs.
3 tons mangels	63	612	6.0
1 ton bran	244	784	54

On a basis of actual food constituents contained, one ton of bran would be worth about three times as much as three tons of mangels, or nine times as much as one ton of mangels. If account were to be taken of the fertilizing constituents, the bran would have another correspondingly great advantage in that regard. Still, we would not care to pay nine times as much for a ton of bran as for a ton of mangels. The succulence of the latter is a strong point in their favor, and what elements of nutrition they do possess seem to serve the animals to better advantage than a similar quantity of the same constituents in dry feeds, also serving to keep up the tone of the system. Nevertheless, it should be understood that roots are not a very economical feed to use in large quantity. A peck to an animal does proportionately more good than a bushel.

2. Gluten-meal of first-class quality is much more valuable for milk production than bran, but, as different brands vary so much in composition, it is not safe a feed to invest in as, say, oil-cake meal. A good sample compares with bran as follows:

	Digestible protein.	Digestible carbohydrates.	Digestible fat.
	%	%	%
Gluten meal	25.8	43.3	11.
Bran	12.2	39.2	2.7

DR. WOOD'S NORWAY PINE SYRUP.

Is Specially Calculated To Cure All Diseases of the Throat and Lungs.

Coughs, Colds, Bronchitis, Sore Throat, Hoarseness, Croup, Pain or Tightness in the Chest; and all Bronchial Troubles yield quickly to the curative powers of this prince of pectoral remedies. It contains all the virtues of the world famous Norway pine tree, combined with Wild Cherry Bark, and the soothing, healing and expectorant properties of other excellent herbs and barks.

Nasty Hacking Cough Cured.

Mrs. John Peloh, Windsor, Ontario, writes:—"I was troubled with a nasty hacking cough for the past six months and used a lot of different remedies but they did me no good. At last I was advised by a friend to try Dr. Wood's Norway Pine Syrup and with the first few doses I found great relief and to-day my hacking cough has entirely disappeared and I am never without Dr. Wood's Norway Pine Syrup in the house."

The price of Dr. Wood's Norway Pine Syrup is 25 cents per bottle. It is put up in a yellow wrapper, three pine trees the trade mark, so be sure and accept none of the many substitutes of the original "Norway Pine Syrup."

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.


Synopsis of Canadian North-west Land Regulations.

ANY person who is the sole head of a family, or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres, solely owned and occupied by him, or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing, may pre-empt a quarter-section alongside his homestead. Price, \$3.00 per acre. Duties—Must reside six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right, and cannot obtain a pre-emption, may take a purchased homestead in certain districts. Price, \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres, and erect a house worth \$300.00.

W. W. CORY,
Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.

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If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money, but tell others of this offer. Write to-day to Mrs. M. Summers, Box 821 Windsor, Ont.

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