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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

Vol. XLVII.

LONDON, ONTARIO, MARCH 7, 1912

No. 1015



Free to Stock and Poultry Raisers

We will send, absolutely free, for the asking, postpaid, one of our large sixty-four page books on the common diseases of stock and poultry. Tells how to feed all kinds of heavy and light horses, colts and mares, milch cows, calves and fattening steers; also, how to keep and feed poultry so that they will lay as well in winter as in summer. No farmer should be without it.

NOW is the time to use Royal Purple Stock Specific. At a cost of only two-thirds of a cent per day per animal, it will increase it 25 per cent. in value. It permanently cures Bots, Colic, Worms, Skin Diseases and Debility. Restores run-down animals to plumpness and vigor. It will increase the milk yield three to five pounds per cow per day and make the milk richer.

Royal Purple is not a stock food. There is no filler used in its manufacture, and we import from Europe all the seeds, herbs, barks, etc., and grind them on our own premises. Therefore, we can guarantee it to you as being absolutely pure. We do not use cheap filler to make up a large package. We give you the best condition powder ever put on the market in a concentrated form.

A tablespoon levelled off, once a day, is sufficient for a full-grown animal. It prevents disease, keeps your animals in perfect health, and is absolutely harmless. It makes six-weeks-old calves as large as ordinary calves at ten weeks. You can develop six pigs ready for market in just one month's less time than you can possibly do without it, at a cost of only \$1.50, saving you a month's work and food.

A 50c. package will last a horse 70 days. A \$1.50 pail or air-tight tin, containing four times as much as a 50c. package, will last an animal 280 days.

If you have never used it, try it on the poorest animal you have on your place, and watch results. If it does not produce better results than anything you have ever used, or give you satisfaction, we will refund your money. Andrew Wegrich, of Wainfleet, Ont., says that he tried it on one cow, weighed her milk on the 16th—17 pounds; on the 29th she gave 22 pounds. Dan McEwen, Canada's greatest horse-trainer, says: "I have fed Royal Purple to The Eel and all my race-horses for four years. They have never been off their feed. Your cough powder works like magic."

Mr. Tom Smith, trainer for the Hon. Adam Beck, says: "We had a mare in our stables

In using our Stock Specific, we guarantee you better results by using the ordinary food grown on your farm, such as good hay, oats and bran, and so forth, than you can possibly obtain by using any of the many patent foods on the market. In these the percentage of nutrition is usually very small for the amount of money paid for same. You know exactly what hay, oats, bran, chop or any farm products cost you, and ROYAL PURPLE makes animals digest these foods properly.

An assorted order amounting to \$5.00 we will prepay. Our booklet gives over 400 recommendations for our different lines from people all over Canada. While we give you above the names of a few who have used it, our best recommendation is for you to ask any person who has ever used any line we manufacture.

You can fatten your steers, etc., in two-thirds the ordinary time, with less feed, by using Royal Purple Stock Specific in accordance with directions.

Send To-day for Free Booklet

W. A. JENKINS MANUF'G CO., London, Ont.

last fall belonging to Miss Cleuston, of Montreal. We could not feed her any bran on account of scouring. We commenced using your Royal Purple Stock Specific. The results were wonderful. We found, after using it three weeks, we could feed her bran or any other soft feed, and she actually took on 25 pounds during that time."

Royal Purple Poultry Specific

will make your hens lay in winter, as well as summer, and yet a 50c. package will last 25 hens 75 days, or a \$1.50 pail or air-tight tin containing four times as much as a 50c. package, will last 280 days. It prevents poultry from losing flesh at moulting time, cures and prevents all the ordinary diseases, makes their plumage bright, and keeps them in prime condition.

Royal Purple

STOCK AND POULTRY SPECIFICS

Mrs. Wm. Burnham, of Sandford, Ont., says: "I fed your Poultry Specific to 32 hens during the winter, and sometimes got as many as two dozen eggs per day in February and March."

Scott, Sask., May 22nd, 1911.

The W. A. Jenkins Mfg. Co., London, Ont.:

Dear Sirs,—Do you want a man to represent your Royal Purple goods in this district? I am from Ontario, and have fed your Stock Specific; got it from Mr. J. Corbett, of Brownsville. My cows, while using it, made the largest average, and tested five points over average at C. M. P. at Brownsville. I know your goods are the highest-class Stock Specific on the market, and take great pleasure in representing you in this district.

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ROYAL PURPLE COUGH SPECIFIC

During the last four years there has been an epidemic cough going through every stable in Canada, which has been a great source of annoyance to horsemen. Our Royal Purple Cough Cure will absolutely cure this cough in four days, will break up and cure distemper in ten days. Absolutely guaranteed. 50c. per tin, by mail, 55c.

Royal Purple Gall Cure

will cure all sorts of open sores on man or beast. Will absolutely dry up and cure scratches in a very few days. Mr. Sam Owen, coachman for the Hon. Adam Beck, says: "By following directions, I find your Royal Purple Gall Cure will cure scratches and make the scabs peel off perfectly dry in about four or five days." Price 25c.; by mail, 30c.

Royal Purple Sweat Liniment

will reduce any lameness in a very short time. Mr. John M. Daly, Coalman in London, says: "We have nine horses constantly teaming coal, and have all kinds of trouble with them being lame at times. I have used your Sweat Liniment for a year back, and have never known it to fail to cure all sorts of sprained tendons, etc." Price 50c., 8-ounce bottles; by mail, 60c.

Royal Purple Lice Killer

This is entirely different from any lice killer on the market. In order for you to understand the process of manufacture of this lice killer, you will have to send for one of our booklets, as we give you a full history of it there. It will entirely exterminate lice on fowls or animals with not more than one or two applications. It smothers them. Price 25c.; by mail, 30c.



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Canadian Made • Canadian Quality

Why should Canadians buy fences made from imported Bessemer "close-wiped" galvanized wire with the thinnest possible coating? Wire "skimped" to swell the sellers' dividends. Witness the rusty dilapidated fences everywhere. Canada for years has been a dumping ground, and fence-factories are still turning this "skimped," imported Bessemer wire into fencing which will come very dear to the user.

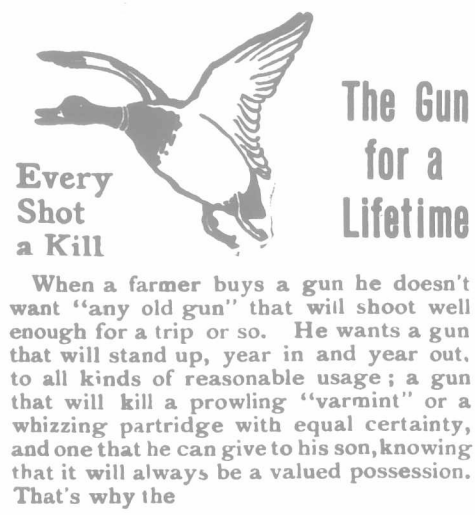
The interests of The Steel Company of Canada and those of the Canadian farmer are mutual. On the permanent good will and welfare of the Canadian consumer the Steel Company of Canada places the highest value. Invincible Fencing, made of the finest steel heavily galvanized, and woven by men of long experience, merits the Trade of Canadian Farmers.

It is Canadian made and Canadian quality. Of the finest open hearth steel and honest, heavy galvanizing. The Invincible lock has the grip and tenacity of the British Bulldog.

Invincible Hot Galvanized Gates are a wonderful improvement. They are zinc-clad, rust-proof and indestructible, good for a lifetime, yet cost about the same.

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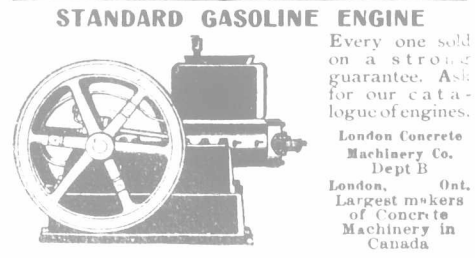
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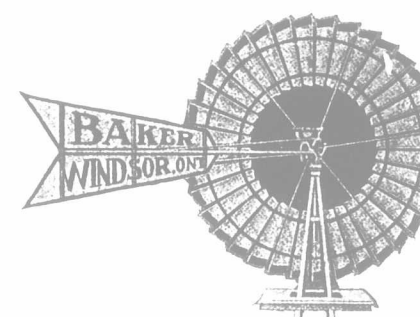

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IT IS EASY TO BUY the wonderful Gilson "Goes Like Sixty" Gasoline Engine on the above plan. Powerful, simple, durable with every engine. Ten days' trial—if not satisfactory, hold subject to our shipping directions, and we will return every cent of your first payment. Can anything be fairer? Made in Canada—no duty. The Gilson has 30,000 satisfied users, proving that it is not an experiment but a tried and tested engine. Ask your banker about our reliability; founded 1850. Tell us just what work you have for an engine to do and we will name you price and terms on the proper horse power. All sizes. Send for free catalogue. Eight money for Agents—write for our proposition.

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Baker mills have no freak features to exploit. The man who buys this mill makes a good investment. He does not take a chance. The quality, efficiency and reliability of the "BAKER" are "known quantities" in keeping with our past record of over 30 years. We invite honest comparison in every way. The wheel is built on a hub revolved on a long stationary steel spindle. As a result less friction. It has a large number of small sails without rivets. The small sails develop the full power of the wind. The engine is so constructed that the gears cannot wear out of mesh, and is provided with a ball-bearing turntable and self-regulating device. All working parts covered with a cast iron shield, thus protecting same from ice and sleet. We make a full line of steel towers, galvanized steel tanks, pumps, etc. Write for catalogue.

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The Marlin

NEW MODEL 29 Repeating Rifle

The gun to use for rabbits, squirrels, hawks, crows and all small game.

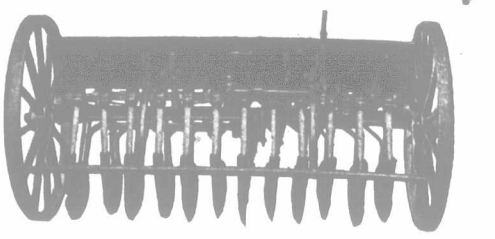


Here's the rifle you have been waiting for—an up-to-date .22 caliber repeater that handles without change or adjustment .22 short, .22 long and .22 long-rifle cartridges of all makes and styles, yet sells at the surprisingly low price of \$8.50. The solid top and side ejection are always a protection, keep shells, powder and gas from your face, allow instant repeat shots. Quick take-down construction—easily cleaned—takes little space and brings greatest pleasure at small expense.

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Yours truly,
DAVID RITCHIE.

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The roof is the most important part of your barn. It is here that lightning strikes. It is here, too, that rain finds cracks and holes, and comes through the roof to the injury of the barn and its contents.

How, then, to guard against roof troubles? In our new book, entitled, "How to Build a Barn," the author tells you.

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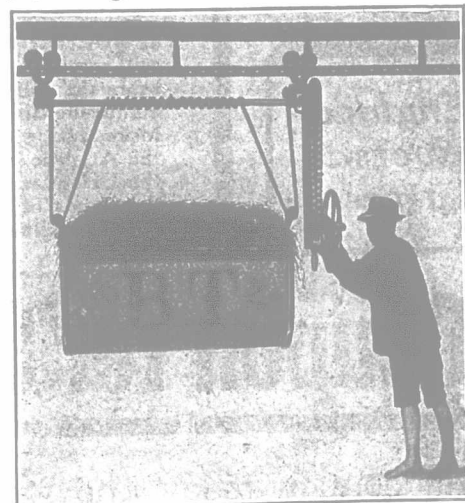
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Why not do it with a BT Litter Carrier?



One thousand pounds of manure, or four big barrow loads, can be taken at one trip, and the beauty about it is that a boy can handle it.

With a level overhead steel track to run on, it is easy to push out big loads, no matter what condition the yard is in.

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LET US GIVE YOU A PRICE

A Litter Carrier will add very little to the cost of a good barn. When once erected it is practically a permanent investment, for always running on a good level track it should last for fifty years.

Fill out the coupon and get particulars of our special offer.

A GOOD PAYING INVESTMENT

A BT Litter Carrier will more than cut in half the time taken in cleaning the stable. It will turn the hardest kind of work into a boy's job.

With it, it is easy to keep the manure a good distance from the barn so that the ammonia fumes arising out of the manure will not rot the sides and sills of the barn and ruin the paint of the vehicles and implements stored in or near it, to say nothing of injuring the health of the animals.

It pays to get the manure well away from the barn and with a BT Litter Carrier is the way to do it.

Good barn equipment makes it easier to get and to keep good hired men.

We are making a special offer now. Write us and we will be pleased to give you all particulars.

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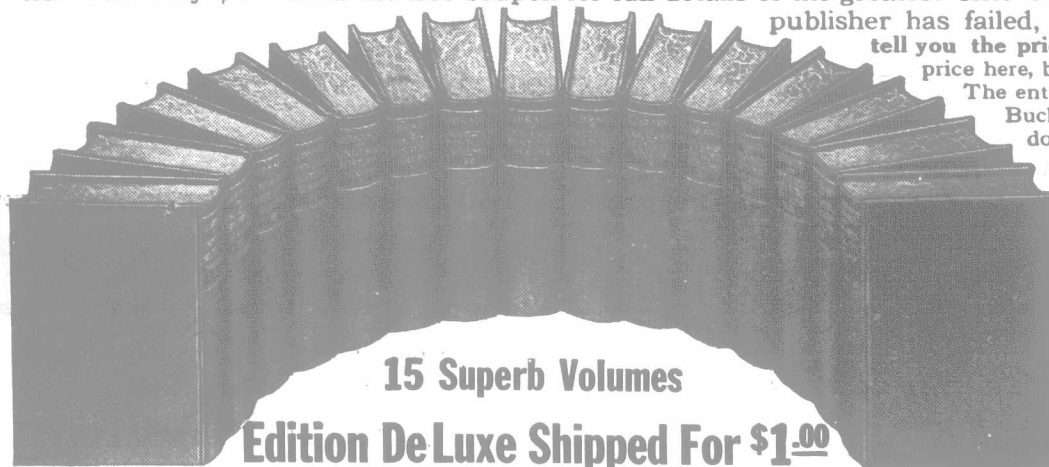


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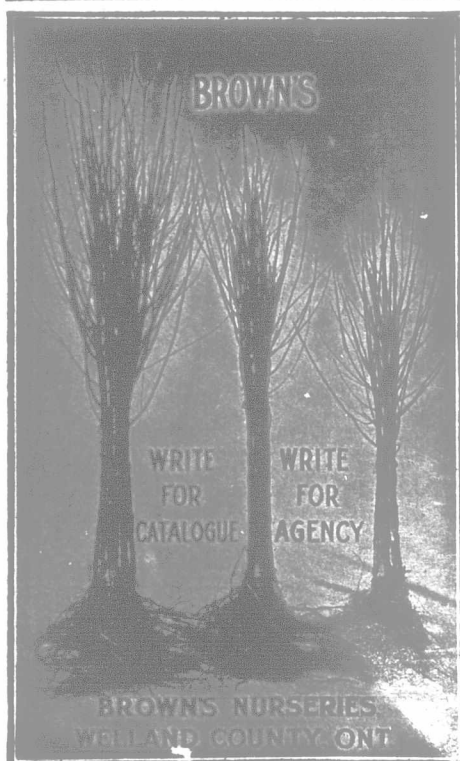
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"Eureka" Sanitary Churn is the ONLY sanitary churn. Barrel is finest stoneware—not absorbent wood. Top is clear glass. Churns by hand lever, cleanest, easiest, best churn on the market, 8, 10 and 12 Imperial gallon sizes.

Combination Wagon Box and Rack. Easily adjusted to any position for any load without wrench, hook or rope. Makes the best possible rack for Hay, Stock, Wood, Poultry, Corn or Fruit.

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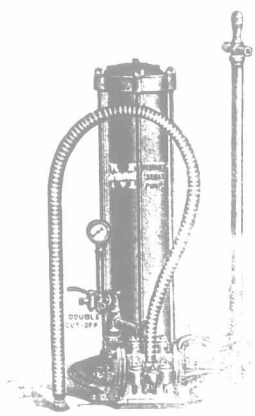
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EUREKA PLANTER CO., Limited, WOODSTOCK, Ont.

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OKANAGAN VALLEY, BRITISH COLUMBIA

The district that leads in climate, soil, transportation, quality and production of fruit. We make a specialty of improved and unimproved fruit farms in this district. Write for full particulars.

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Our Hand-Power Sprayers are efficient, and High Pressure is easily maintained. Our Free Catalogue explains why.

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Send for Catalogue and Prices. As low as the ordinary kind sell at.

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This picture from an actual photo shows Louden Balance Grapple Fork lifting a third of a ton of dry clover hay.

There isn't another fork in the world in its class. It's the only one that can handle clover, alfalfa and threshed straw as successfully as timothy. No dribbling or scattering, with long stuff or short, large load or small.

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The Farmer's Advocate and Home Magazine

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No. 1015

EDITORIAL.

Horse-racing is to be crowded off the track of the Canadian National Exhibition at Toronto this season by a review of cadets from all the overseas dominions of the Empire, and of troops, by the Duke of Connaught.

As a means of effectually reaching the people, "The Farmer's Advocate" takes the palm, in the opinion of a Middlesex man, who invested \$1.20 in a condensed poultry-and-egg advertisement, and received in response 150 letters of inquiry.

With roads blocked, trains stalled, coal supplies held up, and the only farm water supply in a vein sixty or a hundred feet below the spout of a frozen pump, that well-worn phrase, "the grip of winter," takes on real and rather terrible significance.

During this unusual winter of severe cold and violent storm, it has hustled the prob man to keep ahead of the weather. As a rule, about the time his promise of fair weather reached rural subscribers of the city dailies, another storm centre or cold wave had spread across the continent, not infrequently arriving ahead of its prediction. Under these circumstances, the probabilities have been more in the nature of a chronicle than prophecy.

If the harness and implements have not yet been overhauled and repaired, now is the time to do this work. Time is not so valuable now as in the busy days of seeding operations. "The early bird catches the worm." This is particularly true with the sowing of the seed, and any time lost then in making repairs which could easily have been made in winter means smaller yields at harvest time and smaller returns in the end. Have everything in working order when the time comes to take the field.

Without minimizing what has been undertaken in Ontario for the furtherance of elementary agricultural education, lucidly set forth by Director S. B. McCready, on another page of this issue, one cannot avoid reaching the conclusion that the work thus far is simply preparatory to what is needed—a thoroughgoing reform that will reach the foundations of the system, and particularly the Normal and Model School training of the whole body of teachers who assume the serious responsibility of teaching in the rural public schools.

On the subject of protecting the pure maple product from the unfair competition of pretended maple syrup bearing misleading brands or labels, discussed at length in last week's "Farmer's Advocate," John H. Grimm, of Montreal, writes us that, out of some 55,000 syrup-makers in Canada, over 45,000 have already signed petitions to the Government at Ottawa for effective legislation. Thousands of others would gladly sign such petition if given an opportunity, and, at least, they can write their local member in the House of Commons urging action on the subject. Mr. Grimm does not, of course, object to the use of cane syrup and molasses, but they should be sold for exactly what they are, and not masquerade as "maple" products.

An Unfounded Prejudice.

Prejudice against silage retreats from point to point only as driven by the incontestable facts of experience, but every inch of ground has to be fought. Forced to concede that silage was unrivalled as a cheap, bulky, succulent feed for dairy cattle, silo opponents took strong ground on the beef-cattle question, contending that, for best results in feeding steers, only the hard, ripened corn would do. Results with silage made from well-matured, strong-grown corn convinced some, but many still swore by ground grain, dry fodder and roots. Experience and experiment finally won the day, proving that the best of beef could be most economically made with good corn silage. But a strange new theory raised itself to demand rebuttal. Somehow, an idea has been spread that, while silage is all right for fattening cattle, it is an undesirable feed to carry through steers for finishing on grass. How such a notion could gain headway, it is hard to see, for, of all the prejudices against silage, this is one of the most foundationless. As a matter of fact, we have always found the exact opposite to be the case, silage-fed cattle scouring less and showing less effect from the change to grass than cattle that had been wintered on dry feed. But a few feeders, in some unexplained manner, had been led to the conclusion that silage-fed cattle did poorly on grass, and, in the absence of specific experimental data, raised their voices assertively. "Do you know of any experiments on this point?" they asked, and, when none could be cited off-hand, they felt quite sure they were right. Unfortunately, we cannot lay our hands upon records of any experiments touching this especial point, but we present in another column the testimony of Thos. McMillan, a hard-headed, successful and observant cattle-feeder, who for twenty years has been feeding silage to steers, the bulk of them being finished on grass. Mr. McMillan's report is that from silage-fed cattle they have obtained their very best gains on grass, as would be naturally expected.

If there ever was any apparent justification for this absurd idea under discussion, we surmise that it would be with milch cows, rather than fattening animals. We occasionally hear a cheese-factory patron boast that he receives bigger cheese checks than his neighbors who have silos, inferring therefrom that silage is injurious. But what does it really indicate? Simply that the neighbors with silos get much more milk per head during the winter season, their cows being stimulated to a prolonged lactation by the succulent feed. Is it surprising, then, if they should in some cases give less milk in the summer than those which had rested four or five months? Compare the total year's production on a basis of either pounds or dollars, but especially dollars, and see who comes out ahead. Compare, likewise, the gains on two car lots of steers, one wintered on silage, the other on unhusked corn fodder from the same field, both lots to be finished on grass, and see which makes the better gains. Only inferior silage, injudicious feeding, or some unobserved inferiority in the cattle, will provide the former lot scoring a decided advantage. This last, persistent hogey, like the whole troop that has preceded it, will be relegated to Limbo by the logic of weigh scales, feed records and time-cards. More beef per acre can be produced with the silo than in any other way. It can also be produced more satisfactorily and at a smaller labor cost per pound, than with any other feed but pasture. The beam

of the weigh scales tells the tale. Where knowledge supplants guesswork, silos are permanently built.

Action at Last.

There is strength in united effort. For the past few years different agricultural interests in the Province have been asking the Provincial Government, through the Minister of Agriculture, for increased consideration of their special industry. For the most part, the petitions fell on deaf ears, until, during the present season, demands have been made by all classes of agriculturists, stock-breeders, cereal-growers and agricultural educators. These men are not "kickers" or "knockers." They merely stated their needs, and at last these have become so important, so strong, and so urgent, that they have been heard by the Departmental Head, and action has begun, stallion legislation is considered, supplementary estimates provide \$116,500 for improvements at the Ontario Agricultural College (\$75,000 for a new dining-hall, \$15,000 for new dairy stables, \$16,500 for additional land, and \$10,000 for an electrical plant); \$2,500 goes to field-crop competitions, which makes \$16,200 in all for agricultural and horticultural societies; demonstration farms, \$6,000; district agricultural representatives, \$8,000; O. A. C. and Macdonald Institute, \$8,150. This Department of the Government seems to be awakening from its long slumber, and, while it is not the desire of those engaged in agriculture to be "pap" fed, they should keep up their demands until the Government, and the Minister of Agriculture himself, realize the full importance of this Department. Standing together, agricultural interests are strong enough to make an impression on any Government. In this form they have even received recognition from the present Minister of the Department. It is strange what strength will do.

Good Management Necessary.

Every farmer has a business, and no matter whether he is working and managing a ten-acre truck garden or a thousand-acre grain or stock farm, his prosperity depends upon his ability to manage, upon his clear thinking, and upon his putting into practice the ideas which he has thought out for himself or gleaned from the results of other's experiments.

There is no time in the year which requires that the work be carefully managed more than the spring season, and there is no season for which agriculturists should be better prepared. Planning the operations ahead is often of great advantage, for it brings up endless little things which can be attended to now before the rush of seeding is upon us. A sufficient amount of the best available seed is of first consideration, and, if not already on hand, no time should be lost in securing it and having it cleaned ready to sow. This is only one of many things which will come to the mind of the man who stops to think and plan for the coming spring days. The thinking man is the one who succeeds, and now is the time to exercise the "gray matter." Most men's success does not result from their superior advantages, due to their natural surroundings, but rather to their ability, which is, after all, a result of thinking out and putting into practice sound ideas; in short, it is enterprise, initiative or management. Management is the exercising of the mind to facilitate the work of the body, make it easier, more quickly done, and more remunerative.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
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How's That?

By Peter McArthur.

I have to thank F. M. Clement, B. S. A., for a kindness he had no thought of doing me. By a chance question he recast all my ideas of farm work. He flung two words at me over his shoulder, and instantly my ideas shifted, like the bits of colored glass in a kaleidoscope when you shake the tube. He had come over from Dutton to show me how to handle that orchard I have been talking about, and, to begin with, he pruned a tree. While at work, he explained just why he removed one branch and spared another, and told me just what I should have in mind when pruning a tree. Of this part of my experience I shall have nothing to say, for you can get such instructions as he gave in the bulletins or in "The Farmer's Advocate." From time to time I asked questions, and tried to figure out just how much hard work I would have to do to get results. I was also figuring how much of the work I could get out of doing without being caught. But he finally completed his task, so that every branch was swinging free and open to the sunlight. Then he climbed down and looked at his work. I was standing behind him. Suddenly he assed, with a backward turn of his head:

"How's that?"

There you have the question that startled me. Simple enough, isn't it? There doesn't seem to be much to it, but wait.

It has been my privilege to stand beside a great artist while he drew aside the curtain from his picture, and then to have him fling the same question at me:

"How's that?"

It has also been my privilege to have poets whom the world acclaims as great, recite their poems to me, and then ask:

"How's that?"

To have the same question flung at me in the orchard was something of a shock. The manner and the tone were the same. I realized that once more I had been asked to pass on something in which a man had expressed himself. The chance question suddenly elevated work to a form of self-expression worthy to rank with the great arts. Ever since I have been able to see possibilities in work—more work. It is something that a man

can engage in as a man, and not simply as a drudge.

"How's that?"

Now the cat is out of the bag. I have let you see that I do not like work, and never have. But I am neither humiliated nor ashamed. Why should I like work? I have seen it in almost all its forms, and have practiced it in a few. Almost everywhere it is slavish and sordid. I have seen it in the sweat-shops of the big cities, in the factories of the New England States, the mills of the South, and of England, and on the Canadian farms. Always it was wearing, soul-stifling, degrading. Men, women and children—little children—were being ground to extinction by work. They became old before their time, broken-spirited, deformed. Work is a hideous monster, demanding all we can give of youth and strength and vitality, and giving in return only a starved and meagre living. Seeing work in this way, I learned to hate it. It has "the primal, eldest curse on it." It is slavery of the cruelest kind, and makes slaves of men even where they are their own masters. Do you wonder that I turned to the arts? The arts are joyous, exultant. They enable a man to express himself, and we all hunger for self-expression. The greatest tragedy in the world is to be misunderstood, and we are all misunderstood. The artist makes himself understood—at least, to a select few—but the worker usually dies

"With all his sweetness in him."

But here was a worker who expressed himself by an ordinary piece of farm work. He had laid creative hands on a tree, and it would take form as a picture might under the brush of an artist, or a song on the lips of a poet. He had put into it his conception of what it should be. In that way he gave expression to his own soul, and was willing that the world should look and see. He had enjoyed the task because he had a definite purpose and knew just what he was doing. He got the effect he was after, just as an artist might when working under the stimulus of an urgent inspiration. I looked with new-found admiration, and now the tree has a new meaning to me. I feel that he has revealed to me something of himself, just as did the artists and the poets.

How's that?

Since getting this little flash of light, farm work has looked very good. Farming is a great art, and the artist works with life, rather than with pigments or words. He gets his effects by working in accord with Nature. Surely that is greater than merely imitating Nature, or describing it. And, though I look at farming in this way, I do not regard it any the less as a science or as a money-making proposition. In fact, it should be all the more scientific and profitable by making it artistic. The art puts the joy into it and elevates it above mere drudgery. Mark Twain said that "Play is work that man enjoys," and I see no reason why many kinds of farm work should not have the charm of play. If we could only go at it in that way, we would accomplish more, and life would be more worth living.

Of course, I quite realize that I am only a beginner at real farming, and that I should remember the test: "Let not him that girdeth on his harness boast himself as he that putteth it off." There is a job of ditching to do that it will be hard to make joyous, but never mind. I have at least seen that farm work can be made fine and ennobling, instead of being a sordid drudgery, and that is worth while, even though I may have to write a poem to express what I mean, instead of cultivating a field so that it will tell what I want to say as clearly as would the verses. I know that a true farmer who was master of the possibilities of the art he practices could do it, and for that reason I shall have a higher respect for farming. I may not be able to do it myself, but my failure will not prove that I am wrong. It will only prove that I cannot do the work as it should be done. Perhaps I have been bating work too long to take it in the right spirit, even after I have discovered its possibilities. But knowing what I do, I shall in future have nothing but pity for the man who can make of farm work nothing better than a dreary round of grinding work, and I am afraid I shall have little respect for the young man who starts at the present time if he develops into a slave. He has a chance that his father never had to make his life worth while. In the meantime, I am going at farm work with the feeling that it is a great art, in which a man can find enjoyment and self-expression, and if I find that I am wrong, I shall not be afraid to tell you so and to shoulder the blame. But if I find that there is both joy and profit in it, I shall certainly be my proper laugh at you who think that my farm life are absurd. I have much to get even for, and I shall not fail to rub it in if I get a chance.

Now that I have taken charge of the orchard, the good coincidences are happening. I do not

remember that any of my friends ever took up such work, but now that I have started, I am not going to be lonely. A friend in New York has written that he has bought an orchard of 5,000 trees in Virginia. In all the years that I knew him, he never once spoke of orchards, but some sudden impulse caught him, and he has gone into the business on a fairly large scale. It will be interesting to see how he gets along with it, for he has lived in Boston and New York all his life, and his orchard is being worked for him by a local manager. It is not likely that he can go to see it more than once a year, and then for only a week or so. Unless that local manager is a wonder, things will be likely to get into a tangle. Already he has been fined on the complaint of a neighbor because of the language he used while trying to cultivate the orchard with a balky mule. But that is only one co-incidence. On the day before Mr. Clement came to instruct me, I got a letter from an old friend from whom I had not heard for over twenty years. He is now in British Columbia managing an orchard of one hundred and twenty-five acres, and twelve acres of his own. Last year he planted ten thousand trees, and has fifteen men working under him. All this makes my sixty-two trees look trifling, but I have all that I care to deal with. But if I get any showing of apples, I am going to issue a challenge to those two fellows to produce something that can equal our Ontario apples. I shall offer to exchange boxes of apples with them, so as to get an idea of how ours compare with those of Virginia and British Columbia. I may not be dealing with trees in the thousands, but I will back our Ontario Spies against anything they can produce. On the whole, I am looking forward to having some fun with that orchard.

Have Gone Back to the Farm.

Editor "The Farmer's Advocate":

Wonderful, but true! In a certain city newspaper the other day there appeared the information, under the heading of "Local News," that a couple who had been living in that city for a year had, much to the regret of their many friends and acquaintances, "gone back to live on the farm." No further particulars were given. If the signs of the times are not very badly interpreted, it is more than likely, as the weeks and months roll by, that similar notices of this description will appear more and more frequently.

In view of the rush to the cities of people from the country, which has been such a marked characteristic of recent years, the latter statement may appear at first sight to be almost an absurd one. But is it? We do not know, of course, the reasons which led the couple referred to to go back to the farm, and it may be that circumstances forced them to do so against their inclinations. Yet, on the other hand, we have had opportunities of talking with people who have left their farms to go and live in cities, and it is surprising to find how many of them would gladly go back to their farms and their country life if it were possible for them to do so. Those who would do so have had experience of both city and country life; the "gilt has worn off the gingerbread" of both; they can clearly see the advantages and disadvantages of both; the so-called gaieties of the city have been tasted, as well as the so-called peace and quiet of the country; and yet the decision of these excellent judges is that they would, if they could, go back to the farm.

So far as we have been able to judge, the first consideration in these people's minds which leads them to this decision is that of which we hear so much nowadays, and with very good reason—the high cost of living. To those who have been accustomed to no stint of butter, eggs, milk, poultry, vegetables, and other farm produce, with the great additional value of their all being good and all being fresh; the difference in having to pay for these, as the expression is, "through the nose," in money, and sometimes, it must be said, also in quality, is simply appalling. On the one hand, to mention a small matter, but one which is indicative of the rest, to be able to go out and pick as much fresh parsley as you want; and, on the other, to have to pay five cents for a very small and often faded bunch, brings home very quickly to those who have lived on farms the difference in the cost of living. And if we care to look at this matter from a different viewpoint, the fact that prices are so high for all farm produce, puts farming as a profession—for profession it is for those who wish to succeed in it—in quite a different position to that in which it was only a few short years ago. The people who have come to the city to live are, many of them, those who went through the stress, labor and drudgery of the times when prices were but half, and in many cases less than half, of those of to-day. It is little wonder that they would go back to the farm if they could, and that they are astonished at the young man of the cities being content to slave on, often at pitiful wages, and with long hours, when they could learn to become farmers.

could take advantage of the opening which farming offers to-day, and could in course of time be free and independent men.

The lure of the cities consists, probably, to the older people of the country, in their many conveniences, and to the younger in the presumed excitements and possibly higher wages. In the first case the older people soon learn that, with the exercise of a little thought, and the expenditure of not a very large amount of money, the conveniences of life in the city can be very nearly applied to life in the country. It is needless to go into details, but in how many homes in the country has any ingenuity been brought to bear upon having a supply of water brought into the house? Everyone knows, who has any experience of country life, what the chore of "getting in water" means. In this instance, as in most others, it is simply a case of the old adage, that people will use their hands, rather than their brains. Then, as to the gaieties and excitements of the cities, are they so real and enjoyable, after all? Many experienced people will tell you that, provided you do not live in too sparsely populated a district, there is even more real social fun and enjoyment to be obtained in the country, on the average during the year than there is to be had in the towns. As to the question of wages, this would appear to be a matter rather in favor of the country in this respect, that a man there should be able to save the greater portion of those he earns, so that in time he could get onto a farm of his own. It is fully recognized that there is what is wrongly called drudgery on the farms; but cannot the same term be applied to work in the cities? Go and ask the men who have to be at work at seven in the morning, till five at night, in a close, hot machine shop, and those who have to do the same monotonous task week in and week out. And ask them, too, how much they can save out of their wages, and what prospects they have of ever becoming independent. It may be thought that, to mention telephones and automobiles is going a step too far when discussing life in the country, but both of these conveniences are gradually working their way into country life, and, judging from experiences in the United States, they will bring about a marvellous change here, too, in the course of time. Neither must the beneficent work of electricity be overlooked. This is but in its infancy, so far as rural districts are concerned, but when it has grown up into its full strength its effects will be nothing short of marvellous.

But it is not necessary that people should all "go back to the farm." Why are there not in Canada, as in Great Britain, "country houses," with their own few acres of land, where all the wants of the house can be supplied from these few acres? Canadians, above all others, seem fitted to have such places. A horse, a cow, a few sheep, some poultry, and a good vegetable garden, would not only supply the larder, but would provide healthy and interesting work. Not only this, but that which seems so lacking nowadays, a little leisure, would be insured. Time to read and to think, to learn some of the pleasures of the accomplishments and refinements of life. Yet, just in the same way, these "pleasures of life" ought to be always kept in view by those who do go back to, and those who are on the farm. Everything is tending nowadays to make these possible; all that is needed is the clear perception of the possibility and the desire for them. The increased cost of living is most likely, adding to what has been known for ages as "auri sacra fames," or the accursed thirst for gold, leading to the exodus to the cities; but at the same time, it may be also answerable for men's thoughts turning to the country, where they can see that a free, an independent and a healthy life can be led, if they are content to work, to use their brains, to live moderately, and, above all, not to set the aim of "getting rich" before their eyes as the ambition of their lives.

"ONE WHO WOULD LIKE TO GO BACK."

Elementary Agricultural Education in Ontario.

Editor "The Farmer's Advocate":

I have been very much interested in the editorial article in your issue of February 8th, on "The Training of Rural School Teachers." The subject is certainly one deserving of the attention of everyone who has the welfare of our rural schools at heart. At the basis of most of our agricultural problems lies the public school, and educationists are more and more realizing this. Our educational measures in agriculture have been for too long a time in the direction of the grown-ups. Ontario, has, perhaps, as fine an organization for adult agricultural education as can be found anywhere, in its Agricultural Societies, Farmers' Institutes, Women's Institutes, Experimental Union, Fruit-growers' Association, Vegetable-growers' Association, Corn-growers' Association, Field Crop Competitions, Horticultural Societies, and District Agricultural Representatives; but all these educational factors, it must not be

forgotten, do not reach directly to the boy and girl in the public school. It is only long after that boy and girl has received his or her public-school education that he or she is taken in hand by some one or other of these organizations. There is a great educational and economic loss here. The need for many of these organizations, indeed, might be greatly lessened if the schools could be brought to undertake some new lines of work. To do this, of course, requires a special rural-school teacher. "A rural-school teacher for the rural school," should be one of our slogans.

On the question of the policy of our Education Department, regarding Normal and Model School training, I cannot speak. I wish, however, to call attention to some things that are in process of development amongst us in our educational system which are not generally known. In my opinion, the Province of Ontario has made as great advances in agricultural education as any State or Province in North America. The problem is not by any means solved; this will not be accomplished until larger conceptions prevail regarding the large worth of a teacher, and the payment of salaries proportional to this large worth. The chief factor hindering rapid progress in the solution of the problem, it appears to me, lies in lack of public sentiment for the better and newer kind of education. The people will get what they want when they want it! So far, the people have not given expression to a strong desire for a change. The old "hoo-doo" of examinations still exercises a strong influence in directing school-

school, and the proper way of educating children in a truly sound, pedagogical sense.

When one analyzes the subject matter that is generally considered under the name of Nature Study, it is found to be nothing more or less than Elementary Agriculture. It is a question of studying the common things of out-of-doors; the animals, the plants, the soil, the weather. The plants studied are not the unusual and strange things, but the common plants of the field, the garden and the roadside. The animals studied are the animals the farmer is concerned about—his farm animals, and the birds or insects that help or hinder him in his work. The soil studies concern themselves with his every-day employment.

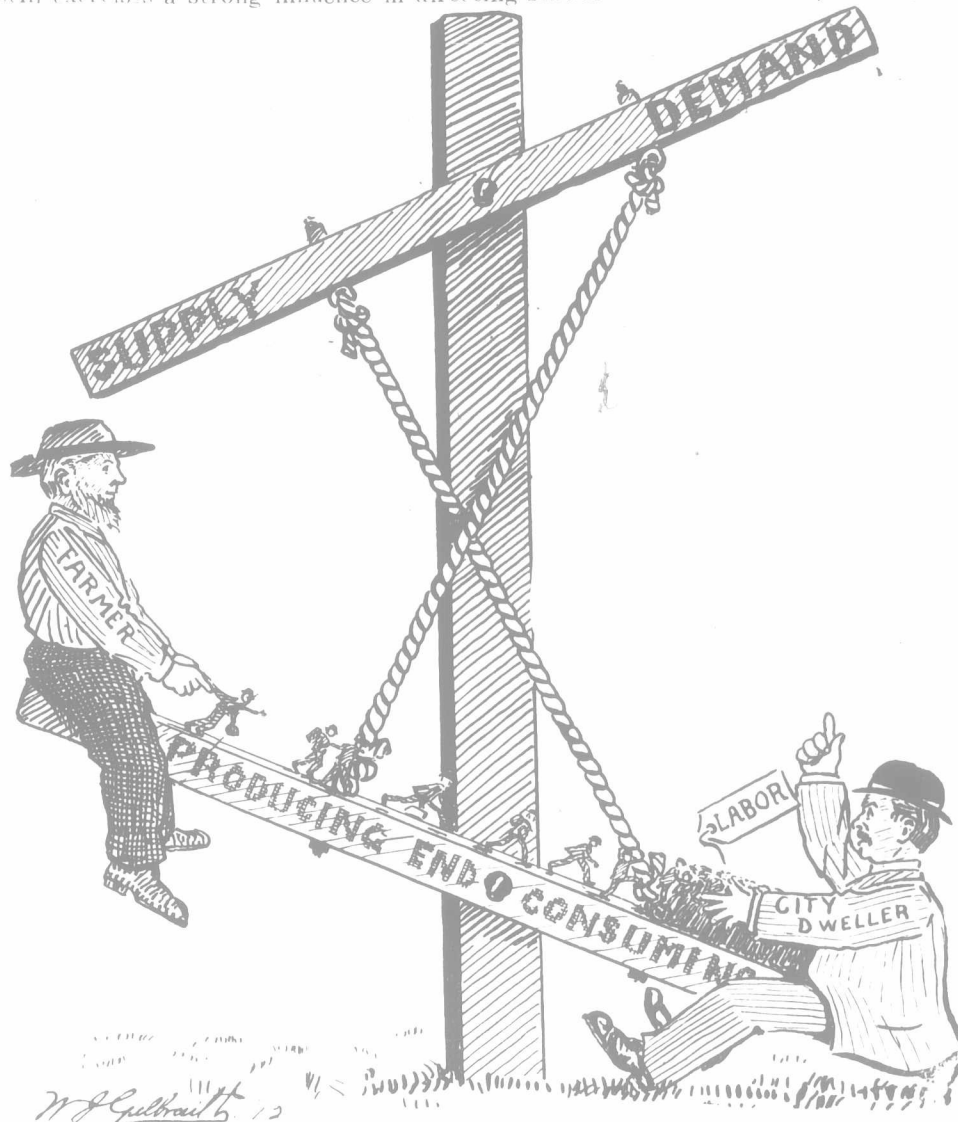
So, since 1904, there has been growing into the Ontario schools gradually, and along proper lines, the subject of agriculture. It has not been a text-book subject at all, but a thing apart from bookishness—a natural, living, developing and revitalizing subject.

Another step forward is shown in the new schemes of teacher-training developed. This had its commencement in 1904, in the special teachers' course in nature study, carried out at Macdonald Institute and some other local centers. Of late years all this work has been done at Guelph in the month of July. Last summer, the teachers taking the work numbered over one hundred. They were instructed, so far as this could be done, in a month, in the best things that the College has to offer in Elementary Agriculture. To most of the teachers, the work is a revelation of a new world, one, however, that has been lying at their feet, always, unnoticed, obscured perhaps to some extent by the bookish teachings of the schools. It may reasonably be expected that the hundreds of teachers who have taken this work, and who are now scattered throughout the Province, are introducing no little measure—handicapped as they are by examinations—of sound instruction in the concerns of the farm and the home.

In 1909 another phase of the teacher-training work was organized. The Grade A teachers at the Normal Schools who passed their graduation examinations at Easter were offered free ten-weeks' courses at the College in Elementary Agriculture and Horticulture. The work was continued in 1910 and 1911. In the three years, about 225 have availed themselves of the offer, and gone out certificated as teachers of this subject. In addition, through the Summer School schemes, about 25 other teachers are similarly qualified.

We have in Ontario, then, about 250 Normal teachers very well equipped to teach the subject of agriculture in our schools.

The school boards have been encouraged, too, to take up the work and carry it on in a practical way. The school board, which gives a course of instruction in elementary agriculture in its school by means of practical work in the school garden, and one of these specially-qualified teachers receives an initial grant of \$50 to cover the expenses of the introduction of the work, and in subsequent years \$30. The teacher, too, is subsidized in the cause; for her special services in this connection, she receives \$30 a year, in addition to her regular salary. Last year there were thirty-three schools in Ontario that carried on this work, and the Departmental grants for it amounted to \$2,340. In addition, many other schools have been carrying out the work, although, on account of not having certificated teachers or not having the regulation garden, no grants have been paid. Through our Schools Division of the Experimental Union we have assisted 166 Ontario schools in the practical work, sending them seeds and other supplies. The regulations regarding this work are now under revision. They will still further encourage schools and teachers to carry on the work, and we may confidently look forward to



City Man—"Can't you keep down the cost of living a little, John?"
Farmer—"Hardly, without a little more help."

work. Those people who are ambitious for their children want them prepared for examinations. This becomes the teacher's chief concern; stepping out of old ruts is a dangerous thing in such a circumstance. Through the influence of the agricultural press, a controlling and redirecting public sentiment is gradually being formed. Everywhere there is evidence of new interest. Some day the results will show as a large movement.

In the meantime, much has been done, is being done, and is in process of development. We have long passed the text-book scheme of agricultural teaching, while in many places they are still in that stage. In 1904 the course of studies in the Ontario public schools was revised. Nature-study work was outlined there and introduced. For the past eight years this work has been under process of development. At first very little was done in the schools, and much that was done, no doubt, was wrongly or poorly done. Many people considered it a fad and an unnecessary new subject. Gradually, however, through teachers becoming better acquainted with the work, it has won a place for itself. In its true relations, it now seems to be that thing which makes for the so-called New Education. Through it there has developed new ideas of the proper function of the

many hundreds of Ontario schools reshaping themselves in the course of a few years as real country schools, concerning themselves with the real problems of the people whom they serve.

In the High School work, too, similar progress has been made in some respects. In the revision of the courses of study in 1904, the work in elementary science that is given to the pupils of the first and second years was given a strong vocational basis. In the revision in 1907 the work was reshaped, with strong agricultural features. In Biology, for example, the pupils in all our High and Continuation Schools receive instruction on economic insects, weeds and weed seeds; in the animal studies, moreover, teachers were encouraged to take concern of domesticated farm animals, etc.; in their plant studies, a similar encouragement was given to the study of economic farm and garden plants. The Botany thus becomes very largely agricultural botany, and the Zoology very largely agricultural zoology.

It can be readily understood that this work was often found not agreeable or easy by the science teachers, for they themselves had never been instructed along these lines in their High School or College studies. Good progress, however, has been made. The science teachers have been gradually adapting themselves to the new and difficult task, and our High School inspectors report very satisfactory work being done throughout the Province.

A further step forward in this attempt to make the instruction of the schools of vital concern to the daily employments of the people, was made in the revision of the course of studies last summer. If one examines the course now outlined in Elementary Science, he will find that a strong agricultural option has been placed amongst the High School studies. This is not the work necessarily that is prescribed to be carried out by the District Agricultural Representatives, although it is expected that they will teach the work in the schools where they are located. It is a course that may be taken by any science master who gives himself whole-heartedly to the task. A few schools have adopted the option; it is being carried out, for example, in Berlin Collegiate Institute. The work calls for elementary instruction in poultry-keeping, beekeeping, live stock, dairying, field crops, orcharding, etc. The plan involves the carrying out of practical work in small experimental plots in the school-grounds, etc.

There is no doubt that a wide adoption—and the Department of Education heartily endorses and encourages the scheme—of this scheme of agricultural instruction in our secondary schools would be of immense advantage to both the cause of education and the cause of agriculture. To make it "go," a strong public sentiment is required. This can be developed only through a propaganda to acquaint everyone with the plans of the Education Department. Science teachers will soon adjust themselves to meet the demands. They cannot, however, be expected to shoulder the burden of the whole movement. There is evidence that, up to the present, at least, High School Boards have not given much attention to this matter. Our summer school courses for the past eight years have been open to High School Science Teachers, and the offer has always been made to provide special classes for any number that might attend. So far we have had only four science teachers enter for the work.

It would not take long to prepare quite a number of our science teachers for this work. In two four-weeks' summer sessions much could be accomplished. For example, if a class of such teachers in the first year spent a month on the study of economic plants, insects and farm animals, agricultural physics and agricultural chemistry, they would be in a position to introduce not a little valuable agriculture into their science teaching. If they returned for a second year, and took up what might be called the applied agriculture in orchard, field, garden, dairy and stable, they might become very valuable exponents of up-to-date farm practices in many of our Rural, High or Continuation Schools. The opportunity lies before the people for this if they wish to take advantage of it! The subject has been given a place in the school studies, and the Agricultural College is prepared to train the teachers!

I shall not speak of the work carried on by the District Agricultural Representatives as agricultural teachers in High Schools. So far, this work has been confined very much to the instruction of short-course students. Undoubtedly, good work is being done in this connection, and will continue to be done in this way so long as there is no demand for long-term courses. In some lines, but these plans have not very much success, owing to the larger problem of introducing agricultural instruction into all the schools, and to the fact that about three hundred of them—where science teachers are engaged in giving instruction to high school pupils of the first and second years.

These are some of the features of the efforts which are being made by our educational authorities on behalf of agricultural education. As I

said before, the great need is to have people want this for their schools and their children. Your continued propaganda cannot fail to have a good effect. But with it all, it should be remembered that progress is being made, and that Ontario has by no means to feel ashamed of what has been accomplished!

Along with the new regulations concerning Elementary and School Gardens, there has been prepared a survey of the work accomplished in the Province for 1911. In the course of a few weeks this will be ready for distribution, and sent to every rural-school teacher in Ontario, as well as to any others who may wish for a copy. It is felt desirable that everyone concerned in educational progress should be kept informed as to what is going on in our own midst. We make progress by imitating. Much is being done, and there is not a little reason for congratulation, in spite of the fact that one often hears complaints about our backwardness and mistakes.

I would take this opportunity, too, to make it known amongst your readers that teachers and trustees will be assisted in practical ways to introduce the work. Complete instructions will be sent along with material for carrying out practical studies in the school-grounds. Further announcement of this will be made in a few weeks.

S. B. McCREADY.

Ontario Agricultural College.

HORSES.

If the colt is to be used to help with the spring work, now is the time to get him handy in harness.

The horse which has been idle all winter cannot be fitted for the seeding operations in a day. It requires time; first, daily exercise, then light work gradually increased to heavier and longer-continued work, this all accompanied by a gradual proportionate increase in grain ration.

In preparing for spring work, see first that the food given is being thoroughly digested; secondly, that no more is crowded into the animal's manger than he has appetite to clean up and capacity to assimilate; and, thirdly, that, along with daily exercise, the animal receives regular and thorough grooming.

There is no better time to get the collars and harness fitted to the horse than during the preparation of the latter for the approach of heavy work. Little alterations can often be made which go a long distance towards keeping the horses' shoulders and backs from getting sore. A harness cannot fit too well. In preparing the horse, also fit the harness.

Perfect condition in the horse is evidenced by a bright, clear eye, a brilliant coat, high spirits, and mettle, and sufficient flesh to "round him out" well, but not enough to interfere with his action or usefulness. A horse in this condition, exercised regularly, and gradually accustomed to work, is the kind of animal that will stand most work this spring.

The man who succeeds in breeding draft horses must ever keep in mind size, quality, feet, legs and action. These are all utility points. The markets demand horses weighing 1,700 pounds and upwards, that have good body conformation, large feet of good texture, strong, clean bone; large, sound joints, heavy muscular development, combined with good straight, snappy action. Such horses command high prices, and are very scarce. The statistics for the year 1911 show that only one horse out of every twenty sold at our leading horse markets filled the bill. This is surely a good line of work to pursue for many years to come. The vast majority of our farmers make a serious mistake when they sell their good draft mares to go to the cities. A good draft mare is worth twice as much on any farm, if she is used for work and breeding purposes, as she will sell for in any horse market. Only mares of good body conformation, and absolutely sound, should be retained for breeding purposes. It is very important that the stallion used should be sound, stand well on his feet and legs, that he should be in his back, heavily muscled, and that his position, as indicated by width of chest, should be between the eyes. Avoid thin, light-boned, crooked-legged stallions. Prof. W. J. Ken

Clipping Horses.

During the heavy, continuous work necessary to get the crop sown in the spring, anything which makes for the comfort of the horse should be encouraged. A few years ago, many were adverse to the practice of clipping, believing that it was dangerous to the health of the horse, but these are gradually being won over, until at the present time most horse-owners agree that the clipped horse is in practically no danger of colds, and that he does his work easier and in greater comfort than the animal struggling with the shedding of a heavy coat of hair, while all his energies are required in the work of soil tillage. The fact is, clipped horses are less subject to colds and such affections, thrive better, and, if properly blanketed, suffer less discomfort than their unclipped mates. The clipped horse dries off rapidly after the day's work, and is not, like the unclipped animal, compelled to rest with a blanket of shaggy, wet hair enveloping him—cold, clammy and uncomfortable. Horses are "soft" in spring. They perspire easily. The more hair they have, the more they perspire. The long hair, holding the dampness caused by the sweating, is liable to give them colds, rheumatism, pneumonia, or kindred diseases. This mass of cold, wet hair uses up considerable heat, which can only be supplied by the energy derived from the food consumed, all of which is required to meet the demands of body waste and labor. This condition is, therefore, a drain on the animal's constitution. The perspiration of a clipped horse evaporates quickly, almost as soon as secreted, and upon going to the stable at the noon hour, or at night, the animal rests in comfort, and is in a position to make the best use of his entire ration.

The clipped horse does not require as much attention by the groom as the unclipped, and in these days of scarcity of labor this is no mean consideration, as the teamster often is compelled to be stockman and chore-boy as well, hence, while he wishes to give all the time possible to the care of his team, he is often compelled to slight the cleaning. The unclipped horse suffers greatly from this. His matted coat of hair irritates him continuously, while the clipped horse, with no such a dirt accumulator, is kept quite clean, with comparatively little labor. It must be remembered that the condition of the horse's skin plays an important part in the general health of the animal. No skin can be kept clean with a mass of dirty, grimy, sweaty hair, holding all kinds of dust and filth to clog the pores. Why do people wear lighter garments in the warm weather? Because the winter clothing is uncomfortable, and not in the best interest of general health? For the same reason, the horse should be allowed to change his coat rapidly. Under natural conditions, he was not compelled to work, and suffered no inconvenience by the slow shedding of his heavy winter coat, but man has changed the conditions. The horse must be the motive power for moving implements, vehicles and machinery. This requires practically all his reserve energy. His body heats up higher than it would on the hottest day in summer under natural conditions, and yet he is compelled, very often, to wear his winter coat, because nature did not comply with the need created by man of its immediate removal. Protection, if needed, can be had in the form of a blanket, so that clipping is the only safe, sure and reliable means of solving the difficulty. Clip the horses and seed with comfort.

Size and Weight in the Stallion.

The man who is breeding draft horses cannot lay too much emphasis upon size and weight in the selection of a stallion to which to breed his mares. No stallion will prove too large, provided he possesses, with his great scale, a proportionate amount of quality, and is of the right conformation for the breed. Size does not necessarily imply coarseness. This latter condition should be carefully avoided in breeding. A coarse stallion will seldom get a fine-quality colt, even when mated with the smoothest quality of mare. There is, however, a scarcity of large geldings and mares, due largely to the use, in the past, of undersized sires. Conditions point to an increasing demand for the gelding possessing great weight. Bad roads demand such a horse to move the heavy loads, and the rush of the times, coupled with the scarcity of labor, makes it necessary to move heavy loads and save extra trips. There is no danger of getting the draft horse over-large. In the past, many undersized stallions have been used, and it is a law of breeding that an animal's ancestors have a very potent influence in its make-up. With the law of reversion working as it does, we are sure to have a large number of undersized horses for some time, even though nothing but large stallions are used; and all these who breed to the undersized horse are only perpetuating this undesirable class of animal. Of all the ancestors of the horse, none exert as great an influence on his conformation as his sire and

dam. This being true, small horses can, by using nothing but large sires, gradually be eliminated from our draft breeds.

Don't be misled by fat in selecting a sire. The heavy stallion is not always the large stallion. It is possible, through heavy feeding, to make a comparatively small-framed horse a heavy horse, but such a horse is not a large horse in the strictest sense of the term. There is a difference between size and weight. It is an easy matter, by special fitting, to make a seventeen or eighteen-hundred-pound horse weigh a ton or twenty-one hundred pounds, and a stallion of this latter weight is considered a fairly heavy draft horse, and rightly so, provided he is in good breeding condition and not loaded with superfluous flesh. Do not be deceived by fat. The safest plan in sizing up the horse, after paying strict attention to quality, is to take careful consideration of his height, which should not be under 16½ to 17 hands. Look carefully to size of bone and degree of muscling. In heart-girth, do not be fooled by fleshing, which in the draft horse adds approximately one inch to his heart girth for every hundred pounds of fat added to his body weight. Get as much length of body as possible, coupled with a short, strong back, and, in selecting, do not overlook the head. A stallion's head is one of the best indications as to his ability to get large geldings. No horse with a small head should be selected. A strong head denotes prepotency and vigor. It should be wide between the ears and eyes, and the eyes should be bright and keen.

LIVE STOCK.

A Small Flock of Sheep on Every Farm.

When the question is asked, "Why don't we keep sheep?" the answer is very likely to be: "Prices are not suitable; dogs won't leave them alone; they bite too close for the cattle, and other causes too numerous to mention." But, when questioned more closely, practically all will admit that sheep are profitable. While we must agree that, owing to the scarcity of farm help, fences have been neglected, yet any farmer that has his mind made up to keep sheep will fence at least a portion of his farm so as to keep them; and to do this, no material can substitute woven wire, either from the point of efficiency or economy. While it may cost a few cents per rod more than the rail fence, the extra land that would become workable through the removal of the rail fence would soon pay the extra cost.

Possibly the greatest hindrance to the sheep-breeding industry is the dog nuisance, but even this great obstacle could be largely set aside by each Province establishing a compulsory tax on dogs, giving a reasonable compensation for sheep injured or killed by them, and by strictly enforcing that law. Good laws are of little effect if they are not put into force.

I would like to ask a question right here: Are we likely to have the dog tax thoroughly looked after in the present form? How many assessors are doing this part of their work thoroughly?

Even where dogs are allowed to run at random, how much would it cost to fence a five or ten-acre field with a dog-proof fence, where the flock could be corralled at night, out of danger, and to where they would soon learn to gather if salted there regularly? How much would it cost? Well, let us see. I notice in your columns a ten-wire, 50-inch fence advertised at 31c. per rod; now, add to this two more horizontal wires, at, say, 2 or 3 cents each per rod, making it a twelve-wire fence, 50 or 52 inches high, and believe that we have a fence that practically no sheep-killer can get through. And this, at an increase of from 4 to 6 cents per rod, which, estimated at the higher price, would only be an extra cost of \$9.60 to fence a ten-acre field, or \$7.20 for a five-acre field, without injuring the field for horse and cattle pasture, or for grain-growing. Indeed, such a pasture-field near the buildings is a wonderful convenience.

As to sheep being close feeders, that is absolutely correct. If our pastures are loaded to their fullest capacity with cattle and horses, and there is a flock of sheep turned in, it will no doubt be to the disadvantage of the other stock. But if every 100-acre farm had, say, 10 breeding ewes, they would clean up the waste corners and the weeds that the cattle wouldn't touch, and perhaps could have one or two days a week to clean up the roadsides, thereby returning to the farm fertility that would otherwise be lost, as well as a substantial profit on the investment, saving nothing of the wool that would be produced, either to be washed up at home or shipped to the manufacturer, where it would take the place of what at present has to be imported; and saving nothing of the advantage of sheep as weed-destroying agencies. This alone should warrant every farm with keeping a few sheep.

M. J. HARRING, R. U. HARRING, Melb. Ex. Co., Ont.

Beef Cattle Feeding.

"Beef Production" is the subject of a suggestive bulletin by W. A. Cochel, Animal Husbandry Department of the Pennsylvania Agricultural College. Among its points are the following:

Beef cattle should be considered as machines for reducing farm crops to a more concentrated market product. Through a series of years they will return a greater total profit than is secured from marketing crops in their original form, and, in addition, will build up the fertility of the land so that greater crops can be produced. This is in reality the largest source of profit from handling beef cattle.

The increase of land values has been so rapid in sections which formerly supplied Eastern feedlots with steers, that the time is approaching when Pennsylvania will produce the major proportion of the cattle fed for market within her borders. The relatively cheap land, favorable soil and climatic conditions, excellent local demand for good killing cattle, and the necessity for building up the fertility of the soil, indicate a revival of the breeding of beef cattle in the State.

The gradual increase in cattle values, as based upon Chicago market reports during the past 25 years, is shown in the following table:

Average price of cattle over 1,200 lbs.				
1886-90	1891-95	1896-1900	1901-5	1906-10
\$4.34	\$4.45	\$4.98	\$5.53	\$6.21
Average price of cattle 900 to 1,200 lbs.				
1886-90	1891-95	1896-1900	1901-5	1906-10
\$3.77	\$3.81	\$4.14	\$4.73	\$5.40

There has not only been an increase during each period of five years, but each increase has been greater than the preceding one during the same period of time. In other words, the average value of cattle has not been permanently affected by short periods of depression. During the time under consideration, the value of heavy cattle has increased \$1.87 per cwt., or 43 per cent., and of light cattle \$1.63 per cwt., or 45 per cent. Of this increase, 68 cents per cwt., or 36 per cent., on heavy cattle, and 67 cents per cwt., or 41 per cent., on light cattle, has been secured during the last five years. This would seem to indicate that the production of cattle is more profitable than ever before, and that the tendency is to market them at a lighter weight and an earlier age than formerly.

Beef cattle should be found on every farm in the State where cattle are not handled for the exclusive production of milk. Whether or not the farmer enters the dairy business, or handles beef cattle, should depend upon the amount of labor available in proportion to the crops produced, the demand for milk and its products, and the equipment for the proper production of milk. Beef cattle will consume a larger amount of feed than any other class of farm animals in proportion to the labor necessary in handling them. They are especially adapted to the utilization of roughage, require a small outlay for buildings and equipment, and return to the soil a very large percentage of the plant food consumed, thus reducing expense of fertilizer.

Whenever a feeder secures a profit from finishing an inferior steer, it means that the producer has marketed the animal at a loss. When steers of the best beef type are purchased and finished, it usually means that they have been profitable from birth to market. The production of steers from dairy and scrub cows is a practice that should be discontinued. Calves from such cows should be marketed as prime veal, weighing from 160 to 180 pounds, when their total value will be greater than that of the same animal at 12 months of age in stocker or feeder condition.

There are two factors which determine the weight of cattle—their size and their condition. With corn at 60 cents per bushel, the total cost of fattening two-year-old steers will be approximately \$10 per hundred. The higher the condition, or the degree of fatness, of a feeder, the more valuable will he be per pound. Assuming that a steer costing \$5.00 per hundred will weigh 1,000 pounds, and require 300 pounds, at \$10 per hundred, for finishing, he will have to sell at \$6.15 per hundred to prevent loss. If, at the same time, another steer, weighing 1,100 pounds, the increase being fat, rather than mere size, could be finished with a gain of 200 pounds, and sold for \$6.15 per cwt., it would be possible to pay \$5.45 per cwt. for him as a feeder, without loss. The difference in condition of the two steers would be represented by a difference of 45c. per hundred in initial value.

It is essential, in finishing cattle for market, that there be an increase in value per cwt. When

cattle are not made excessively fat, a monthly increase in value of 25c. to 30c. per hundred pounds, based upon weights in feed lot, is sufficient to insure a profit.

If the cattle are very thin at the beginning of the feeding period, they will make rapid and economical gains on roughage alone, provided the roughage is palatable and nutritious. An excellent ration for such cattle can be made from corn silage and a leguminous forage crop, such as alfalfa, clover or cow peas. When the steers have fattened sufficiently to be classified as "fleshy butcher steers," a light grain ration should be added and increased as the cattle improve, until they are ready for sale. Corn should always be used as the basis of a fattening ration. When the roughage consists of corn stover, timothy, millet, sorghum, or straw, nitrogenous concentrates, such as linseed or cottonseed meal, or gluten feed, should be added to the regular rations at the rate of two to three pounds per 1,000 pounds live weight of animals. When alfalfa, clover or other legumes are used entirely as roughage, the nitrogenous feeds may be profitably reduced one-half or more. In starting cattle on grain, it is advisable to use great care to prevent them from becoming "off-feed." This may be done by feeding at regular times each day, starting with six pounds of concentrates daily per 1,000 pounds live weight, divided into two feeds of equal amounts, and increasing, when the condition of the cattle warrants, at the rate of one-half pound per day, until the cattle are consuming twelve to fourteen pounds of concentrates per 1,000 pounds live weight, after which the increase should only be half as rapid, until a full feed has been reached. Fattening cattle should have all of the roughage that they will consume without waste at all times. The grain ration should be limited to what they will consume readily in from one-half to three-quarters of an hour, even when on full feed.

The rate of gain will depend largely upon the condition and breeding of the cattle and the character of the ration used. If they are quite thin and well bred, the gain may be from two to three pounds per head daily, where proper rations are fed. As they fatten, the rate of gain will decrease, so that just before they are made prime they will not gain more than one and one-half pounds daily, even on the best of rations. The age of the cattle has a material effect on the rate of gain. If fed on heavy rations from birth to maturity, the rate of gain will decrease as the age increases. If, however, cattle are allowed to become thin, the older cattle will fatten more rapidly than calves.

Silage for Cattle to Be Finished on Grass.

Editor "The Farmer's Advocate": The expression, "O ye of little faith," might be applied to many of our so-called critics on "corn silage" as a food for cattle. The deep-seated prejudice is not the result of any long-continued period of practical experience with this fodder as a cattle food, but is almost invariably heard from the lips of those who know nothing whatever of its virtues or defects from a practical standpoint.

Just the other day, at a meeting of farmers, the audience was treated to such an outburst. When the explosion had vented itself, the party, in response to a question, was sufficiently candid to say he had never grown any corn, had never fed a pound of silage, and had no experience whatever with silage-fed animals.

As has been repeatedly emphasized, the feeding qualities of the corn crop is only one of the many desirable features of the plant as a favorable factor in the operations of the live-stock farmer. It is very valuable because:

First, along with roots it forms the cleaning crop in a desirable system of rotation.

Second, in this way it takes the place of the bare summer-fallow in cleaning the land.

Third, it will at the same time grow more real cattle food per acre, and

Fourth, will give a greater return for the labor expended than can be obtained from any other crop of the farm.

These are all-powerful reasons why an effort should be made to grow corn. After the crop has been grown, it is harvested by means of the silo, for three reasons:

First.—This is the only method by which the whole crop (stalk and cob) can be well preserved for feeding purposes.

Second.—It is the cheapest and most convenient form of preparation.

Third.—Carefully-conducted experiments have proved that, as a stock food, more profitable returns are obtained through the medium of this form of preservation.

Much prejudice and misconception as to the feeding value of the crop has arisen as the result

of the crop having been placed in the silo before it had become sufficiently well matured.

Careful experiments have proved that corn must be well matured before the greatest degree of feeding value is obtained.

To get the best results, the crop should be planted in squares at least about forty inches apart, with not more than three to four plants growing in each hill. During the process of growth, the land should be so well cultivated that a mulch of loose soil is preserved on the surface until the crop has attained its full growth. Before being placed in the silo, it should be so well matured that the foremost cobs can be preserved for seed purposes; as the greater percentage of nutriment is found in the grain.

With silage obtained from a crop thus well matured, the cattle-feeder has a most desirable and valuable food. As the basis of a cattle-food ration, and fed in conjunction and mixed with straw, hay, roots and grain, it is valuable not only to young growing stock, and the dairy cows, but also to cattle which are either fattened to finish in the stable, or to animals carried over the winter to be finished upon grass the following summer.

Many people, while forced to admit that fine beef is produced from silage, still claim that cattle wintered upon silage will not make the most satisfactory gains when turned upon grass. This, however, has not been our experience. For the past twenty-three years we have, all the while, been practicing this system of winter feeding, and always finishing the greater number of the animals on grass, and with the most profitable results.

During the same period we have repeatedly bought animals to be finished on grass, some of which had been fed silage during the winter, and some had not. As the result of this experience, we prefer buying the animals which had been fed either on silage or roots to those animals which had not received either of those succulent foods, and more particularly so if they had been fed a heavy grain ration during the winter.

Some of our heaviest gains on grass have been obtained from animals wintered on silage, and it is a most desirable ration on which to make the change from the stable to the grass. In fact, it is always our endeavor to have sufficient silage held along, that, prior to turning on to pasture, we can feed almost a full ration of silage alone. From such a food, on account of its succulent nature, you can place the animals on grass at once, and very little scouring will be noticed as the result of the change.

The fact is, the more experience we have, the more strongly are we led to the conviction that well-matured corn, properly preserved in the silo, is one of the most desirable foods with which the feeder of all kinds of cattle, at all stages of their growth, can supply himself. It is cheaply provided, succulent in character, and so healthful in its effects upon the animal system that, were it not for the one problem of the difficulty of securing sufficient help during the time of silo-filling, it would long ere this have become a much greater factor in the feeding operations of the average Ontario farmer.

THOS. McMILLAN.

Huron Co., Ont.

Shelter and Feed Lots.

The results of seven years of experimental work at the Pennsylvania State Agricultural College indicate that an open shed, boarded up closely on three sides, and kept well bedded at all times, is more efficient for fattening steers than the basement of a barn. During the winter of 1909-10 the cattle fed in an open shed made more rapid gains, attained a higher finish, sold for 15 cents per hundred more, and returned 11.6 cents more for each bushel of corn consumed than similar steers fed in the barn. They also required less labor in feeding, and more straw was used in bedding. Results of previous work show that cattle which are fed in groups of ten or twelve each, with ample room at mangers and troughs, make more satisfactory gains than similar cattle tied in stanchions. This indicates that the methods which require the least amount of labor are the most satisfactory in the feed lots.

THE FARM.

Air Doesn't Solidify.

Editor "The Farmer's Advocate":

Reading many inquiries of correspondents re danger of frost in pipes and tanks, I would make a suggestion of putting the cement tank below frost, pumping the water in near the bottom, and drawing it from same level, having the top of tank at least two or three feet below the surface of ground, with man-hole at top, to be smooth-faced, to admit of being packed, to insure of being air-tight, with a pipe coming to top of ground, provided with pressure gauge. Drive the water up with force pump, allowing the air to be the power to hold the pressure in pipes, as the air is very elastic, and never freezes into solidity.

Elgin Co., Ont.

GEO. P. BROWN.

Dry Batteries for Gasoline Engine.

I would like to know how to make dry batteries for a gasoline engine. A. McK.

MAKING A DRY BATTERY.

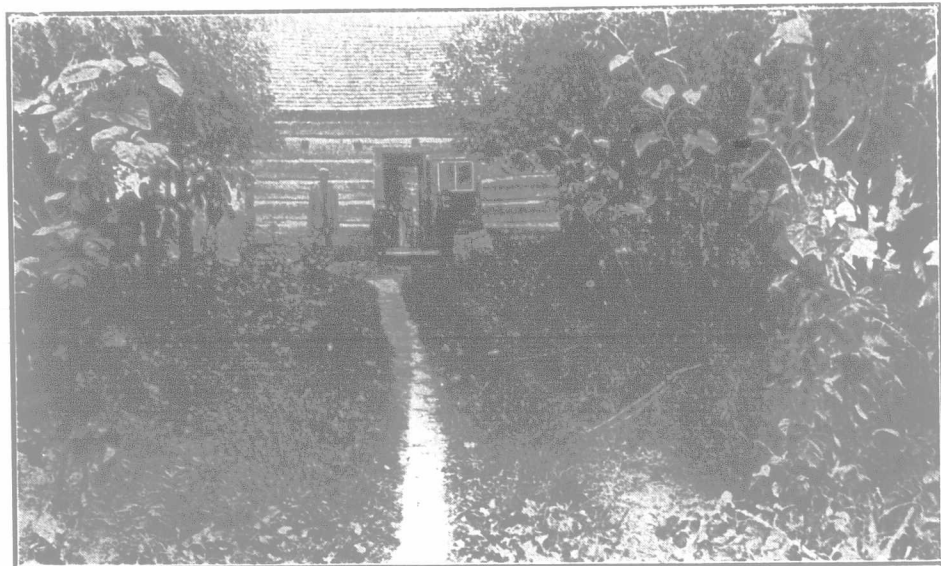
Make a round can of zinc without a lid, six inches deep, 2½ inches in diameter. Solder a binding screw in its rim. Cut a cardboard disc to fit tight inside can, and push home to bottom. Take a strip of blotting paper long enough to go thrice around inside of can, and wide enough to project 1 inch over edge of can. Roll up the paper, put in can, and unroll it till it fits tightly to can. Procure a piece of carbon, about 5 inch in diameter and 7 inches long. Flatten both sides at one end with a file, and drill a hole to take binding screw. Heat flat end, and dip into

Five or six of these dry cells should be connected up in series; that is, the connecting wires run thus: from carbon to zinc, from carbon to zinc, from carbon to zinc, etc.

Walnut Land and Chippawa Homes.

In the Southwold bend of the River Thames, in the County of Elgin, is the homestead of the Donaldson Bros. The farm is a bit of the famous walnut lands, and is a favorite resort for the people of the countryside when "the sound of dropping nuts is heard." Then, too, there is another romantic halo around that bend of the river, for, says the old inhabitant, the first owner of the whole tract was Rev. Peter Jones, Canada's first native Indian missionary.

Canada's longest stretch of walnut land lies in the basin of the Thames, from near London to the mouth of the river, the tract averaging about two miles in width. Walnut loves southern breezes, so its scope in the Dominion is confined to Southern Ontario—that is, along the Thames, and the valleys of the streams flowing into Lake Erie. Pioneers assert that Southwold has been the banner township, and Elgin the banner county, for natural growth of walnut. The first was soft, but the second growth is as hard as



On Chippewa Reserve.

Home of Thomas Henry, the pioneer home of Tomigo, a noted Indian Chief of the early days.

melted paraffin 1½ inches deep until it does not smoke much when withdrawn. Stand with flat end down to cool. This forms the carbon pole. Procure some chloride of zinc (crystals), make a saturated solution of it, using distilled water. To this add the same weight of sal ammoniac as the zinc chloride used. This forms the "battery solution." Procure some powdered carbon and manganese dioxide. When all is ready, fill the can with the battery solution until the blotting paper is saturated: pour the solution out, turn the can upside down, and drain. Set can upside down on blotting paper to dry a little below saturation. Take equal parts carbon powder and manganese dioxide, and moisten with battery solution until they are no longer dusty, but not in a paste. Next, set the carbon pole in center of the can, and put ½ inch of pure dry sand in the

maple. It has for companion woods on the Thames, butternut, basswood and slippery elm. Remarkably fertile are the black-walnut lands, the soil being floury, and workable at all seasons. Many a yarn the old inhabitant spins as to the immense size of the trees. Even now the nutting season is the glory of the Thames, when maple is crimson and the golden-rod is yellow, and King Forest himself shakes down the harvest.

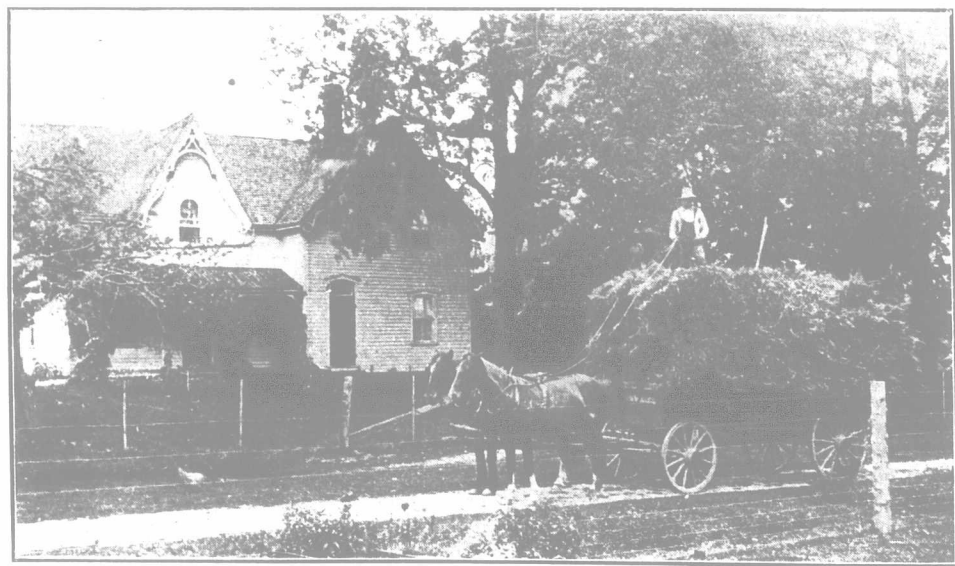
PETER JONES.

Rev. Peter Jones, Canada's first native Indian missionary, was the pioneer owner of the Southwold walnut lands in the bend of the Thames, including the Donaldson farm. His father, Augusta Jones, surveyed that district in 1793. Augusta Jones, was a white man, but his wife was of the Chippawa Indian Tribe, so Peter Jones was numbered with his mother's people.

The real home of Peter Jones was by the River Credit, but he spent eight years in missionary effort around the Thames, founding there the Mt. Elgin Indian Institute. By his oratory in the days of early Methodism, he swept Canada to his feet, and later on swayed Scotland and England at will, being twice summoned before Royalty. His wife was an English lady. He died by the Credit in 1856, and his funeral sermon was preached by his friend, Dr. Ryerson.

THE CHIPPEWA HOME.

Now, the story goes, according to the Indians of the Thames, that Peter Jones, while at his missionary work among them, had for a near neighbor another famous orator, Chief Tomigo. Some of the Indians assert that the old house occupied by Thomas Henry, was in early days the home of Tomigo. This early chief did not set a very high value on the walnut lands of the Thames, for the Indians say that in the early days he sold to the white people all the land on the north bank of the river, some townships wide, from London to Chatham, for what was equivalent to two or three cents an acre. The deed done, he had to flee for his life from his own tribe, the Bear Creek Indians. He was befriended by the Muncies of the Thames, for his wife was



Donaldson Bros.' Home.

In the Walnut Lands of the River Thames, Elgin Co., Ont.

of their tribe, so, according to Indian law, he was also a Munsee. Later on he played the part of the swollen frog, and by passing for a Munsee at Government headquarters, helped the Chippawas to secure some land claimed by the Munsees.
Elgin Co., Ont. LOUISA T. KING.

Another Cement Water Tank.

Editor "The Farmer's Advocate":
I noticed in your issue of February 15th an inquiry for an elevated cement water tank, with questions regarding a tank of that kind. I built a square tank two years ago last fall, with good results. It was built at one end of the barn, with three side walls, 7 feet high, and a pier in the center for a support to the floor, one side wall being left out to let the heat out from the stable, to keep the pipes from freezing under the tank. The foundation walls were built of cement from the bottom of the trench, with 44 square feet of face bearing concrete mixed 1 to 10; for this part walls are one foot thick. Then we put a concrete floor on top of these walls, one foot thick, mixing the concrete 1 to 6, with iron bars and lots of No. 9 wire to help in supporting it. This floor projected eight inches out over the foundation walls on the three sides, making the floor 8½ feet square. This was left for about four or five days to harden enough to put the side walls on for the tank.

The concrete was mixed 1 to 6 for the walls, the same as for the floor. We started the walls 9 inches thick at the bottom, and tapered them to five inches at the top. The walls were enforced every foot with four strands of No. 9 wire, twisted together. I also put two heavy pieces of iron across the top each way to support the tank which is 7 feet square and 8 feet high, and holds about 2,450 gallons, or 12½ tons of water.

The tank is very large, but to meet my needs I required a large tank. In the winter I fill it with a power mill pumping from a spring, but in the summer this spring goes dry, and I turn the rain water into it from the barn. This meets all requirements for summer use, as I have a good spring on the farm.

The cement cost \$21.50, and I paid \$2.08 for a man to plaster; the rest of the work we did ourselves. I did not keep account of the time we worked, or I could give the cost of labor. I only plastered it on the inside. We mixed the plaster 1 to 2, but that was not strong enough for a tank of this size, and the water soaked through, so I gave it an extra cement wash on the inside, which has helped it some. The plaster, to make the best job, should be mixed one to one. We mixed the concrete quite sloppy for the walls and floor.

As to the strength of the tank, I think this winter has been a tester, the thermometer registering from 25 to 30 degrees below zero. This low temperature formed about a foot of ice around the inside of the tank, yet, so far, the tank appears sound. I built a square tank because I had the lumber to do it, and wanted to put it up myself, to insure plenty of time for the cement to set.

I would, however, advise building with silo rings. Build the foundation walls the required height, then put the floor on them, and let that portion harden before completing the tank. Would also advise building the tank at some distance from the barn, so that a box stove can be placed under it, with pipes through the stove and into the water-tank, to prevent freezing in zero weather, and also to take the chill off the water for the cows. Haven't roofed the tank yet, but intend doing so.

A 3½-inch pipe is placed in the side of the tank, with a valve which I made myself, and from this a big threshing tank can be filled in 65 seconds. If any of your readers have a better arrangement, I would like to hear from them.
Huron Co., Ont. E. A. WESTLAKE.

A Pumping Problem.

Editor "The Farmer's Advocate":
The pumping problem presented by J. H. B. in "The Farmer's Advocate" of February 22nd (page 352) is one of frequent occurrence in connection with the installation of gasoline engines. We might say that our regular practice is to place a pump jack in the room with the engine, run a wooden jerk-rod from jack to well, then a bell-crank transmits the horizontal motion of the jerk-rod to the vertical pump piston. The jerk-rod is usually hung on posts 20 feet apart, and from 8 to 10 feet high, but where an overhead rod would be in the way, we use a gas pipe placed in a tile or box underground. The pump cylinder is placed in the well, as a rule close to the water, so that there may be no necessity of priming the pump.
CONNOR MACHINE CO., LTD.

Alfalfa Compared with Red Clover and Meadow Hay.

For the purpose of comparing alfalfa with other grass and clover crops, the Connecticut Experiment Station selected an acre of this crop on a farm near their station, and carried on extensive experimental work with the crop. The acre selected produced 4.8 tons of hay in one year, the first cutting yielding more than the two later cuttings together.

The following statement compares the amount and character of feed, and also the quantities of nitrogen, phosphoric acid and potash in this crop of alfalfa, with the average amounts in three tons of mixed meadow hay or three tons of red clover—yields which would be considered large for the summer of 1911. The figures represent pounds per acre.

	Alfalfa.	3 tons Meadow Hay.	3 tons Red Clover.
Ash	692	318	570
Protein	1,320	474	906
Fibre	2,276	1,668	1,446
Nitrogen-free Ex't.	3,133	2,568	2,076
Fat	167	132	102
Nitrogen	217	80	133
Phosphoric Acid	52	19	28
Potash	164	97	145

Alfalfa yielded considerably more of every feed ingredient (400 more pounds of protein) than a good clover crop, and vastly more than meadow hay.

Another experiment in connection with alfalfa, and one which should be considered in comparing crops, was one to determine the effect the crop had on the soil, as compared with the effect of a crop of potatoes.

Four samples of soil were drawn in different places on the acre, and the same number from an acre strip adjoining which had received the same tillage and treatment as that given the alfalfa acre until 1910, when, in place of seeding to alfalfa, it was cultivated and in 1911 planted to potatoes, with commercial fertilizer. The percentages of moisture and nitrogen in the two soils on November 5th, after abundant fall rains were:

	Under alfalfa.	Under potatoes.
Moisture in 6 inches surface soil.....	20.49	18.06
Moisture in next 6 inches of soil.....	18.72	15.94
Nitrogen in surface soil	0.251	0.251
Nitrogen in subsoil	0.125	0.088

As a means of holding soil moisture, it would seem, from this, that alfalfa had a considerable advantage over a cultivated and fertilized crop like potatoes. It also has an advantage in the nitrogen content of the soil.

Other interesting data obtained by E. H. Jenkins, the compiler of the foregoing figures, was that the crop is reasonably hardy, and, as a soiling crop, is valuable to take the place of "summer pasture," which cannot always be relied upon, and, by the use of caps, it can be harvested for hay with fair success, even in bad weather. It was also found that, on land which had received a fair dressing of manure, an additional light top-dressing in the spring did not increase the yield.

Round Cement Water Tanks.

I built a cement water tank in 1910, and have used it to hold our water supply for the house and about fifty head of stock ever since.

My tank was built of sloppy cement, one to six. We used silo rings, and built it eight feet across and seven and a half feet high. It holds 2,300 gallons.

The wall and bottom are six inches thick. It is plastered on the inside, and I have a flat board roof on it.

The water is pumped into it by a windmill. The tank is built on the ground, which is higher than the water trough, and will empty itself into this trough, which is managed by a float.

Last winter it was banked about two feet around the bottom with clay, and there was only a little ice around the inside about half way down.

This winter I have it banked about five feet with clay, and there is quite a bit of ice frozen to the sides, although I don't think it will hurt the tank any, as the ice can always be broken with a small stick.

This tank has given first-class satisfaction. If it stands this weather, which has been from one to thirty below zero for the past month, I think it should last a lifetime.

I might mention that No. 9 wire was used every six inches in the wall, and the cost of this tank was \$30.
S. J. MILLER.
Waterloo Co., Ont.

Wild Farmers I Have Known.

Editor "The Farmer's Advocate":

The auld wumman says tae me the ither day, "Sandy," says she, "why dae ye no' write a book? Ye're auld enuch the noo, surely, tae hae had quite a bit o' experience, an' it might be daein' the comin' generation some guid tae ken aboot the way ye hae made sic a great success o' yer business, an' sae muckle money, an' a' that." The auld girl likes tae gie me a dig noo an' again, ye, see, aboot spendin' mair o' my time wi' ma books an' papers than she thinks is guid for ma health. Hooever, I says tae her, "Weel, maybe I will write a book. I dinna ken what Dr. Osler wad say tae ma beginnin' ma life-work after I'm sixty, but may happen he'll put me doon for the exception that proves the rule. What wad ye be thinkin' wad be a guid title for the book? Na doot that comes first, like a text before the sermon."

"Weel," says she, "I was lookin' at some books the ither day over at Mrs. McKenzie's, an' ane o' them was called 'Wild Animals I Have Known'; sae, noo that ye've brought up the question, why can't ye tak' that an' 'it it tae suit yer subject, since ye're a' the time writin' aboot farmin'?"

"A' richt," says I, "I'll mak' it 'Wild Farmers I Hae Kenned,' and let it go at that. An' nobody can say I'm no' familiar wi' what I'm writin' aboot."

"An' what," says ma wife, "wull ye be takin' tae head the first chapter?"

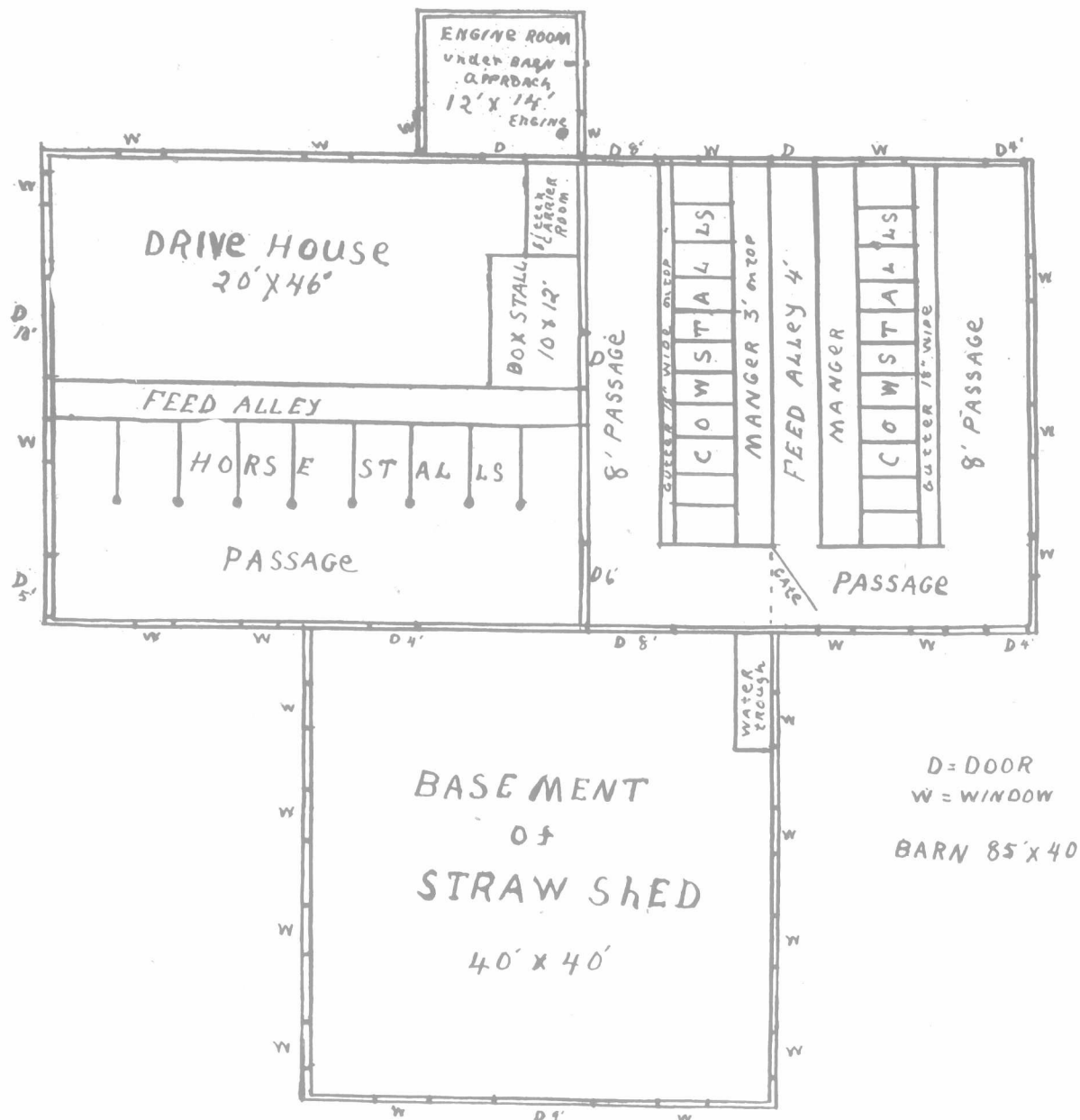
"Weel," I said, "There's auld Jimmy Mc-Sweyn. It's time he was held up tae the world as an object-lesson on the awfu' result o' bein' on too good terms wi' the kitchen stove. Ye ken he'll sit wi' his feet on the damper an' spit intae the fire by the oor, an' naething disturbs him, not even the wolf barkin' at the door. He makes the wee laddie attend tae the coos an' sic like chores, an' by the looks o' the brutes when I came past the ither day, they're on short rations, I'm thinkin'. He lets them oot tae drink at the creek when the day is fine, but gin it's stormy, it's local option for the coos. The winter's manure is at the stable door, an' as the laddie canna' throw it very far, it has got tae be a regular toboggan slide for the bossies ilka time they gang intae the stable. It's no sma' job cleanin' oot his stable, a' the same, this cauld weather, for he has to use an axe maistly. The ither mornin' ane o' the coos couldna' get up, an' Jimmy, thinkin' she was weak-like, as it was comin' on toward spring, an' the straw was na' very guid, sent over for me tae come an' help him lift her up. But before I got there he sent the boy tae meet me an' tell me it was a' richt. The coo had juist been held doon by her tail, which was frozen tae the floor.

"Last simmer he sent tae the cheese factory, an' the man wha maks up the books tell me that Jimmy's coos averaged a wee bit over nine hundred pounds apiece for the season. An' I ca' that pretty generous o' them, too, when you consider hoo much they had to mak' it wi'."

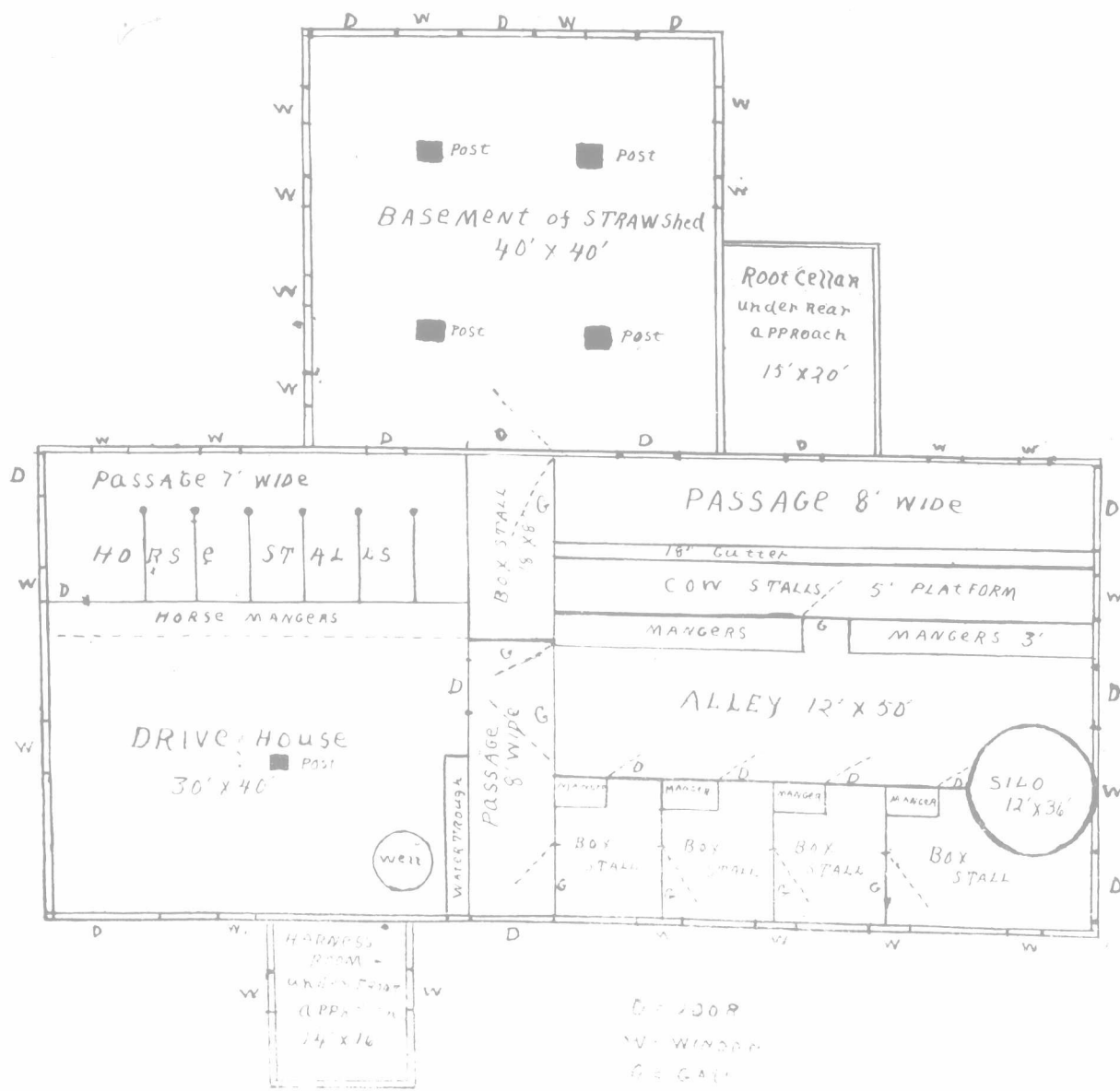
"It's gaein' doon hill wi' Jimmy, I'm feart, an' his wife is gettin' mair discouraged-lookin' ilka day. She was makin' a wee bit butter the ither day, when I was in, tae tak' tae store tae get the bairns some shoes an' things, an' I'm thinkin' they'll be eatin' their bread dry for a while in consequence.

"She says tae me, 'My, Sandy, but the wee weans is awfu' fond o' bread,' and I says tae myself, 'na wonder, for they never get mair o' it than is guid for them.' Jimmy bought a couple o' young pigs last spring, intendin' tae hae a barrel o' pork tae winter on, but he did na' hae them lang till they seemed tae stap growin', a' except the hair. He used tae feed them what they he'd get back frae the cheese-factory, an' after a while they got too discouraged to squeal for anything else.

"I passed Jimmy's place one day last spring when he was pittin' in his crop. The field was unco' wet, but it was gettin' late, an' Jimmy was in a hurry for once. The horses were nigh up tae their knees in mud, an' a guid part o' his aits wad be put doon so deep that it wad na' come up till the day o' judgment; but, as Jimmy said, 'Gin ye dinna' sow, ye canna' reap.' He was gaein' tae put the seed in the ground and trust in the Lord tae gie him a harvest. But the Lord must hae overlooked him in some way, an' this year he's thinkin' o' makin' a ditch to carry off a wee bit o' the water. An' tae even think o' sic a thing is quite a bit o' exercise for Jimmy. Hooever, it's unco' easy tae talk, but when a mon is doon, it's gaein' tae tak' muckle mair o' a struggle tae get up than it does tae stay up ance ye're on yer feet. When a mon's land has got full o' weeds, when his fences are a' oot o' repair, when his barns hae taken a lean wi' the prevallin' winds, and, worst o' a', when he has got intae the habit o' mind that has made these condections possible, there isna' muckle chance o' salvation for him. He'd juist better sell oot an' go an' work by the day for some man that wasna' born tired, an' wha kens hoo tae pit



Basement Plan of E. S. Chute's Barn.



Basement Plan of Frank Smith's Barn.

energy intae his hired men. The Lord made some men tae boss the job an' ithers tae be bossed, an' it's a bad thing for a' concerned, especially for himsel', when ane o' these last gets intae the wrang stall an' starts tryin' tae rin things. It's maistly sure tae rin them in the wrang direction and end in a smash-up. I should na' wonder that, gin I am gaein' tae hae onything left for that book o' mine, I had better come tae a stop," says I tae the auld wumman, for a' this time I'd been talkin', she no' bein' able tae say much on account o' a bad cold she'd picked up in her travels about the neighborhood.

"Weel," says she, "what ye hae said will be doin' for an introduction like, an' na doot there are two or three mair 'wild farmers' ye hae known, besides yersel', that will gae tae mak' up the rest."

Sae I'm thinkin', Mr. Editor, maybe I'll pay ye a visit at "Weldwood" some o' these days, before I write the last chapter, onyway. I would na' like tae write a book, an' no hae it complete.
SANDY FRASER.

Three Barn Plans.

Barns and barn-planning are always live subjects in the minds of farmers, and anything which brings out new ideas and methods is eagerly sought for by intending builders. With a view to giving "Farmer's Advocate" readers the benefit of a chance to study a few plans, a member of the staff photographed a few barns in Elgin County, and from rough plans supplied, prepared plans suitable for publication. These three barns are of different types and are differently arranged. There are many good points in each, and doubtless those contemplating building a barn will be able to incorporate some of the ideas in their proposed structures. No building can be considered perfect, and the highest degree of perfection is only reached by comparison and improving upon someone else's ideas. We hope that, from a careful study of the accompanying illustrations and plans, many of our readers will be materially aided in constructing their new barns or in remodelling their old barns and stables.

A WELL-PLANNED BARN.

The first barn visited was that of E. L. Chute, Elgin County, Ontario. This barn is 85 feet long and 40 feet wide, with a straw shed 40 feet square at the back, and a basement under the entire building, floored with cement. The barn is a single-side drive barn, hip-roofed, and covered with galvanized siding. The basement is well laid out. A drive floor 20 feet by 46 feet is situated in the south-east corner. This is used for vehicles and a general drive shed. Just back of this, and of equal dimensions, is the horse stable, with nine stalls, while the cattle stable, as seen by the plan, is in the other end of the barn, and is arranged with the two rows facing each other. Between the drive room and the cow stable is situated a box stall 10 feet by 12 feet, also a small room for the litter carrier and the stable utensils. The cement mangers are built 14 to 15 inches high, are 2 feet wide on the bottom and 3 feet at the top; while the gutters are sloping, and 18 inches wide on top. Barbed-wire is built in the mangers to strengthen them. Watering bowls for the cows are set back of the mangers, between the cows. A grain chute comes down in front of the horses. The straw shed is without posts, being truss-work of steel rods, and can be easily partitioned into pens, besides being used for the cows to exercise in and as a manure and watering shed. As will be seen by the plan, there is plenty of light in the basement, but no special means are provided for ventilation other than the ventilators on the barn. Wide doors permit of driving right through the stable to the manure shed, in case it is required to do so.

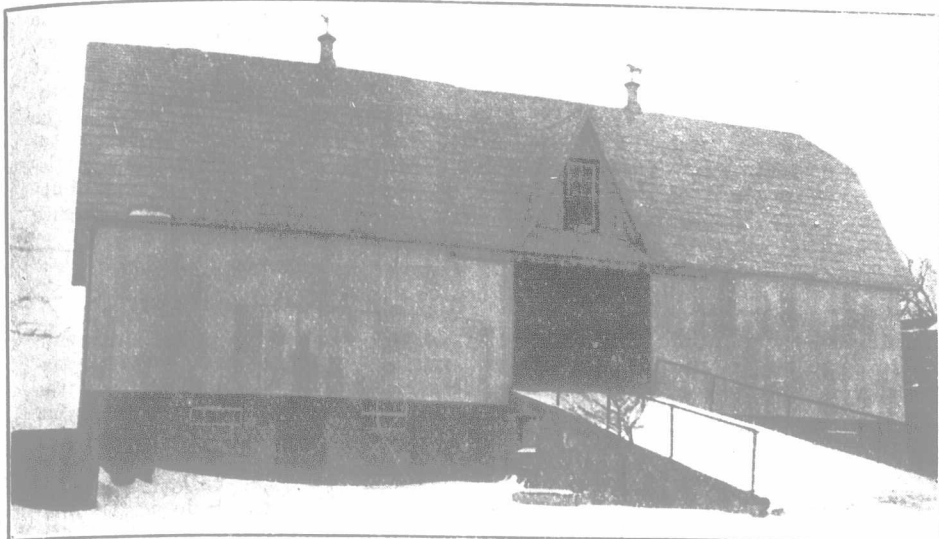
A very handy feature is the engine room, situated under the drive bridge. Here is situated a 2½-h.p. gasoline engine, which pumps water from the creek, 25 rods distant, for the 28 head of cattle, 12 horses and 30 hogs stabled. This room also contains a farm-medicine chest and a desk.

The upper portion of the barn is divided into one drive floor 14 feet wide, one bay 28 feet, one bay 27 feet, and one 16 feet wide. The granary is 20 feet by 28 feet, and this part and the drive are double-floored, with paper between the layers to prevent moisture.

This barn complete, with straw shed, litter carriers, engine, and stable equipment, is estimated by Mr. Chute to have cost \$5,500, lumber, labor and everything included. Mr. Chute's farm is 175 acres in extent, and he finds this size of barn very handy for the farm while following mixed farming, which he believes to be most profitable in his district.

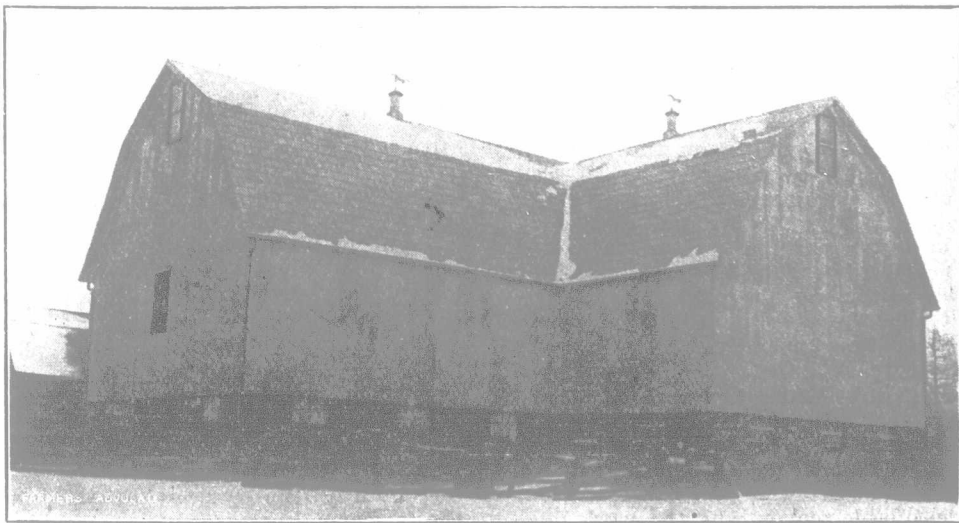
A LARGER BARN.

A barn with several features resembling that of Mr. Chute's, but larger, and in many ways very different, is that planned and built for Frank Smith, also of Elgin County, by Arthur Ribble. This barn is 45 feet by 100 feet, with a straw



A Well-planned Barn.

Front view of E. L. Chute's barn. Engine-room situated under drive.



Rear View of E. L. Chute's Barn, Showing Straw Shed.

shed at the back 40 feet by 40 feet. This barn has a front and back approach, as will be seen by the illustrations and the plan. This permits of driving right through the barn without turning around, making, as the approaches are not situated opposite each other, practically two drive floors, each 14 feet wide. There is a space in the center of the barn wide enough to turn a team and wagon or a threshing machine around. This space is 21½ feet in width. Besides the two drive floors, there are three large bays in the barn, and a fair-sized granary.

The front approach has a harness room under it 14 feet by 16 feet, and the back approach is built over a 15 feet by 20 feet root house. The drive-house is 30 feet by 40 feet. The horse stable is situated directly back of the drive-room, seven stalls being provided, as seen by the plan.

Only one row of cows is provided for, with gutters and mangers the same size as those in Mr. Chute's barn. A feed alley 12 feet wide is provided in front of the cows, and an 8-foot passage behind them. On the opposite side of this alley are situated four box stalls, with the silo in the end. Wide gates allow of passage from stall to stall, and through the stable out to the manure shed, in the straw shed basement. Water is pumped from a well in the drive house. Chutes and windows are the only means of ventilation. The straw shed is supported by six cement pillars, and the entire building is covered with galvanized sheeting. We understand that the entire cost of this barn was in the neighborhood of \$6,000, work and material included. This barn is situated on a 100-acre farm, and Mr. Smith finds it, while large, none too large to meet his needs.

A REMODELLED BARN.

Our barn, formerly 86 feet x 30 feet, was among the oldest in the neighborhood, and of good timber frame, such as is hard to find nowadays. As will be noticed, it was rather narrow, compared with the barns built at the present time, but the frame being in such a good state of preservation, we decided not to tear it apart in order to widen it. Standing as it does on a high ridge, we thought it would look rather out of proportion placed on a nine-foot basement wall, so we raised it 4 feet, and put a cement-block wall under the east and west ends and north side, and, by

boarding it up 3 feet above the 1-foot sill, made a basement with an 8-foot ceiling. Then, in order to widen the basement (we had plenty of mow room as it was by lowering the floors of the mow), we built a lean-to, 8 feet wide and 8 feet high, on the south side, thus making our basement 86 feet by 38 feet.

The old siding was used to board it crosswise, and the whole is covered with galvanized siding and roofing. In the west end is the open shed, where there is the cement tank, holding 60 barrels, on the top of which sits a steel tank, with a capacity of 34 barrels. The water runs from eaves into the steel tank, and from there into cement one, which, when filled, shuts off by means of a float; and, after filling the steel tank, the surplus water is carried across the drive barn (which corners onto the big barn) to a well from which we water the horses, thus saving a lot of water which would otherwise be wasted. The cows drink from a cement trough in the shed which is supplied from the cement tank, and also works with a float. When the water gets low in the shed, it is pumped by windmill or gasoline engine from a well about 200 feet away. This water is also used for cooling milk in the milk house, and, by shutting it off there, it runs up into a steel tank, and, after being put through the milk-cooler, is carried by gravitation back through the main pipe on to the shed. In this way we do not waste a bit of water.

The cow stable is fitted with steel mangers, stanchions, box stalls, with a feed carrier and litter carrier. The feed carrier runs from granary to cow stable, down the alley to the shed, and across the shed to the silo which we are building this summer. The litter carrier runs behind the cows on either side, out through the shed on to a 30-foot swing pole into the barnyard, or it can be dumped into the manure spreader or a waggon in the shed. There is a switch, by means of which, if we were to extend the track across the box stall in the shed, the litter carrier could be run directly to the horse stable.

The main barn drive floor to the east of the cow stable being on the ground floor does away with the large bridge, which is so often a source of expense. By means of hay fork and slings, the hay and grain are easily handled, and during the

winter the drive floor is handy for storing extra feed for the cows.

Beyond the drive floor, to the east, is a root cellar, a granary and a machine room, out of which, to the north, opens the milk house.

The refrigerator is handy for keeping milk and for the storing of butter and meat and other articles hard to keep in very hot weather. It will hold about 350 cakes of ice 2 feet square.

This latter is a description of the barn of R. R. McConnell, Elgin Co., Ont., written by the owner. This barn is a remodelled structure, and, from the accompanying plan and illustration, it will be noticed that in some respects it is well laid out. A rather unusual feature is the barn drive floor, on the same level as the basement, stabling, granary, root cellar and machine room. Those wishing to remodel old barns may benefit from this plan and description.

Many features not mentioned in this short article can be readily seen from the accompanying illustrations. Study them carefully and pick out the desirable points.

A Cheap Silo.

Editor "The Farmer's Advocate":

The large sums of money paid for building silos, reported in "The Farmer's Advocate," are quite as large as they look. Farmers, as a rule, do not charge up their improvements with every item of cost, as board of men, teaming, etc., as a great deal of this work can be done when the teams are idle. I give below the cost of a silo, 10 x 30 feet, which is cheap and durable:

Contractor's price for building cement.....	\$100.00
Gravel	7.50
Wire and lime	3.00
Material for roof and chute	12.50
Carpenter to put on roof and chute	5.00
Total	\$128.00

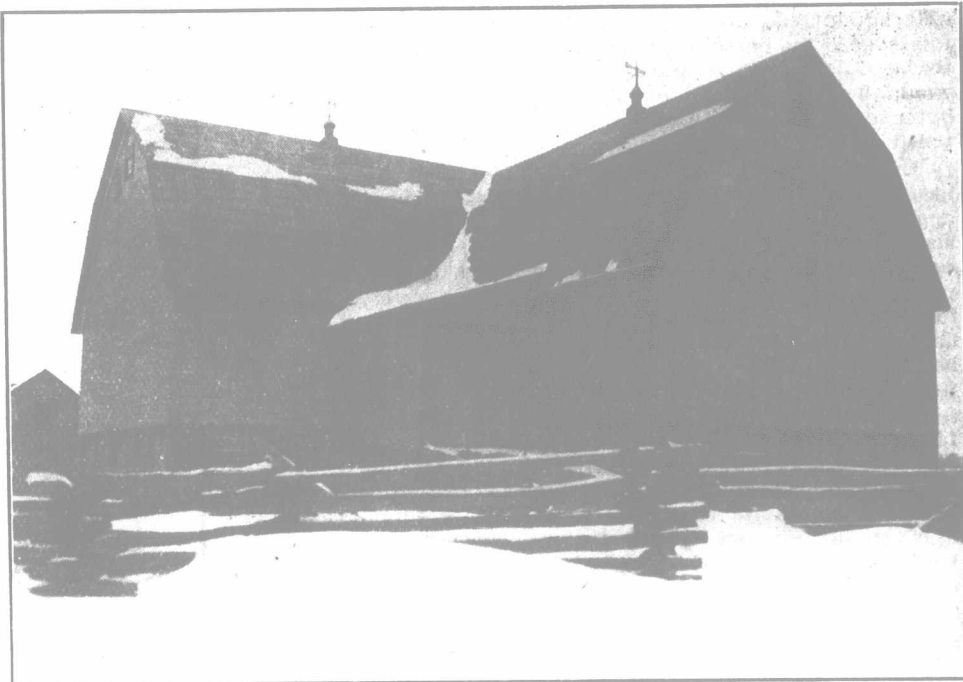
The silo is five feet under ground, and the only trouble has been the silage freezing, but, as this is an unusually cold winter, do not expect as much trouble in future.

This silo will hold four acres of corn, and feed ten cattle for six months. The greater the



A Large Barn.

A perspective front view of Frank Smith's barn, showing front approach and gables. A harness-room is situated under this approach.



A New Idea.

Rear view of Frank Smith's barn, showing straw shed and rear barn approach, under which is situated a root cellar.

diameter, the less the cost, as far as capacity is concerned. It all depends on how much you can feed each day. All the rest of the work, drawing stone, water, digging foundation, boarding men, is not counted in the cost. The roof is lumber, 8-inch, cut to a point, with 2 x 8 circular plate, and center ring for boards to be nailed to. A window for filling, on the side remote from the barn, is the only opening in the roof, as the chute only goes as high as the top of the highest door. Four teams and eight men filled the silo in four hours, after the corn was cut down in field by hoes. I like the hoes better than a corn harvester, as they leave a much shorter stubble. I paid the blower outfit \$5.00, and think I have a cheap feed for the money expended.

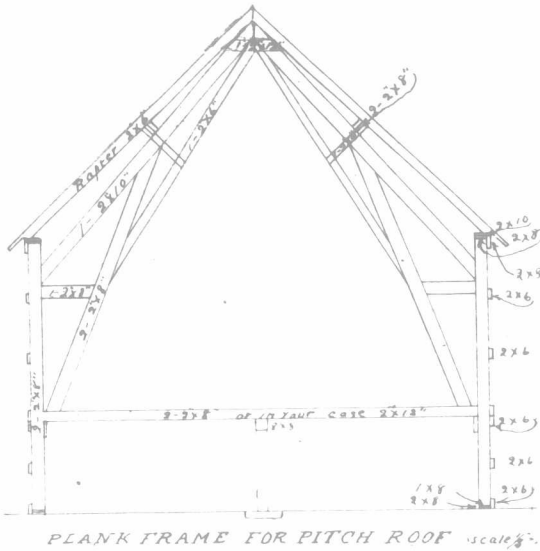
Bruce Co., Ont. T. W. LAMB.

[Note.—While figuring the work done by farmers themselves in constructing improvements makes the final cost of these improvements seem much greater than where the cost of material and builder's fees are the only items listed, is there any justifiable reason why the work done by the farmer himself or by his men and teams, should not be valued? If these men and teams went to work for someone else, there would be a price set at once upon their labor. Are they not worth just as much, and often more, to the owner at his own work, and should the work they do not be charged up against the particular part of the farm on which it was done, whether it be building, cultivating or rearing?—Editor.]

Plank Frame Barn with Ordinary Pitch Roof.

Editor "The Farmer's Advocate":

I am intending to build a 30 x 30-foot addition to my barn, which is 50 x 30 feet. Would like to build after the pattern explained by A. A. Gilmore in February 1st issue, but do not want the hip-roof. Would the frame be strong enough if a 2 x 10-inch or 2 x 12-inch plate were bolted from the top of one post to the top of the other in the interior bent, and the upper part or purline post and roof support were not used, but the bents would be fastened together in the same manner as though the roof support were used?



Posts will be 18 feet; roof, 2 feet less than one-half pitch. Wish to use lower part for sheep house, and store hay above. If I used a stick of timber 8 x 10 inches through center, lengthwise, well supported, how far apart would 2 x 12-inch joists need to be to support the hay above, joists to be 6 feet above lower edge of sill? What would be best method of supporting the joists on outer ends next to wall? How are rafters fastened on the plate? C. C. W.

Of late, most of the plank frames that have been shown in this paper have been designed with a gambrel roof, and, no doubt, have led this subscriber, as well as others, to suppose that an ordinary pitch roof could not be used with a plank frame. This is a mistake, as this style of frame is well adapted for any kind of roof, and the only reason that most of the designs shown had gambrel roofs was that most of the farmers are using this kind at the present time.

In answer to your first question, I am submitting an elevation of a bent for a pitch roof, and I think that you will be able to understand it without much explanation, as the only difference that amounts to much is in the roof support and the sub-support, as the latter is below in this roof, while in the other design it is above.

The construction you speak of might do, but the plank would certainly be in the way of spreading the hay, and would be in the center of the rafters unsupported, which through its own thrust on the wide plates from the roof.

Good 2 x 12-inch joists, under an evenly distributed load, over a span of 15 feet, will require to be set on 18-inch centers.

The extreme ends are supported on rock, and

side walls, while another piece 2 x 10 inches, or 2 x 12 inches, is spiked to the inner edge of the side posts to further support them, while additional strength may be added by spiking block of 2 x 8 inches between side nailer and this piece of 2 x 8 in., which acts as a bridging.

The rafters are spiked to both the main and purline plate, the same as for any kind of frame.

In the issue of "The Farmer's Advocate" of February 22nd there appeared a design for a plank frame, in narrow barns, that might be altered some to suit your pitch roof, and if this was done, the saving would be quite an item. To do this, it would be necessary to lower the top ends of the purline posts and give them more slope, so the purline plate would come under the center of the rafters. However, you will have a good safe roof by using either design. Huntingdon, Que. A. A. GILMORE.

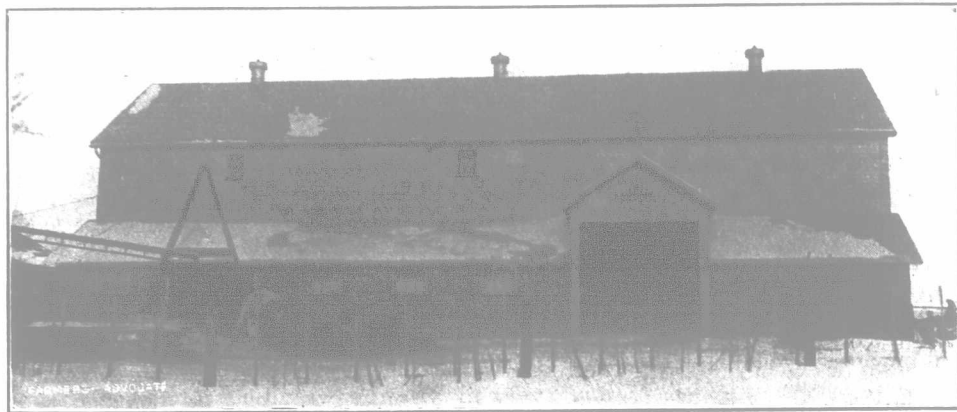
made during the summer. The average price per pound of fat was 24.07 cents, this being for the summer only. The Kerwood average is higher, being for the whole year. The same price for fat is paid at both creameries, month by month. Total receipts at Strathroy were \$31,257.21. The patrons of these two plants are to be congratulated upon the clear statements of a very satisfactory year's business. Kerwood creamery butter has a high reputation, and commands a price above the average on London markets.

Reconsider Your Ration.

It pays every dairyman to reconsider his ration at frequent intervals. For instance, a little experience soon lets one know if he is getting the milk yield he should from the money value of the ration fed. If the returns in pounds

are not there, it is generally safe to conclude that something is wrong with the balance of the ration, with its palatability, or with the grinding of the grain. Many a farmer has allowed his profits to slip away just because this link in his chain of success has been weak. For instance, this season, clover has been out of the question, and it is the dairyman's business to make up for this defect. He will find this to be about as hard a task as he as clover is the milk-producer's best friend. Yet, the lack must be made up, or loss will be sure to follow. The task is made all the more difficult this year, as the oats are generally light and of very inferior quality. A very good plan is to increase the amount of oil cake or cottonseed meal fed in the grain ration. Pea meal is good, but the price this year is almost prohibitive. The nice point is to feed the cows all they require, and yet to have them "humming" for their food every feeding time.

The vigorous appetite of the cows will indicate whether the food is well digested or not. Weighing the milk and the feed will determine the profit, while the ratio between the feed and the milk will make clear, to a certain extent, whether or not the ration is balanced. When feed is so high-priced, and when it is so hard to get fodder of good quality, the dairyman needs to exercise his thinking powers. With milk at the present price, and butter soaring, it pays the farmer to study his dairy herd, with a good deal of detail. Dampness must be kept out of the stable, the windows clean to let in abundance of sunlight, the currycomb and brush used plentifully, lice cleared out, and the cows allowed an abundance of quiet hours. There are difficulties in the way of making a dairy herd pay this year, but a man who cannot overcome difficulties has no place in the dairy business.



A Remodelled Barn.

Front view of the barn of R. R. McConnell, showing drive floor on the basement level; also pole for litter-carrier and the position of the lean-to.

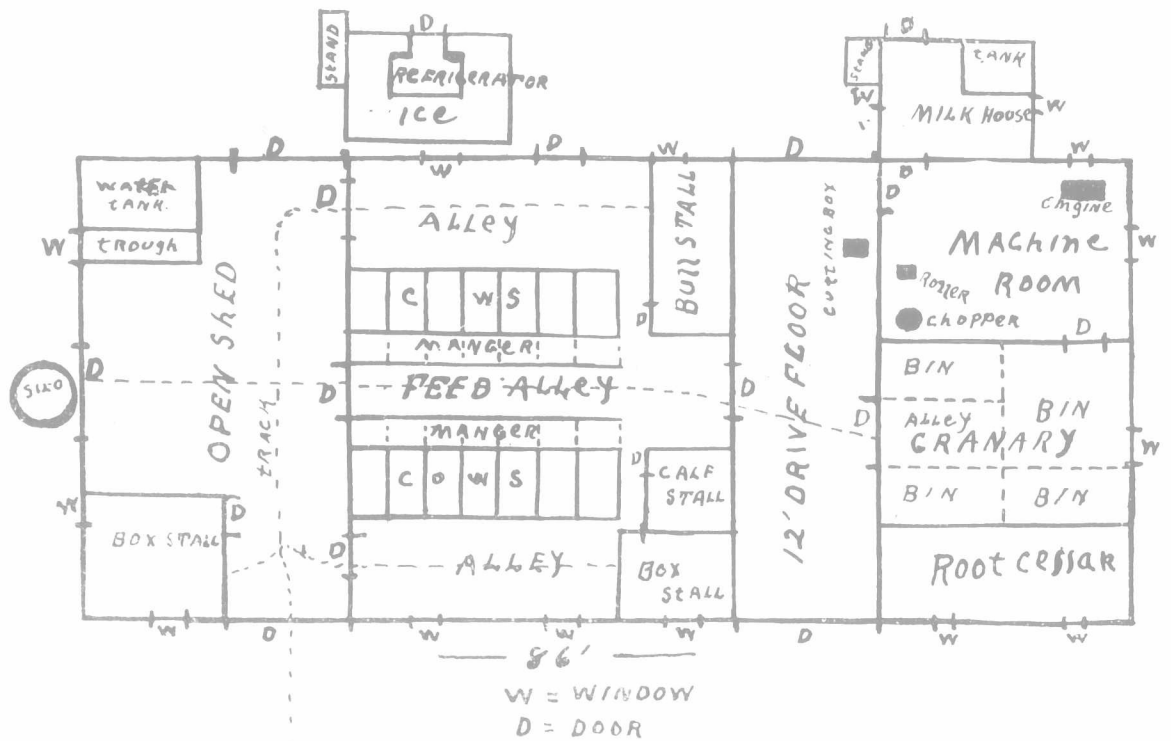
THE DAIRY

Kerwood and Strathroy Reports.

The annual meetings of the Kerwood Cheese and Butter Factory and of the Strathroy Creamery, both under the proprietorship of the well-known and highly efficient creameryman and cheesemaker, W. Waddell, were held the third week in February. From the audited reports we glean a few interesting figures. The Kerwood factory has swung almost entirely to butter, the statement showing receipts of \$7,093.03 from cheese, while, for butter, buttermilk, casein, etc., the receipts were \$77,616.35, this including an item of \$91.30 for ban's interest. The yield of cheese was 10.74; the average price per cwt. of milk for cheesemaking was \$1.03, plus drawing, or \$1.11 delivered; average price of cheese, 13.45 cents. Of the butter, a large proportion is made from gathered cream, an increasing number of patrons desiring the skim milk to feed. From 262,580.33 pounds of butter-fat, 308,617 pounds of butter were made, besides a small amount of cream otherwise disposed of. The average price paid patrons per pound of fat was 25.33 cents. Gross receipts for the year reached the impressive total of \$84,709.38.

At Strathroy, 131,227 pounds of butter were

no place in the dairy business. W. D.



Basement Plan of R. R. McConnell's Barn.

Money in Butter.

Editor "The Farmer's Advocate":

While it may be unjust to place the responsibility for the high cost of living on farmers, is the charge answered by attempting to shove the responsibility onto those who have left the ranks of food producers to become food consumers? One of the basic principles underlying success in agriculture is the opportunity of catering to a large and varied consuming population. When one thinks of the marvellous agricultural possibilities of this country, it is rather startling to note that Canadian buyers are seeking for Danish and Australian butter. It should be about as necessary, and as profitable, to ship butter to Canada as to "cart coals to Newcastle."

The farmers of Canada are the men who supply the food, which produces the energy which enables the many toilers in the varied industries of the nation to do their work successfully. Now, are they living up to their whole duty and to their opportunities? It is simply repetition to say that we are "not independent," either as individuals or as a class, but are inter-dependent, and owe it to the community and to the state to exhaust every avenue of endeavor as food producers, because the character and amount of the food supply largely shapes the character of the nation and its prosperity. Now, can the citizen afford to pay the prevailing price for his butter, and is it not possible for the farmer to produce it as a considerably lower price, even at the present high price of feed, and still figure out a fair profit? To the latter part of the question I unhesitatingly answer, it is quite possible. In proof of this, let me cite my own experience for the month of January. The income from my eight cows (no fresh milkers since July last) was greater in January than in July, the price received being the same in both months. In fact, the price was the same as it was seven years ago, and the result is not because of the higher price of milk products to-day, but I attribute it to the fact that I had "nerve" enough to pour into the cows oil meal at \$42 per ton, oat chop at \$32 per ton, shorts at \$26 per ton, hay at \$15 per ton. Satisfied am I that our coarse grains can never reach a price when a profit can be shown by stinting a good dairy cow. I was somewhat surprised to learn, at the local mill, the other day, that they were shipping by-products to Germany. If the German can pay the price and the freight, surely the Canadian farmer can pay the price, less the freight, and to his own advantage. Were I interested in tariff revision, I would advocate an export duty on hay, coarse grains and all mill by-products, of any feed value, in order to assist the live-stock industry, and thereby conserve and increase soil fertility.

Oxford Co., Ont. J. N. CHAMBERS.

[Note.—In view of Mr. Chambers' former letter opposing reciprocity, there are many who will read with peculiar relish his second sentence, "One of the basic principles underlying success in agriculture is the opportunity of catering to a large and varied consuming population." It will take some explaining to harmonize the two positions.—Editor.]

Profit and Loss with Cows.

Professor J. W. Fraser, of Illinois, at a meeting of the Michigan Improved Live-stock Breeders' and Feeders' Association, made the startling statement that one-third of the dairy cows of the country are kept at a loss. The profit of the next third is required to make up this loss, so that, in reality, the only profit derived, on the average, is from the best one-third of the cows. These statements were not made at random, but are the conclusions of ten years' investigations by the Illinois Experimental Station in testing herds throughout the State.

The difference in cows was well illustrated by a chart showing the cost of feed and the product returned by four cows kept at the University of Illinois. Of these four cows, numbers one and two were the two poorest in the herd. These cows paid a profit of 25 cents above the cost of feed and care in one year. Numbers three and four were the two best cows, and these individuals paid a profit of \$223.27 in one year, or 893 times the profit returned by cows number one and two.

Prof. Fraser presented figures which showed the production of the best and the poorest cow from each of three different herds in Northern Illinois, the cows being selected from appearance alone, and the facts being brought out by their records. The following table shows the relative production of the best and the poorest cows in these herds, and the cost per cwt. of both milk and butter-fat:

No. Cows	Lbs. Milk	Lbs. Fat	Cost cwt. Milk	Cost lb. Fat
1	9,592	405	\$0.86	\$0.20
2	3,098	119	1.75	.45
3	14,813	469	.61	.20
4	7,686	324	1.00	.24
5	8,563	291	.90	.26
6	1,411	53	3.16	.84

Cows 97 and 98 were selected from a herd of 100 cows, the owner of which had kept no records of individual production, and did not know which were profitable cows, and which were not.

Another table gives the record of 15 cows kept by one farmer in the best dairy section of Northern Illinois:

No. Cows	Lbs. Milk	Lbs. Fat	Profit	Loss
1	1,204	49	.....	\$27.52
2	1,326	50	.....	27.20
3	2,944	88	.....	15.17
4	2,597	91	.....	15.38
5	2,538	98	.....	13.18
6	2,475	99	.....	13.18
7	2,569	105	.....	10.98
8	3,164	117	.....	8.37
9	2,828	123	.....	8.67
10	3,380	149	.....	1.58
11	4,582	158	\$ 1.41	.....
12	4,146	174	3.41	.....
13	4,103	177	5.41	.....
14	4,993	191	8.40	.....
15	4,435	200	10.21	.....
Av.	3,147	124	.....	\$7.49
Total loss on herd	.....			\$112.39

As will be noted, 10 of the 15 cows kept upon this farm were maintained at a loss, instead of a profit, the total loss from the cows being \$141.23. The other five cows in the herd returned a profit of \$28.84, leaving a net loss from the herd as a whole of \$112.39, or an average loss of \$7.49 per cow. This loss represents the amount which this farmer paid for the privilege of being a dairyman, after the cost of keeping his herd, including feed and labor, had been deducted. The second chart used to illustrate this point, showing the production and profit from another herd of 14 cows, was as follows:

No. Cows	Lbs. Milk	Lbs. Fat	Profit	Loss
1	3,253	122	.....	\$8.37
2	3,297	126	.....	6.17
3	3,289	135	.....	3.97
4	4,154	147	.....	.99
5	4,205	163	\$ 1.21	.....
6	4,929	196	10.60	.....
7	5,683	216	15.80	.....
8	6,232	218	16.21	.....
9	5,408	242	19.93	.....
10	6,553	257	25.16	.....
11	6,624	258	25.16	.....
12	6,805	277	29.70	.....
13	7,060	297	34.25	.....
14	8,785	307	37.52	.....
Av.	5,488	212	\$14.00	.....
Total profits on herd	.....			\$195.04

Only four cows in this case were kept at a loss, but they helped to pull down the profit on the other ten.

The serious problem of labor on the dairy farm is made worse by keeping losing cows. Where the cost of feed is estimated, says Prof. Fraser, we are only one-half way through computing the cost of maintaining the cow, as the labor cost will about equal the cost of feed. This has been shown to be true by investigations conducted in different stations. In Minnesota, the cost of feed was found to be about 48 per cent. of the total cost of maintaining a cow, while in Illinois it was found to be 52 per cent. An average of these results will show that the cost of feed and labor are about equal.

In the next table Prof. Fraser showed figures relating to the production of the best of three herds selected to show the difference in the average cost of production of the dairy herd of 13 cows.

No. Cows	Lbs. Milk	Lbs. Fat	Profit	Loss
1	5,986	252	\$22.66	.....
2	7,920	254	23.94	.....
3	7,600	260	25.75	.....
4	7,169	293	32.20	.....
5	8,300	295	35.00	.....
6	2,010	322	39.87	.....
7	9,045	333	42.07	.....
8	9,043	337	44.27	.....
9	8,877	344	44.27	.....
10	9,999	348	53.53	.....
11	11,293	376	63.99	.....
12	7,632	403	56.69	.....
13	10,289	422	69.70	.....
Av.	8,628	326	\$42.60	.....
Total profit	.....			\$553.84

As will be seen, every cow in this herd produced a profit varying from \$22.66 for the poorest cow to \$69.70 for the best, and an average profit of \$42.60 for the whole herd. This is a difference of \$50.09 in the average profit per cow, as compared with the poorest herd, for which the statistics are shown.

Prof. Fraser stated that there was some difference in the feeding, but much more difference in the cows. The man owning the first herd, which

showed such unprofitable results, fed as high as 10 pounds of grain per day per cow during the winter season. The main reason why the owner of the last-mentioned dairy herd made so much greater profit was the fact that he had built up his herd by testing his individual cows and weeding out the poorer individuals.

Prof. Fraser showed another chart, based upon the average market value of the production of cows giving varying quantities of four-per-cent. milk, from 2,000 to 15,000 pounds each per annum, at the average cost of production, containing comparative figures as follows:

Lbs. Milk	Lbs. Fat	Profit	Loss
2,000	80	.....	\$18.00
3,000	120	.....	9.00
4,000	160	\$ 0.00	.....
5,000	200	10.00	.....
6,800	240	20.00	.....
7,000	280	30.00	.....
8,000	320	40.00	.....
9,000	360	50.00	.....
10,000	400	63.00	.....
11,000	440	76.00	.....
12,000	480	89.00	.....
13,000	520	102.00	.....
14,000	560	115.00	.....
15,000	600	128.00	.....

It will thus be seen that, on an average, every cow kept upon the farm that produces less than 4,000 pounds of four-per-cent. milk is kept at a loss.

The average dairyman should, at least, get half way along the list with an annual production of between 8,000 and 9,000 pounds per cow per year, and thus secure a profit of between \$40 and \$50 each above the cost of maintenance. This can be done, for the best herd tested by the Illinois Station showed an average production of 397 pounds butter-fat, and \$61.88 average profit per cow, while the four poorest herds tested showed an average loss of \$6.17 per cow. In one community, where the milk was sold to a condenser, the poorest three herds tested showed an average income of \$30.62 per cow for milk sold, while the best three herds tested showed an average income of \$98.94 per cow for milk sold.

The last diagram submitted by Prof. Fraser showed that the high-producing cow will assimilate more food than the low-producer, but there is an increasingly large profit, or difference between income and cost of keep, comparing the good and the poor cow. In presenting a summary of the foregoing points, the Michigan Farmer hopes that it will bring home to the dairymen of the State a lesson that they cannot learn too quickly or too well.

GARDEN ORCHARD.

Apples by the Pound and Oranges by the Bucket.

Editor "The Farmer's Advocate":

Just a few lines in reference to what we noticed in Southern California this winter with regard to their apple orchards. The Americans, I think, can teach us quite a lesson in planting and taking care of an orchard. When planting, they are very careful about the selection of their trees. Their object is to have every tree straight and of the same size and length. Before planting, they do their pruning with the finger and thumb, by pinching off the young buds where necessary, and by so doing form a perfect top to every tree while quite young, thus saving time and labor later on. And one thing we noticed, every man was trying to outdo his neighbor in this respect. They also keep the trees well cultivated and free of weeds. Occasionally they sow a crop of some sort to plow under as a fertilizer, such as oats, peas or alfalfa, principally alfalfa, for they get very little rain; this last year, only about two and a half inches, so they have to resort to irrigation, which is done by the Government building pumping plants where water can be found, and in many parts cement ditches are built, about four feet wide at top and two feet at the bottom, and about three feet deep, according to distance to be carried. Thus the farmer has a tax to pay of about \$4 per acre per year. These cement ditches are built along one side of their orchards, and outlets cut in the ditch half way between the rows. The farmer plows a furrow opposite these outlets, and the water flows through the orchard until the furrows are filled up, and the trees draw the moisture from the furrows. You will understand, where this method is practiced the land is very level, and they have thousands of acres watered in this way. Where the land is rolling, the water is forced in in pipes, and goes over the land in the shape of a spray.

Their apples, packed in bushel boxes, are shipped to the cities, wholesale at about \$2 per box, then are retailed to the consumer at 10 cents per pound. All of their fruits that are retailed sell by the pound, except oranges, which sell by the dozen in stores, and by the bucket on the street

by the pedlars. The varieties of apples grown are Pearmain, Bellflower and Newton Pippin. They are very nice to look at, but very light in weight, and of very poor flavor. We carried a few Northern Spies with us just to compare with theirs. We have them all beaten for flavor, so you see the proof of the pudding is in the eating. But, on the other hand, they certainly can beat us badly in the care they give their orchards, for they are a picture to look at. It is no uncommon thing to see fifty and sixty acres in one orchard, and apparently not a missing tree. It makes a fellow ashamed of himself to come back and look at our scrubby orchards here in Canada. Now, would it not pay a farmer who is thinking of planting to go to the nursery and pick his trees, and pay a little extra for the privilege, instead of buying from some of these fruit pedlars that come around and take orders, and send such stuff as some of them do? And that's the last seen of the pedlar, for another man delivers the goods, and there you are up against it. I feel sure it would pay in the end to do your own selecting, for what will improve a man's property more than a nice orchard, well taken care of?

The orchards above described are situated a few hours' ride from Los Angeles, on the Santa Fe Railroad. JOS. POOLE.

Middlesex Co., Ont.

Organization of Co-operative Fruit Shippers' Association.

An Ontario fruit-grower who is interested in the organization of a co-operative fruit-shipping association, inquires as to methods of procedure. A. McNeill, Chief of the Fruit Division, Ottawa, discusses the question as follows:

No great formality is required in farming a fruit-growers' association. If a dozen neighbors, or a half a dozen, even, each having an apple orchard or other kind of fruit, were to agree upon shipping their fruit in common, and upon doing their spraying with one machine, it would be well for them to select a president, a vice-president to take the place of the president when he is absent, and a secretary-treasurer to look after the correspondence and the finances. The secretary-treasurer, if possible, might also be the manager, to save the duplication of offices, and they could then proceed to business.

Write to P. W. Hodgetts, Parliament Buildings, Toronto, for a copy of the Model Constitution and By-laws for Co-operative Associations, and proceed as there directed. If it is deemed necessary to incorporate, it can be done at a cost of \$10. Perhaps, for the first year the association could work without incorporation.

One good hand-spray pump will spray efficiently ten acres of orchard, and more if the orchards are close together. If the trees are full-sized, from one to two hundred trees can be sprayed with a hand pump per day, but very much depends upon the efficiency of the men who handle it, and the convenience of water, etc.

Your inquirer asks about how many farmers would be required to start an association. Several successful shipping associations have fewer than ten members, but probably it would not be worth while incorporating with less than 10. It would pay even two farmers, however, to join in shipping their fruit co-operatively, even if there was no formal organization.

Tobacco Culture in Canada.

Tobacco is a plant of the South. In our minds its culture is associated with that of cotton and the sugar-cane. We think of the old slave days, when such crops were tilled and attended to by gangs of darkies, each under its own overseer. In imagination we hear the jolly songs the darkies sing, but along with these there is also the hiss and crack of the overseer's whip.

Tobacco is cultivated for profit in three widely-separated districts in Canada. The fragrant weed is grown as a farm crop in a section of Quebec, in the southwestern counties of Ontario, and in British Columbia. In Essex and Kent Counties, Ontario, its culture has rapidly increased of late, and in the towns there large factories have been rushed up to take care of and further perfect the product after it leaves the farms.

A representative of "The Farmer's Advocate" recently interviewed several tobacco-growers in Essex County, with a view to preparing an account of the various cultural operations required of the farmer who would grow this special crop.

The first and one of the most important requisites for success is to get good plants. To secure these in good season, some sow the seed in hotbeds, some in cold-frames covered with glass, the majority in cold-frames with cotton covers. Those who have had experience with the latter glass is a much superior cover to either of the other two. A cold-frame—that is, an enclosed bed, and in which the soil alone has been prepared and sheltered—is, on the whole, as satisfactory a hotbed. Great care must be taken to get the soil, and to have it as free as possible from weed seeds. Many a promising start of plants has been

choked or weakened by weeds. Leaf-mold from the woods makes an excellent surface for the bed, especially if taken from a spot where a brush heap has been burned. The burning insures a clean bed. About the first of May is a very good time for the tiny seeds to be sown. Some sow the seed dry, others moisten it and keep it warm until it has sprouted, before sowing, while others, who claim to have the best method of all, bring the seed to the swollen stage, just when the seed-coat bursts, and then sow it. The one aim in soaking or sprouting the seed is to gain time. As soon as danger from frost is past, the sooner planting out can be done, the better. The right stage for setting out is when the leaves are about four inches long. One grower who sowed an ounce of sprouted seed in a cotton-covered bed on the first of May, 1911, set out 1,400 plants on

great extent has frequently to be done to save the crop when this pest has been prevalent. Occasionally the whole field has to be replanted.

Later in the season come the tobacco worms, which lower the grade by eating holes, even where they do not destroy the whole leaf. Spraying with arsenate of lead is practiced by some, though many of the smaller growers depend entirely on hand-picking to save the crop. Of late years, however, it has been found that, better than either is to turn a flock of ducks into the tobacco field, and make them hunt their living by giving them nothing but water. One experimenter found that a flock of twenty ducks cleared a twelve-acre tobacco field of worms, without harm to the plants.

In order that the whole strength of the plant may be stored up in the leaves, it is necessary to

hinder it from blossoming and going to seed. The operation by which this is accomplished is called topping. When there are about sixteen or eighteen leaves on the plant, or, to put it in another way, when the upper leaves have to be parted to get at the flower-cluster bud, is the proper time to break it out. Everything should be topped by the 20th of September. In three weeks after topping is finished, it should be ready to cut. But between topping and cutting comes the most laborious and back-breaking part of the whole work. As soon as the top is broken off, the plant, working in harmony with nature's law of reproduction, tries to have seed produced by throwing out a blossom sprout or sucker at the base of every leaf. The pulling out of these sprouts is called suckering, and has to be done twice for every leaf on every plant. This is the part of the work that they say Canadians will do for themselves, but not for anyone else, and that, therefore, causes a strong demand for immigrants, who are not so particular.

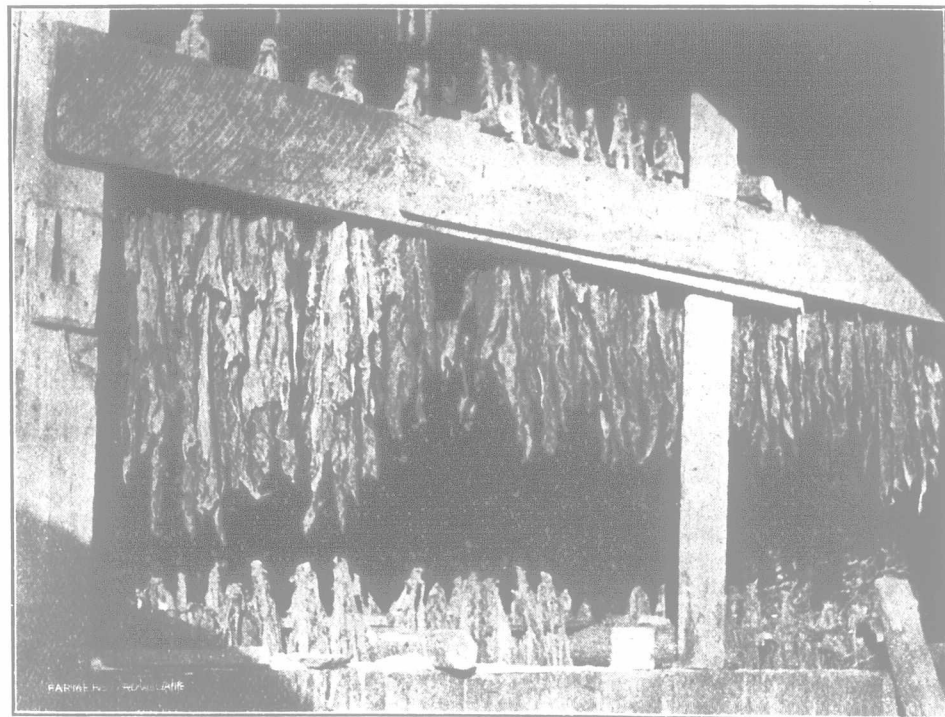
When fit to be cut, the tobacco leaves are spotted with yellow. One test of the proper stage of ripeness is to fold a leaf double between the ribs and pinch it with the fingers, when, if ready, it will crack right across.

Long-handled, bent clippers are used to cut the plants close to the ground, though a hatchet works all right, or a spade, well sharpened, may be used.

After being cut, four to seven plants are piled one above the other, and left for one or two days to wilt, and then the grower starts in to string it. Common lath is sometimes used to string plants on, though generally a stick of the same length (4 feet), but thicker and narrower, is used. A movable spear-point is put on the end of stick, and with this the stalk of each plant is pierced about four inches from the butt, the plant then being pulled onto the stick. Seven or eight plants are strung on each stick, and the sticks are hung up in the barn, about eight inches apart, and left there until they are all curled up. Large growers have tobacco barns built for the purpose.



A Stick of Tobacco.



Tobacco hanging in an ordinary barn.

the 3rd of June, and finished planting three acres in the latter part of June. Some set the single plants at a distance of 3 feet 6 ins. each way, some 3 feet 6 in. by 2 feet 6 in., while others favor a distance of 3 feet 8 in. one way, by 2 feet 8 in. the other, the various distances depending considerably on the strength of the soil and the variety planted.

Cultivation is begun as soon as plants are set, and continued until the growth of leaves interferes, after which the hand hoe is used. Tobacco, more than most plants, responds to thorough cultivation. For a few rows be hoed alongside of other rows left unhoed, and the difference in a few days is quite marked. So noticeable is this that even a single plant which has been hoed can be readily picked out from those around it.

Leaving from a row of cut, the worst few of the newly-set plants to be cut again. Resetting is a

which have many small doors in the sides, to be opened for greater ventilation. More commonly, ordinary barns are utilized for the purpose. One very successful curer of tobacco hangs the sticks up outdoors for a time before putting them in the barn.

In dry weather, when perfectly cured, the tobacco cannot be handled. It would break up and be wasted. During damp weather it softens, and can then be piled down, tops overlapping, butts outward, in quite large piles, either with or without the sticks. When sufficiently toughened by damp weather to be in good condition to be handled, tobacco is said to be "in case." If too damp to be safely piled down for more than a short time, it is in "high case." "In evil case" would more accurately describe the condition sometimes. One farmer who was piling down his tobacco in too "high case," last fall, was called away from his work for about an hour by someone who wished to see him. When he came back over a hundred dollars worth of tobacco was ruined. "What, can you spoil tobacco?" was the question of one who does not use the weed, and thinks it not right even to grow it, when the matter of handling the product was being discussed. "Oh, yes, indeed," was the eager and unsuspecting reply. It will burn and mold, and go wrong in other ways, if you don't watch out. "Well," says he of the first part, "I know that a flock of turkeys roosting on the poles all winter won't spoil it, at least won't hurt the sale, and it adds to the weight."

The next process is stripping, which is usually done in cold weather, and beside the kitchen stove, if the wife does not object. The leaves stripped from one stalk are held in the left hand, stems uppermost, and bunched, by being wrapped around the neck once or twice with the last leaf, the end of which is then pulled through the parted leaves of the bunch below the hand to fasten it.

Usually, as fast as bunched, the "hands" are baled. In a baling box, the "hands" or bunches are laid in a double row, stem ends to the sides of the box, and tops overlapping. The pressing is done by tramping with the feet. Cords are then tied around securely, and the bale, usually about 50 pounds in weight, is removed from the box and taken to the factory as soon as there is enough for a load.

About 1,500 pounds per acre is reckoned good—a ton per acre, a big crop. A yield of a ton and a quarter is sometimes secured. The highest price that is being paid this season is 12½ cents per pound. From that it ranges downward to 6 cents, according to quality. Growers are feeling a little disappointed, as last year's prices ranged from 15 to 19 cents per pound. From \$100 to \$500 is the gross return from an acre of tobacco. The amount of work involved hinders some from embarking in its culture; others have made much money in the business.

Hotbeds and Their Use.

Those who use hotbeds annually might do well to adopt the plan I saw in use in England. Select a dry spot, so as to get plenty of sunshine, and build walls of brick, stone or concrete, the back wall 2½ feet and front 2 feet above the surface of the ground, on which a suitable frame is fixed for sashes, four by six, to rest on. The sashes commonly in use are 3 x 6 feet.

A SEMI-TEMPORARY FRAME.

I used this kind of a frame for several years. I first dug out about one foot of earth for the size required for six sashes, and placed planks around it for a frame; put 3-inch strips across for the sashes to rest on, and nailed to hold the frame firmly together. Then filled up the frame with horse manure, evenly placed, and tramped firmly. If straw, add a little short, well-rotted manure on top, made smooth. I then put on four to five inches of good compost that I had prepared in the fall previous and kept under cover, raked off smooth. The next day, or second or third day, if there was 60 degrees of heat, I would place a board on the bed to stand on, and, with a strip of board bevelled on one edge, make furrows 3 inches apart, by pressing it down or working it back and forth a little. Sow the seeds, and cover them with the back of the strip, pressing down a little on the seed. Sometimes I have sown the seed broadcast, but it is best to do as above, and smooth off the bed with the head of the rake; or, if necessary, lay pieces of boards, or a single board, on the bed, and stand on them to firm the seeds and make the surface smooth. I have also sown the seeds (some kinds) in pots, and in flat boxes.

THE TEMPORARY HOTBED.

The use of this I have taken prizes at exhibitions. I get a wagon load of manure, shake it out to air, mix, and separate it, then make up the hotbed as above, by a fence, which forms the back, and place a wide plank to form the front; set it on edge and make firm. Then I fill the boxes with good compost previous-

ly prepared and screened, and place these boxes on the prepared hotbed, with only an inch of earth on the manure. I place the boxes close together, and fill up all crevices between them, and put on frames made of boards for single sashes. In a day or two the seeds can be sown in boxes—small, for convenience in handling, whether for pricking out plants or transferring to the "cold pit" or "cold frame."

Two weeks later another load of manure was added, and made up as above. Other seeds were now sown. This entire bed was used for cucumbers after it had started other plants.

THE COLD PIT.

The cold pit may be a pit excavated to a depth of 15 inches, more or less, as required, and is used to put plants in for shelter, to harden them off, till the weather is warm enough to set them out in the open. It may be used to grow plants, such as lettuce. If plants are to be grown in this pit, several inches of good compost should be used. The sashes placed over the pit may be nearly level with the surface of the ground, having a reasonable pitch, of course. The cold pit must not hold water.

THE COLD FRAME.

This may be made of 10 or 12-inch boards, of a size suitable for the sashes to rest on, which may be the regular sash, storm windows or other sashes, as one may have. All plants pricked out to be transplanted may be placed in a cold frame to grow and harden off until time to set out. The frames can be set on the ground in the most convenient places. To have good, stocky plants of cabbage, cauliflower and tomatoes, they must be transplanted two or three times before being set out. Never transplant from hotbed to open air without hardening. The length of time a hotbed will hold heat varies very much. I once used what we call "Barley Dowse" in Cornwall, England (barley chaff), placing it in the bottom of the bed, and short manure on top, for heating material. Various materials are used to produce fermentation. I have used long, straw manure, wet with urine from the pigpen and cow stable. Sawdust and shavings that have been used for bedding animals is also used, but it is apt to heat violently and burn itself out quickly. If, however, it be tempered with tan-bark, it makes an excellent heating material. The next best tempering is straw chaff. If neither of these can be obtained, the manure may be tempered by turning it often for a few days, to get the rank heat out of it and cause it to heat more slowly and uniformly. In preparing and laying up the manure, it is often necessary to add warm or hot water to bring it to a proper state of moisture.

Hotbeds must be aired, sometimes before seeding, as well as after the plants are up, or they may be sickly and inclined to damp off. If droops are seen hanging on the under part of the glass, the bed needs ventilation.

Hot beds and cold frames must be covered from cold or strong winds. In tilting the sashes for airing plants, be sure and provide for the safety of your sashes from a violent gust of wind that will turn them over and suddenly smash them. Water young plants with warm water in a fine spray when they need it.

NEW HOTBED CROPS.

For the second list of seeds that can be advantageously started in the hotbed, have the hotbed and boxes ready to receive the seeds, and sow them about May 5th, for Truro, N. S. Start early corn, mangels and beets of all kinds, and Swede turnips. These turnips are fairly hardy, and can be set out first. Sow the seeds in boxes of convenient size to handle. The soil for the boxes should be fairly rich and very fine. I like to sift or screen it. A little wood ashes and bone meal may be mixed with the soil. A good decomposed sod is the best thing to use for most all plants to grow in. The boxes for mangels, beets and turnips should hold a depth of five or six inches of soil; corn will do with less.

Place the boxes close together on the prepared hotbed, as previously described, only having about one inch of earth on the manure. Fill up all vacant places between the boxes and around the sides, to retain all the heat possible. The frames should be banked around on the outside with soil or manure. Swede turnips raised this way can be had for home use or market four or five weeks earlier than they usually are. The seed will spring up in about 48 hours, and must have plenty of air. The plants may stand fairly close together in the boxes. In a few days they can be transferred (not transplanted) to the cold pit, where they should be protected—covered with glass—and aired. There should only be a little space between the glass and plants, else they will grow spindly.

About the fifth of June this class of plants can be wheeled to the field, lifted out carefully (not pulled) with a flat trowel or putty knife. I use a mason's trowel. By making a dab into the prepared ground, opening it with a back and forward pressure to a depth required with the right hand,

and with the left place the plants carefully, and make soil firm about them. Planting this way is easier and faster done than thinning out, and a crop is more certain.

Further, I use a line about 250 feet long, and set the turnips 15 inches apart in the row, and 30 inches between rows. Mangels I set 1 foot apart, and sugar beets ten inches, with 30 inches between rows. I consider this the best distance for cultivation. I plant on the flat, in several long rows, and nearly every plant lives. These plants will separate best if the soil in the boxes from which they are lifted is nearly dry. Save all the roots possible, and set plants down to their crown. By this method, I got ahead of the turnip fly and cutworms. The turnips and mangels can be horse-hoed the next day after planting, if you please. However, further experiments are necessary along these lines, which at present, unfortunately, I have not the opportunity to follow up. But, from what I have done, under difficulties, I think heavier crops can be raised, with much less expense in cultivating these crops, and I anticipate that this method will be largely adopted in future. No thinning of plants is required by this method, there are no vacant places in the rows, no waiting for the plants and weeds to grow before you can horse-hoe. I have always scorned the idea and sight of men thinning turnips and mangels. Nor would it be necessary if land was put in good tillage condition, and flat culture, instead of ridged culture, adopted.

A drill much the same as was formerly used in Cornwall, which sowed three rows at a time, sowing the seed and fertilizer and covering it at the same time, should be used. One man and a boy, or, at least, a man and two boys, would sow 8 acres a day, and hoeing is much easier. I have known expert hoers in Cornwall that would thin out the plants with the hoe, and scarcely, if ever, stoop once in a day to pull out a plant by hand. The secret is this: When the seeds are sown all along the row (instead of in bunches), the person who is hoeing looks out for the plants that stand apart, and leaves the single ones—not particular to a few inches, whether the plants are six inches or 15 inches apart, sometimes leaving a "double" and cutting out the bunch—results as to yield are the same, and difference in cost per acre to the farmer is very great.

I do not remember of seeing a horse-hoe in Nova Scotia, or Canada, such as they used in Cornwall fifty years ago. It was perfectly adapted to hoe-work between rows, skimming the allotted space shallow, the earth falling back over the "tines" or hoes, leaving the surface nearly as level as before, without burying the plants, as the cultivator often does, often leaving deep furrows fit to plant potatoes in—for depth.

Early corn can also be started in hotbed about the 5th of May. Put four inches of good soil into suitable boxes, easy to handle (a compost that would hold to the roots would be best for this plant), place the kernels two inches apart, press down with tip of the finger two inches, put on a little soil to cover the holes made by the finger, press down firm. When the plants are up three or four inches, put them into the cold frame until about the 10th of June, when they may be set out to stand. Lift the plants out carefully, keeping all the earth possible about the roots. In setting them out, make the soil firm about them; care for in the usual way. By this method I have had corn to use earlier. I think this will be carried out on a larger scale in future by someone who may take kindly to these ideas.

Colchester Co., N. S. PETER BARRET.

Planting and Growing Vegetables. I.

By Prof. W. S. Blair, Macdonald College, Que.

TOMATOES.

The tomato requires a high temperature for best development, and should be given a warm, sunny situation. A well-drained, sandy loam is best. Well-rotted manure, at the rate of 10 to 15 tons per acre, is advised. If applied in the spring, plow it under to a depth of four inches, and work the ground by cultivating 6 inches deep. Commercial fertilizers, at the rate of 500 pounds per acre, may be used in place of manure. Nitrate of soda may be used to advantage by scattering it broadcast evenly around the plants, at the rate of 150 pounds per acre after the plants have been set.

About the only time growth can be safely forced is during the first month or six weeks after being set in the open, for, at other times the vegetative growth may be made at the expense of fruit production, hence the importance of not over-fertilizing, especially with nitrogenous manure, except during the early growth of the plant. Seed started in the hotbed on the last of March will make good plants for setting outside seven to eight weeks later, or from the 20th to the last of May. The seed is sown in flats, and in two weeks' time the seedlings may be transplanted to 3 to 3½-in. pots, strawberry boxes, or into flats,

putting one plant to a pot or box, or spacing the plants 4 inches apart in the flat. Here they remain until ready for planting out, when they are removed and set to the open soil, without disturbing the roots more than is possible. The plants are taken out of the pots by tapping the edge of the pot on something solid, and from the strawberry boxes by cutting the box. They are cut from the flats in squares.

The plants are usually spaced 4 x 4 feet apart. If the intention is to stake the plants and train to one stem, they may be set 3 x 1½ feet apart. The stakes may be 1½ inches square lumber, or round, small saplings. They should be 5½ feet long, and cost about 1 cent each. At the above distance, about 10,000 plants could be put on an acre. As the plants grow, they are tied to the stake, this being necessary four or five times during the season. All lateral growths which start up from the axil of the leaves are pinched out as they appear, and only the one branch allowed to develop. When the plant reaches a height of five feet, it is pinched off, and no more growth allowed to form, thus throwing all the energy into the formation of fruit. The leaves should not be pinched off, however, as the maturity of the fruit will not be hastened by such a practice.

ONIONS.

Onions do best on a light loam soil rich in plant food. Light loams can be worked to better advantage than heavier loams, and do not dry out so badly during summer. An abundance of available plant food is necessary if profitable crops are to be obtained, and consequently a soil that has been manured for several seasons previous should be selected. The land should be free from stones and weed seeds.

Onions may be grown in the same land year after year, and it cannot be made too rich. Well-rotted barnyard manure, applied in the fall and plowed in shallow, about 4 inches deep, is one of the best fertilizers. Fifteen tons per acre annually is a good application. If the soil is well supplied with vegetable matter, successful crops may be grown with commercial fertilizers applied at the rate of 1,000 pounds per acre. This is sown broadcast, and harrowed in just before seeding.

The ground can be prepared best with the disk, springtooth and smoothing harrows, and should be well pulverized to a depth of four inches.

The seed is sown in rows on the level ground 12 to 14 inches apart, at the rate of 3½ pounds per acre, and ¼ inch deep. A hand seeder is usually used. A seeder and a wheel hoe combined can be purchased from any seed merchant at a reasonable rate. Seeding should be done as soon in the spring as possible, so that the plants may get well established before the dry, hot weather of summer.

Maintenance tillage is done principally with the wheel hoe, and consists in keeping the surface ground loose around the plants and all weeds from starting.

The falling down and withering of the tops indicate maturity, at which time the onions should be pulled. They are left for a week to dry, after which they may be topped and put into slatted crates, or put into these crates without topping, taken to a shed, and allowed to cure for two or three weeks, after which they are prepared for market. The advantage of the crate is that there is a small bulk of onions, together with plenty of ventilation, which is very necessary for proper curing for storage or shipment. They should not be stored in bags or in large piles in bulk. They may be stored in slatted bins arranged one above another, 10 to 12 inches deep. If stored, the temperature should be kept as low as possible, and the air be dry.

Onions may be started in flats or in soil in the hotbed or greenhouse 10 to 12 weeks before ready to plant to the open ground, early in May. They will transplant easily, and good large plants will prove most satisfactory. An inch-wide lath, pressed into the soil one-fourth inch deep, with center of rows 2 to 3 inches apart, and the seed sown to get 10 or 12 plants to the running inch of row, is about right. If the seed is sown more thickly, good large plants cannot be expected; 1½ to 2 pounds of seed will give sufficient plants to set an acre, spacing the plants 4 inches apart in rows 1 foot apart. The disadvantage is the expense of transplanting. For securing early onions of large size, this practice is advisable.

CABBAGE.

Any good garden soil will grow cabbage. A warm well-drained sand loam, very rich in plant food, is best for the early varieties. A northern exposure is best for late cabbage, and a heavy soil may be used. The cabbage is a gross feeder, and there is no danger from making the ground too rich. Twenty tons or more per acre of manure can be used, and this may be supplemented with from 500 to 1,500 pounds of commercial fertilizer for an acre. Commercial fertilizer is especially advisable for early cabbage where the object is to develop marketable cabbage quickly.

If the ground has been manured in the fall and plowed, it should be again plowed in the spring, and thoroughly worked to a depth of six inches.

For early cabbage, start the seed about the 15th of March. The seedlings are transplanted to 1 to 2 inches apart three weeks later, and will be ready for the open ground early in May. The plants are usually set on the level in rows 30 inches apart, and 18 inches apart in the row. Late cabbage are usually grown from seed sown thinly in a cold frame early in May, and plants from these are set to the field about the middle of June, spacing the plants in rows 32 inches apart, and 20 to 22 inches apart in the row.

The usual maintenance tillage should be given during the summer, and the ground not allowed to become hard or compact, or dry out.

In the storing of late cabbage, cut the heads during a dry day, and store where good ventilation is possible. The air should be kept dry, and the temperature as low as possible. The heads should be placed on slatted shelves far enough apart to store two or three tiers of cabbage, with a good chance for ventilation under the shelves. A confined atmosphere renders satisfactory cabbage storage impossible.

CAULIFLOWER.

The cauliflower requires a cool, rich loam. A Northern exposure is best. Continuous growth is important, and anything that tends to check the plant in any way should be avoided. Dry weather often results in failure, and, where watering is possible, it may be advisable. For early and late cauliflower, start the seed and handle the same as for early and late cabbage, except that more care should be given to detail in the development of plants. Like the cabbage, it takes about seven weeks to develop a stocky, properly-hardened-off plant. They may be spaced in the field the same as cabbage.

When the heads are 3 to 4 inches in diameter, the leaves should be tied together over the head, in order to develop a good white flower.

Monster Mushrooms.

In your issue of February 8th appeared an item re a monster mushroom, which is evidently a freak of the imagination. Had the writer not mentioned that it belonged to "Agaricus Campestris," I would have placed it as an unknown mushroom; but, knowing our meadow mushroom well, its nature and cultivation, the item left the impression of a fish story. No doubt there are kinds of mushrooms belonging to "Agaricus" and "Boletus" which grow to an abnormal size, and some of the other fungi, as the giant puffball, may attain a diameter of 12 to 18 inches and most delicious eating they are. Some of the order "Fistulina," growing on decaying logs, may attain a weight of six or seven pounds, but a story of a "meadow mushroom" growing to a size of 59½ inches in circumference (19 inches in diameter) and weighing 21½ pounds, has only to be thought over to come to the conclusion that the whole affair is nonsense.

It is seldom that the price of "Agaricus Campestris" is less than 50 cents a pound, which would make this mushroom worth nearly eleven dollars, and if such a strain could be got, I would have no hesitancy in giving a good price for a brick of spawn. But wait; the writer says, "It grew by a spring, which might account for its great size." The meadow mushroom does not grow by the side of running water, nor does it stand much water, and anyone growing them will soon find that if the bed is kept wet the spawn dies; and in our pastures or well-tramped old barnyards, with well-compacted earth and manure, they grow in abundance wherever a start has been made. The ground is never wet.

That a greater effort is not made by the Agricultural Department to enlighten the people of our Dominion on the edible fungi growing wild in our fields and by-ways, I find at a loss to account for. There is a food value and delicacy in most mushrooms which many admire, and not a few look upon as a luxury.

Those who attempt to grow them need not expect such monsters as described in the item referred to. If ounces are got in place of pounds, the grower may be well pleased at growing "monster mushrooms." WM. WELSH.
Bruce Co., Ont.

Fruit Injured in Essex.

Reports are coming from many quarters regarding serious damage to fruit trees, but especially peaches, owing to the extremely severe weather experienced during January. To all appearance, the fruit-producing portion has suffered irreparable damage; therefore, the prospects for a crop are not encouraging. In many localities trees have been girdled by rabbits, whose appetites were apparently sharpened by the continued cold snap. Farmers are turning their attention more to growing products for canning, as is evidenced

by a number of factories being erected and shipping points established. Fodder of all descriptions is exceedingly scarce, and prices paid are away beyond the actual value. Essex has been visited with an exceptionally severe winter, and has just experienced one of its worst snowstorms for many years. A. E.

Co-operation and Fruit Growing.

There is no doubt but co-operative societies have done much for the fruit industry of Canada. They have instructed growers in the best methods of cultivation, spraying, packing and marketing their fruit. From an address given by A. McNeil, Chief of the Fruit Branch, Ottawa, at the recent Dominion Conference of Fruit-growers, we select a few good points.

There are in Canada about 80 co-operative fruit associations in good standing, Ontario leading with 42, Nova Scotia has 23, British Columbia 10, Quebec 5, and Prince Edward Island 1. The sales from these associations are now sufficiently large to influence the whole market.

The societies vary greatly in size. Some of the smaller have an output of from 2,000 to 3,000 barrels. A large number have between 6,000 and 10,000 barrels, a few 20,000, but none, so far as Mr. McNeill is aware, reach 50,000.

The price, also, varies greatly, and it is noticeable that the smaller associations do not sell so well as the larger, proving conclusively that union is strength.

Mr. McNeil showed clearly that co-operative apple-selling associations in Canada are not sporadic affairs originating in local and individual causes, and wholly unconnected with world-wide movements. All co-operation owes its origin to the one great cause, namely, the development of modern industrialism, which, in its turn, originated in the development of the steam engine, and later to the developments in connection with electric power.

The apple-selling associations, originating first in Ontario, have been gradually working out their own salvation, and, undoubtedly, the revival in apple-growing can be traced, to a great extent, to the revivifying influences of co-operative associations.

ADVANTAGES OF CO-OPERATION.

1. Large stocks will be controlled by sellers who act as a unit.
 2. Uniform packing, grading and marking will be practiced.
 3. A reputation associated with a permanent brand or trade-mark, will be established.
 4. The cost of picking, packing and marketing, including transportation, will be reduced.
 5. Fruit will be picked and packed at the proper time.
 6. Less common varieties will be utilized.
 7. Storing facilities will be provided for in better shape.
 8. Direct selling at the point of production will be encouraged.
 9. Packages will be bought in large quantities or manufactured on the premises, with a material reduction in cost.
 10. The placing of the purely commercial part of the industry in the hands of competent men, whose interests are connected with those of other members of the association.
 11. Spraying by hand or power outfits, co-operatively, in some cases, will be adopted.
 12. The manager and the better growers among the patrons will have every inducement to stimulate the less progressive members to better work.
- Co-operation has had a great effect as an educator. Wherever an association has been in successful operation for a few years, there has been a wonderful improvement not only in the quality but in the quantity of fruit produced, and this increase, both in quality and quantity, has been almost beyond belief.

Co-operation has some effect on the Inspection and Sales Act. The records show that, occasionally a co-operative association falls from grace, but, for the most part, the work of the co-operative associations with reference to grading and marking is without fault. Many of the associations grade higher than required by law, and do it for the purpose of maintaining a reputation which they have built up, and which they find of financial value to them.

Mr. McNeil believed that, if the whole body of apple-growers were united co-operatively, it would do away with nine-tenths of the necessity for Dominion Fruit Inspectors.

The obstacles which have been in the way of co-operation have been the apple-buyer, the middleman, the diversified character of our rural population, and the diversified nature of their occupations; petty jealousies, the lack of local leaders in rural affairs, and the need of co-operative legislation.

In spite of all these obstacles, the co-operative fruit-growers' associations have made great headway. Success has crowned their efforts in many ways. A few years ago, the storage facilities for apples and fruit generally were very meagre, in-

deed, and the storages then existing were in the hands of private individuals, and served largely as traps in which the private apple-dealer could catch his game and grow rich upon the quarry. To-day there are some scores of warehouses owned by the orchardists themselves, and not built for the purpose of earning dividends, but for the purpose of improving the fruit industry.

One real subject for congratulation is that the apples furnished by the members of the co-operative associations are worth 75 per cent. more than they were under individual management, and that the co-operative organization renders it possible for them to get the increased price for the increased value which they have added to their product.

Another great success has been scored in using the associations as agents for buying supplies. And distributive co-operation should make some headway in Canada, as it has done in Denmark and Great Britain.

Speaking of central organizations, Mr. McNeil thought the California Fruit Exchange might well serve as a model for fruit-growers in Canada. Last year their gross receipts totalled over \$20,000,000, not one cent of which remained uncollected. A central association is of great use in developing new markets, and, to do this, should be a selling association. This selling association would form a medium through which the smaller associations could speak as one, and would give an excellent opportunity to deal with English co-operative associations.

If we can but secure proper legislation for our associations on a truly co-operative plan, it is quite possible that the apple-growers' associations may be allowed affiliation, through the International Association, with the British Co-operative Wholesale Society. If so, is it possible that our co-operative associations would find their whole output absorbed by the 1,500 co-operative associations of Great Britain, to whom we could ship directly, with no deductions for middlemen's charges, dockage, or auction fees?

It is absolutely essential to accomplish the greatest success that strong central selling associations be formed in each Province, exporting fruit, and that these Provincial associations should co-ordinate either through the managers or through a Dominion organization representing all associations. Co-operative legislation is urgently needed.

The subject of co-operation is fundamental. It offers a solution to nine-tenths of fruit-growers' practical problems: Varieties, spraying, pruning, orchard culture, and marketing. Rapid progress is impossible, except within co-operative lines.

POULTRY.

Taking It Easy in Winter.

Editor "The Farmer's Advocate":

I was much interested in "Beginner's" letter regarding winter-egg production. It is a subject we have considered quite seriously of late years, since the hen has taken such a prominent place in profitable farming. We find that a hen to the acre is about all that can be profitably attended to, along with the other work, and, if winter eggs are not expected, a few minutes each day will feed them the year round; for, in summer, when they have full run, they find their own variety of food, which has kept "A Farmer's Wife" so busy trying to supply, to the neglect of her other work, and only getting a few eggs.

I think some kinds of hens are better winter layers than others. I know, one winter, when we had some Rhode Island Red and Dorking pullets, we had lots of eggs all winter, with no extra attention, but the Rhode Island Reds wanted to sit all the next summer. We have been getting a few eggs all winter. In fact, our hens never entirely stop laying the year round. We feed them mixed grain scattered in chaff, morning and evening. This gives the necessary exercise. A warm mash at noon, plenty of raw vegetables, and good fresh water twice daily. But we have about decided that it does not pay us here to produce winter eggs in the coldest months, as we cannot get in touch with the markets in the large cities. We get only about 5 cents per dozen more for winter eggs than the average summer price, and we find that it costs about twice as much to produce them as in summer, when the hens have unlimited range on a grass meadow, with its bountiful supply of insect life. If all the farmers on the Island who produce summer eggs were producing them in winter, the prices would be lower than in summer, on account of our isolation, which cuts us off from outside markets, with such a perishable product, during the cold weather.

I think it is better to be satisfied with a few eggs for home use during the winter months, and let the hens get good and ready and pile up energy for the spring. Then, when they get started, about March 1st, our experience has been that they will lay well all summer and on into the late fall, and you will find it hard to get them stopped so

that you can get the old ones killed off. For we women all know how hard it is to sacrifice the laying hen. On our farm we keep about a hundred hens, and, all things considered, especially labor, we find poultry the best paying branch of mixed farming.

"POULTRY FOR PROFIT."

Hints for the Amateur.

Editor "The Farmer's Advocate":

It is not an easy matter to determine whether you have made a profit on your hens or not, unless strict accounts are kept, and, in order to find out exactly where you stand, you must not only charge the hens up with all the foods given them, but also with the interest on the capital invested in them. Then you must give them credit for all sales, as well as for all eggs and poultry used in the family, and the eggs used for incubating purposes. Now, your labor may or may not be taken into consideration, depending whether you are in the poultry business for a living or operating it as a sideline in connection with farming.

It is a mooted question whether to begin with eggs or stock. If you have already decided in favor of stock, you will no doubt have the fowl on hand ready for spring operation. Half a dozen good hens purchased last fall, and mated to a vigorous young cockerel, will give you a good start, especially if you are a beginner. It is a mistake to rush headlong into the poultry business, with the one idea "to make money." Unless you have had previous experience, you will find it to be a snare and a delusion. Start with a few good fowl, and gradually increase your flock as your knowledge of them increases.

If you have not already purchased your stock, you must expect to pay more for them, as they have been practically wintered, and their owner can tell better where they stand as winter-egg producers. If you decide to begin with eggs, it will mean that you will have to wait a whole year before you can raise more than what you get from these eggs, and, unless you get ten or twelve dozen eggs, your number of chickens is not likely to be large.

The winter season is the most profitable laying season, and once you are established as a poultryman or woman, aim to make it more profitable, and do not feed the non-producers.

There are always a number of drones in the flock, and it is not fair to put the whole flock down as a loss, when some of them have laid well and helped to support a lot of drones. The only definite way of getting at the matter is to use trap nests. It may even be necessary to dispose of some of your pullets, for very often a most-promising-looking pullet will prove a complete failure as an egg-producer. In my first flock I had one pullet that was in every respect a perfect specimen, according to the American standard. I kept her two seasons, but never to my knowledge did she lay an egg. Needless to say, she went to the block when I began in earnest to weed out the drones. The only way to work into a profitable flock is to find the boarders, and dispose of them. When you are satisfied that only egg-producers remain, go to work to make them comfortable, and take care of them. One important item is not to have the flocks too large. The rule laid down by poultry experts is ten square feet for each hen, but in my experience I find that six square feet per hen gives just as good results, if you divide your stock into flocks of ten to fifteen hens. If you cannot conveniently do this, and have a flock of forty or over, then you must allow more space per hen. As a rule, large flocks are liable not to be properly fed, and, if at all possible, it is better to keep them in small flocks.

It is always a problem for the beginner to settle on a breed of poultry. Every breed has its faults, some more than others, but be sure that you buy from responsible and well-known breeders, such as you can depend on to give you the right kind of stock. There are many such breeders in the country, but there is a good deal of difference in the strains of the different stock in the country, and it is well to investigate thoroughly before you make a purchase.

The selection of the breed should depend much upon what branch of the industry you intend to follow, but the principal thing to look out for, in my estimation, is the laying quality. No matter what breed or strain you have, if you have the laying quality highly developed, you have a good thing.

Leghorns and Minorcas are generally supposed to be the heaviest egg-producers, but in our northern climate have not proved as good winter layers as some of their heavier sisters. Given mild weather and proper care, they undoubtedly will outdistance almost any other breed, and do all that is claimed for them. The heavy Asiatic breeds, like the Brahma and Cochins, should be shunned by the novice, for they are almost sure to prove disappointing, unless given unlimited care and attention. The well-known Plymouth Rocks are, perhaps, the best understood and easiest

to manage. The White variety are a trifle more inclined to run to flesh, and consequently require more careful feeding than the barred; they are also more tender when young than the Barred. The Buff Rocks have met with universal favor for an all-round fowl, as have also the White Wyandottes. The Rhode Island Reds are fast coming to the fore, as their remarkable qualities for both eggs and meat hold them up, and are likely to make them one of our leading varieties as an all-round business fowl.

An important item in building up a poultry business is your location, for, as in every other industrial branch, there are good and bad localities. Avoid low, wet, heavy soils, as this kind of soil invariably breeds trouble and failure. Select a gravelly or sandy soil, if possible, as it keeps cleaner than clay soils. For buildings, the main thing is to have them strong, fairly comfortable, well lighted and well ventilated, without draughts. Low, shed-like structures are a poor investment, for, although they may do in mild, dry weather, yet, when cold, wet windy weather prevails they prove a failure. A henhouse, properly constructed both inside and out, is almost half the battle. Healthy fowl are the main thing, and you cannot have this with poorly-constructed houses. The inside arrangements must be handy, so that cleaning out droppings, renovating the nests, etc., can be done quickly and easily. Before building, see a number of henhouses that have proved satisfactory in your locality, and improve on these, if possible.

Two other important points in poultry-raising are care and management, and you cannot succeed if careless on these points. A good location, as to sanitary surroundings, suitable buildings, good markets (if you can choose your locality), regular systematic care and feeding, insures good returns for the time and money spent.

Carleton Co., Ont. A SUBSCRIBER.

Another View of the Winter Egg Production.

Editor "The Farmer's Advocate":

I have just been reading about the "hen" question in your paper, written by "A Beginner," in the issue of February 8th. He says it does not pay to make hens lay in winter, but I think it does.

If you want hens to lay in winter, you have to take good care of them, that is certain. I will say, in the beginning, that, if you have no love or liking for the work, don't attempt it. I don't think you need to take extra care of your hens, because they have to have a certain amount of care, anyway. Farmers generally go to town about twice a month, and, if it happens to be bad roads or weather, you can "lay in" a good stock of oyster-shells and other grits. People will say this all takes money, but this little money now means greater money later. You will get home from town about half-past three, get off your duds, get warmed, and away down to the hens and cows. You can take down a few oyster-shells and some warm water; give them some grain mixed with chaff. I would rather not give the hens hot feed at night, if they get hot water. Your hens will never do well if you have geese or ducks in with them. I learnt that by experience.

Next morning you get up about six, get breakfast over, and away down to the stable to milk your cows; the cows do not take long, generally; I have three to milk; the men will separate, and away you go to the hens. I think the henhouse is generally cleaned out when you go. Put a little chaff on the feeding floor, and some grain, mixed. When they have that eaten, bring them their hot feed. And what about drink? If you have any milk left over, give them that warm. Try to keep the hens in a dust-bath of chaff, hay seeds and ashes (coal ashes preferred), and some sand.

At noon you could bring them hot water, more grain, and, if the afternoon is fine, let them have a run where the sun shines. For grain feeding, barley, wheat and buckwheat are best. Peas make them fat, and they don't like oats.

When you go down to feed them at night, you will bring back from 30 to 40 eggs from sixty hens. I don't think it is necessary to walk through snowdrifts; they should be shovelled, for, as far as I know, men don't like to walk through them.

The cinders from coal ashes are good for gnits. Now, when you get your hens laying, you can get a new muff, and save making over your old one.

If you have a way of your own that proves satisfactory, don't attempt somebody else's plans. If you don't like feeding hens, etc., you ought to try pigs, or something like that.

A neighbor woman of ours was up the other day. She has given up the hens for a bad job, and is starting raising pigs. She says the men don't know how to feed pigs. Well, this is my version of it. "FORTUNE SEEKER."

Wellington Co., Ont.

THE FARM BULLETIN.

Northern Ontario Development.

At a recent meeting in Toronto of the Associated Boards of Trade of Ontario, a resolution was adopted, "That, granting bonuses to manufacturers, except by way of fixed assessment or freedom from taxation, should be prohibited, and that a committee be appointed with a view to having an enactment of legislation."

The Provincial Government was heartily congratulated upon its decision to expend some \$5,000,000 in the development of Northern Ontario, and the resolution suggested the appointment of a commission, with one salaried resident commissioner, to investigate conditions and prepare a report for submission to the Government on:

1. The construction of adequate roads.
2. The clearing of land for prospective settlers.
3. The preparation of ready-made farms.
4. Government loans to settlers.
5. The classes and nationality of settlers which would be most attracted by the possibilities of the country and would produce the best results.
6. What townships should be opened for settlement, and in what order and manner as shall be most productive of immediate results.
7. The opening of offices and appointment of officers to assist the intending settler to secure and establish himself upon suitable land.
8. Rules and regulations as to settlement, duties and residence, and the appointment of resident commissioners to enforce the rules and regulations and to settle disputes.
9. The permitting of settlement duties to be performed by a locator who is not actually a resident settler.
10. The promotion, in an energetic manner, of the education of settlers by central agricultural farms, model farms in various settlements, lecture courses, and such other methods as are deemed expedient and advisable.
11. A publicity and advertising campaign to advertise New Ontario resources and promote settlement and such other matters as may be of importance in the settlement of this country. And this Board urges the Provincial Government to take action in this matter at the present session of the Legislature, not only upon business and economical grounds, but because the board earnestly believes that there are strong national grounds for the rapid population of this country with an English-speaking community, and the securing for settlers of a ready market for their pulpwood.

School Inspectors' Help.

Editor "The Farmer's Advocate":

In your comparison of the two methods of training rural-school teachers, you referred to the service of the school inspector, but you might have—and I think you should have—attached much more importance to it. Permit me to illustrate by my own experience. Before I went to the Toronto Normal School, I attended the Strathroy Model School, when the late Joseph Carson was inspector. He visited the school several times and saw our work, and gave us talks that were very helpful to young teachers, particularly to those who would start to teach in his own inspectorate. He learned from the teachers, and by his own observation what fitness each of us possessed for the different schools needing teachers. On getting a school, we consulted him about it, and in ever so many ways he helped us as wasn't done and couldn't be done in the Normal School. I suppose there are about 80 school inspectors in Ontario. If every one of these were helping the beginning teachers as our inspectors helped us, it would mean half as much as the Normal Schools are doing now. As you say, all that assistance is lost in the present system, and it could easily have been increased. I am sure that this one point was greatly in favor of the county Model Schools.

A FARMER'S WIFE.

More Land for the O. A. C.

In order to meet the increasing needs of the Ontario Agricultural College, Guelph, for experimental and demonstration work, the Government has purchased 150 acres of additional land, fifty acres being in the present College block lying north from the buildings, and one hundred acres across the side-road, adjoining the Prison Farm, and lying west of the present College premises toward the river. The live stock kept has been gradually increasing for some time, for class purposes, both for Long Course and Short Course students. This has necessitated growing more feed. On the other hand, the orchard and the garden have been extended. The experimental

plots now occupy nearly 70 acres. This narrows down the amount of land available for general-farming purposes and growing feed. It is desired, also, to plant out a new orchard, and to extend the experimental plots. What is not used for the purposes specified will be used for the production of feed and seed grain.

Eagle River Outlook Good.

One reads in various papers about the splendid farming and timber prospects of Northern Ontario, but there is another part of New Ontario that has been sadly neglected, and this is the Rainy River District, stretching from Dymont to Vermillion Bay, on the C. P. R. main line. The chief farming districts are Dryden, Oxdrift, Minnitaki, Eagle River, and Waldorf, the latter being a German settlement. This land, for mixed farming, cannot be beaten. The high land is a clay soil, which grows grain, potatoes and clover to perfection. One farmer in this district last year realized \$1,050 for clover seed from 15 acres. The low land is black muck, and very rich. This land has to be cleared before it can be plowed, but there are numbers of acres on every section which are easily cleared. Large quantities of cord-wood and ties are shipped to Winnipeg every winter, and this helps the settler very materially while he is clearing his land. There are two steam threshing outfits in this district, one at Eagle River, the other at Dryden. The winters are not as cold as on the prairies, and there are no heavy hail storms or blizzards. If the Government would take a little more interest in this district, and increase their road grants, which at present are very meagre, considering the enormous amount

Roads and Road Systems.

A meeting of about one hundred and fifty delegates of the Ontario Good Roads Association gathered in annual convention at Toronto last week to discuss and outline a policy for the ultimate improvement of public highways. It was pointed out by Major T. L. Kennedy, of Dixie, in his presidential address, that, of the total assessment in Ontario, one-half, or about \$500,000,000, was levied on cities alone, with only a few miles of roadway to maintain. The other half of the assessment is on towns, villages and country districts, which are compelled to provide the upkeep of over 50,000 miles of road. Mr. Kennedy was not in favor of a Federal highway or trunk line reaching the larger cities, but favored a Provincial system connecting larger towns.

Andrew Broder, M. P., thought that better roads would be a great help in keeping people on the farms, and believed that, while the Government had not spent an amount on public highways which, in proportion to their importance, they merited, as compared with the \$500,000,000 which had been spent on railroads, he felt more liberal Federal help would be forthcoming.

The Provincial Engineer of Highways, W. A. McLean, believed that, as nearly \$600,000,000 has already been spent by the Government in helping railways, some money should be spent in improving the public roads to link the railways and canal systems to the farm. He urged the abolition of statute labor, the levying of a rate for maintaining and building roads, the placing of responsibility on one overseer, a policy of permanent bridges and culverts, the completion of a definite amount of permanent road yearly, and the use of the split-log drag.

Several subjects were discussed, including the taxing of automobiles. The meeting concurred that high-power cars caused more damage than those of low power. It was first proposed to ask for a flat rate of 50 cents per horse-power per car on all motors, but, after considering the matter, this was thought to be unfair.

Wide tires for wagons was a subject also dealt with, and the discussion culminated in the passing of resolutions to the following effect, which will be presented to the Prime Minister:

That the Province of Ontario impose a tax on motor cars, the funds thus raised to be used for roads constructed preferably under the Highway Improvement Act, with the following schedule: Automobiles of 20 horse-power or under, 25 cents per h.-p. per year; on those from 20 to 30 h.-p., 50 cents; on those from 30 to 40 h.-p., 75 cents, and on those of 40 h.-p. and upwards, \$1 per horse-power per year.

That, after two years, the manufacture of wagons without wide tires be forbidden, and the use of such wagons on the roads be forbidden after seven years.

That the Association approves of the proposed loan of \$5,000,000 for Northern Ontario, and asks that a large portion of the money be spent in road improvement.

The Association also passed resolutions approving of the Highway Improvement Act and of Federal aid for highway improvement, and voted that the Federal Government be asked to set aside \$50,000,000 to assist in the betterment of Canada's highways.

Officers were elected as follows: Hon. President, A. M. Rankin, M. P., Collins' Bay; President, Major T. L. Kennedy, Dixie; Vice-President, N. Vermilyea; Hon. Secretary-Treasurer, Col. J. E. Farewell, K. C., Whitby; Secretary-Treasurer, Geo. S. Henry, Oriole. Executive Committee—J. A. Sanderson, C. R. Wheelock, S. L. Squire, Dr. Fairbanks, and K. W. McKay.

How Subscribers are Gained.

Forwarding the name of a new subscriber, a Nova Scotia reader explains that his neighbor is to build a large barn next summer, and is making his plans. "I lent him my 'Advocate,'" he says, "and he found so much of value on barn construction that he was easily persuaded that the paper is equally of value in all its departments."



A Maple Avenue.

A fine double driveway in Huron County, Ont.

of money taken from this district in mines and timber dues, this would soon be a rapidly growing and prosperous community. Close to the C. P. R. station at Eagle River, in the municipality of Machin, are three waterfalls, which are awaiting some enterprising firm to utilize their power. There is sufficient pulpwood on Eagle Lake and district to warrant the erection of a pulp and paper mill. The Dryden Timber and Power Co. are now erecting at Dryden a large pulp and paper mill. There are lumber and planing mills and brick works at Dryden; also a weekly newspaper. There are also schools throughout the farming districts. Farmers have a ready market for all they have to sell, and are forging ahead in spite of all drawbacks, and only need more new roads and advertising the advantages offered to settlers to make this one of the best mixed-farming districts in the country.

J. E. R.

Shady Road with Double Driveway.

Editor "The Farmer's Advocate":

I am sending you a picture post card of the road in front of our farm. This piece of road is considered by many to be the most beautiful, as well as one of the best-shaded pieces of road in this part of the country. You will notice in this picture two driveways, the gravel in the center, and the clay on the south side. This road runs direct east and west, and when looking at the picture you are looking west. The clay or southern driveway is used almost entirely during the hot weather, as it is shaded from the sun. The road is a part of the second concession of Turnberry, known as "Maple Avenue," Huron County, Ont.

PETER McEWEN.

Good Farming on Wheels.

Keen interest has been awakened along the Ontario lines of the C. P. R. by the appearance of the "Better Farming Special," a train of about a dozen cars, equipped and run in first-class style, as that company knows how to do, in conjunction with the Ontario Department of Agriculture. Four cars were attractively equipped with exhibits, and these were used for lectures given simultaneously on different subjects. A large staff of specialists, who lived on the train, dealt with the following topics: Fruit-growing, Live Stock, Field Husbandry, Drainage, Dairying, Feeds, Poultry, Alfalfa, Beekeeping, Fertilizers, and Cement Concrete—given to suit the needs of the different districts. The party was accompanied by H. P. Timmerman, Industrial Commissioner of the railway, who is concerned in promoting agricultural and other industries in C. P. R. territory; and Geo. A. Putnam, Superintendent of Ontario Farmers' Institutes. At one of the stops in Middlesex County there was an attendance of over 350 farmers and villagers, and for the day it would exceed 1,000. Large numbers of ladies and young people viewed the displays and listened attentively to the talks given. There was necessarily little time for discussion, and, if practicable, a more leisurely procedure would enable the instruction given to be more thoroughly assimilated. To village people, the call of the train had a wholesome effect in quickening their appreciation of present-day agricultural problems, and, on the whole, the visit of the "Special" could be properly described as a helpful stimulant to attendants who drove in from long distances, and were well pleased with what they saw and heard. A great deal of useful literature was handed out.



Hector Gordon, Howick, Que.
President Canadian Ayrshire Breeders' Association.

Education Car Needed.

Editor "The Farmer's Advocate":

Permit me to call attention to the desirability of having a rural-school car attached to the agriculture demonstration trains sent out by the Provincial Governments.

This car would contain a model of the up-to-date rural school and school-grounds, showing position of outbuildings, trees, well, playgrounds, and garden plots. It would be provided with modern stove-jacket and ventilating apparatus, blackboard, desks, maps, books, pictures, library and other school appliances. It would be in charge of an educational expert who has had successful experience as a rural-school teacher,

and, if possible, as a farmer, and who possesses the somewhat rare gift of presenting the practical needs of rural schools to farmers and farmers' wives in a pleasing and convincing way. Of the many means devised in recent years for the improvement of rural conditions, none has been more effective than the demonstration train, which brings the objective illustration to the farmer's door, and shows in a direct and practical manner how the farmer can better his present condition. Every argument in favor of the agriculture car has equal, if not greater force when applied to the need for an education car. The course of study,

buildings and equipment of city schools have undergone complete reconstruction in the last quarter of a century, while (with very few exceptions), the rural school has remained at a standstill. In some sections it has deteriorated. Anyone desiring to know how far the average rural school falls short of what it ought to be, should read one of the recent books on rural schools, for example, "The American Rural School," by Foght, published by the MacMillan Co. The unsatisfactory rural conditions, even in some wealthy districts, are notorious. In one case, to which my attention was especially called, the closet, a few feet to the rear of the building, is for both sexes, has both doors on one side, and no outside separation of any kind.

S. B. SINCLAIR.

Macdonald College School for Teachers.

C. C. James, C. M. G., last week took his leave of the Ontario agricultural service, and after a month's needed vacation he will begin his duties in the wider Dominion field. In the office of the Minister of Agriculture, Hon. Jas. Duff, he was presented, on behalf of the staff of the Department with which he has been so long associated, as well as representatives from the Ontario Agricultural College, with a beautiful gold watch and chain, and an engraved locket. He was also the recipient of a handsome dressing set, including diamond and pearl cuff links, the gift of district representatives of the Department of Agriculture. The valuable work that Mr. James has done for the Province was set forth in short addresses of appreciation, as well as regret at his departure, by Hon. James Duff, President Creelman, of the O. A. C., J. Lockie Wilson, and Frank Hart. Mr. James responded in appropriate terms. It has been inferred by many newspapers that Mr. James is joining the Dominion Department permanently. This is not necessarily the case. It is not beyond the pale of possibility that he may again, in the near future, find opportunity for service in the Provincial field.

On the editorial page of this issue is a typographical error which escaped attention until the form containing it had been run off. In the second paragraph of the article headed, "An Unfounded Prejudice," the word "prevent" is printed "provide," thus making the sentence incongruous, and implying the opposite of what was meant.

GOSSIP.

STOCK SALE DATES CLAIMED.

- March 5th.—O. B. Henry, Drayton, Ont.; Shorthorns, Clydes, and Standard-breds.
- March 6th.—Pure-bred cattle, in Winter Fair Building, Guelph.
- March 6th.—Nelles & Woodley, Boston, Ont.; Holsteins.
- March 6th.—W. K. Sexton, Howell, Michigan; Holsteins.
- March 7th.—Bertram Hoskin, The Gully, Ont.; Holsteins and Tamworths.
- March 7th.—J. J. Wilson, Ash, Halton Co., Ont.; Holsteins, registered and grade.
- March 7th.—Clydesdale and Shorthorns, at Thamesford, Ont., the property of W. W. Hogg.
- March 14th.—Geo. Forester, Gormley, Ont.; Holsteins.
- March 15th.—At Hanover, Ont., T. D. Elliott and R. R. Kennell; imported Clydesdale mares and Thoroughbred stallion.
- March 19th.—O. Sorby, Guelph, Ont.; Clydesdales and Hackneys.
- March 25th.—E. F. Osler, Bronte, Ont.; Holsteins and Clydesdales.
- March 26th.—S. Macklin, Weston, Ont.; Holsteins.
- March 26th.—L. E. Morgan, Milliken, Ont.; Hampshire and Southdown sheep.
- March 28th.—Fred. Abbott, Harrietsville, Ont.; Holsteins.
- April 3rd.—Holstein-breeders' Club; consignment sale, Belleville, Ont.

IMPORTED CLYDESDALE MARES AT AUCTION.

At the Queen's Hotel, Hanover, Ont., on Friday, March 15th, there will be an opportunity for the farmers of this country, and particularly of this Province, to get stocked up with a high-class and particularly well-bred imported Clydesdale mare or filly, as on that date Messrs. T. D. Elliott, of Bolton, and R. R. Kennell, of Dundalk, Ont., will sell by auction 20 head, all imported, from one to five

years of age. Of this lot, the Scottish Farmer says, the whole consignment is of excellent merit, and should command a ready sale in Canada. Many will remember the high-class quality of the fillies sold by Mr. Elliott at his sale in Dundalk a couple of years ago, when the record average price was made. Parties interested will find in this lot equally as choice a consignment, while their breeding could not be improved. Many of them are by such great sires as the invincible Hiawatha, the Royal and Highland first-prize winner Prince Shapely, the great breeding horse Up-to-Time, the Aberdeen first-prize horse Alderman, the noted prize horse Baron Hopetoun, the popular premium and prize horse MacEachran, etc. For catalogue, write T. D. Elliott, Bolton, Ont. Hanover is on the Owen Sound branch of the Grand Trunk Railroad, and the Saugeen Junction-Walkerton branch of the C. P. R., and can be reached from all directions by morning trains.

Geo. Davis & Sons, Glengore Stock Farm, Alton, Ont., report the following sales of Aberdeen-Angus cattle during the fall and winter: To E. J. Jackson, Teeswater, Ont., two fine cows, each with a beautiful calf at foot, Fair Lady 3rd of Glengore, by Hamilton Boy, and Mysie 4th of Glengore, by same sire, the calves sired by their stock bull, Cochrane of Tweedhill. To Laurie M. Anderson, Sackville, New Brunswick, the good three-year-old heifer, Fair Lady 7th of Glengore, by Hamilton Boy. Mr. Anderson also got the five-months-old bull, Donald 6th of Glengore, by Cochrane of Tweedhill, dam Queen Easter 3rd of Glengore. James Ogram, of Linwood, Ont., got the full brother to this bull, Donald 5th of Glengore. Mr. Ogram's reply after receiving the bull was: "I am delighted with my purchase, and he is a much better bull than I expected to get. To Chas. Moffat, Edge Hill, Ont., we sold the good cow, Fair Lady 4th of Glengore, by Hamilton Boy, dam Fair Lady of Glengore. To Harry Nickle, Everton, Ont., a fine twelve-months-old steer calf, to be fed for Winter Fair at

Guelph, a remarkably good calf, sired by the stock bull, Cochrane of Tweedhill, sire of Mr. Nickle's yearling heifer which won three firsts, one third, and a fourth, in different classes at Guelph Fat-stock Show in 1911. Glengore Stock Farm is about four miles from Alton Station, C. P. R. Visitors are welcome.

Included in the auction sale on March 15th, at Hanover, Ont., advertised in this issue by T. D. Elliott, is the Thoroughbred stallion, Surmise, 16 hands 1 inch, weighing 1,300 lbs., and full brother to the noted Belvidere. He was passed by the Government Inspector in 1911, and received the grant of \$250. He will be sold without reserve.

PERTH AND ABERDEEN SHORTHORN SALE.

The annual show and sale of Shorthorns at Perth, Scotland, February 24th, was very successful, and prices obtained eclipsed even the high marks of the Aberdeen-Angus sales the previous week. Thirty-one Shorthorn bulls averaged over \$500 each, the highest price being 880 guineas (\$4,620), for Lord Lovat's roan second-prize senior yearling, Beaufort Broadhooks Cardinal, purchased by D. MacLennan. The first-prize bull in the same class, Lady Cathcart's red, Maurice of Cluny, went to the same buyer at 550 guineas, and the third in the class, the Earl of Moray's roan, Doune Regent, went to E. N. Casares, Buenos Aires, at 780 guineas. Mr. Duthie paid 460 guineas for the third-prize junior yearling, Max of Cluny, a red calf, bred by Lady Cathcart, and sired by Douglas Commodore.

At the Aberdeen Shorthorn Show and Sale, February 22nd, the highest price scored was 660 guineas, for the first-prize senior yearling, Claiment, bred at Comisty, and purchased by E. N. Casares, in competition with Mr. Duthie. The highest price for a female, 200 guineas, was made at Perth, for the dark roan, Butterfly LIX., first in the two-year-old class, bred by C. M. Cameron, and got by Nonpareil Gift.

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.

Miscellaneous.

LEAKING TEAT.

Kindly tell me, through your paper, the remedy for leaky teat in cow.

W. D. S.

Ans.—If the leak is from the normal opening, the only suggestion we can make is the application of an astringent such as alum, to the opening. If it is through a hole on the side of the teat, scraping the edges of the opening with a sharp penknife some time before the cow calves, may cause the edges to unite.

A FIRE LOSS.

An old house of mine, vacant about two weeks, was set on fire by some unknown person or persons.

- 1. What is the law concerning such a thing, and what steps can I take to find out the guilty party?
- 2. Would the Government pay a detective, or would I have to do so?
- 3. Could I get any damage for the loss of my house if the guilty party were found?

A CONSTANT READER.

Ans.—1 and 2. You are legally entitled to have the matter investigated by the proper officials, and if you were to see the County Crown Attorney, he would direct you as to the proper and suitable steps to be taken. You would, no doubt, be expected to render the officers assistance in the matter, and without remuneration, but would not be required to be at any expense.

3. You would be entitled to recover damages from the person or persons responsible for the fire, but not otherwise.

THE CANADIAN BANK OF COMMERCE

ESTABLISHED 1867

Capital paid-up, \$11,000,000.
Reserve, \$9,000,000.

The Canadian Bank of Commerce extends to farmers every facility for the transaction of their banking business, including the discount or collection of sales notes. Blank sales notes are supplied free of charge on application.

Accounts may be opened at any branch of The Canadian Bank of Commerce to be operated by mail, and will receive the same careful attention as is given to all other departments of the Bank's business. Money may be deposited or withdrawn in this way as satisfactorily as by a personal visit to the Bank.

MARKETS.

Toronto.

LIVE STOCK.

At West Toronto, on Monday, March 4th, receipts of live stock numbered 84 cars, comprising 1,601 cattle, 542 sheep, 494 hogs, 38 horses, 40 calves; trade slow. Export cattle, \$6.70 to \$6.85; butchers', \$6 to \$6.65; cows, \$4.75 to \$5.25; bulls, \$5 to \$5.65; milk cows, \$4.5 to \$6.0; calves, \$6 to \$9. Sheep—Ewes, \$4.50 to \$6.10; bucks, \$4 to \$4.40; lambs, \$7.25 to \$7.75. Hogs, \$6.50 f. o. b.; \$7, fed and watered; one very choice lot sold for \$7.15; sows, \$5.50.

REVIEW OF LAST WEEK'S MARKETS
The total receipts of live stock at the City and Union Stock-yards for last week were as follows:

	City.	Union.	Total.
Cars	129	153	282
Cattle	1,792	1,861	3,653
Hogs	3,006	1,947	4,953
Sheep	988	515	1,503
Calves	215	14	229
Horses	93	328	421

The total receipts of live stock at the two markets for the corresponding week of 1911 were as follows:

	City.	Union.	Total.
Cars	202	151	353
Cattle	2,843	2,594	5,437
Hogs	4,270	1,191	5,461
Sheep	705	277	982
Calves	268	60	328
Horses	38	150	188

The combined receipts of live stock at the two markets for the past week show a decrease of 71 carloads, 1,784 cattle, 508 hogs, and 99 calves; but an increase of 521 sheep, and 233 horses, in comparison with the corresponding week of 1911.

Owing largely to unfavorable weather, the receipts of live stock have been light during the week, but notwithstanding this fact, prices for cattle were little, if any, higher. In all other classes prices were unchanged, excepting hogs, which were 25 cents per cwt. higher.

Butchers'.—Best heavy steers, \$6.65 to \$6.87; prime butchers', \$6.25 to \$6.50; good, \$6 to \$6.25; medium, \$5.50 to \$5.75; common, \$5 to \$5.25; inferior, \$4.50 to \$5; cows, \$3 to \$5.25; bulls, \$4 to \$5.50.

Stockers and Feeders.—Good quality feeders and stockers are in demand. Steers, 800 to 900 lbs., sold at \$5 to \$5.25; stockers, 700 to 800 lbs., \$4.50 to \$4.90.

Milkers and Springers.—A good demand for milkers and springers prevailed during the week, at prices ranging from \$40 to \$70 each.

Veal Calves.—The market for veal calves was unchanged. Prices ranged from \$4 to \$8 per cwt.

Sheep and Lambs.—Several carloads of United States lambs were received on both markets, which sold at about the same prices as Canadian. Ewes sold at \$4 to \$5 per cwt.; rams and culls, \$3 to \$4; lambs, \$6 to \$7.50, with a few selects at \$6.75 per cwt.

Hogs.—Receipts of hogs continue light,

and prices were firmer. Selects, fed and watered at the market, sold at \$7, and \$6.60 to \$6.65 f. o. b. cars at country points.

Horses.—There has been a little more activity on the horse market for the past week. The annual sale of registered Clydesdales, and a special sale of Percherons, took place on February 27th and 28th, at both of which there was a large attendance of farmers and horse-men from all over the Province of Ontario, as well as the Maritime and Northwest Provinces. The brood mares and fillies of both classes were in demand, and sold generally at good prices. One pair of Percheron mares brought \$1,225, and another pair at \$1,000. About 125 registered horses were sold, the average price of the Clydesdales was \$350, while the Percherons brought an average of \$400. The general run of horses are reported to be selling as follows: Drafters, \$225 to \$275, and a few as high as \$300; general-purpose horses, \$175 to \$225; express and wagon horses, \$160 to \$225; drivers, \$130 to \$200; serviceably sound, \$45 to \$150 each.

BREADSTUFFS.

Wheat.—No. 2 red, white or mixed, 95c. to 96c., outside points. Manitoba No. 1 northern, \$1.13; No. 2 northern, \$1.10; No. 3 northern, \$1.06, track, lake ports. Oats—Canadian Western extra No. 1 feed, 49c.; No. 1 feed, 48c., lake ports; Ontario No. 2, 45c. to 46c.; No. 3, 44c., outside points; No. 2, 47c. to 48c., f. o. b. cars, Toronto. Rye—No. 2, \$1.06 to \$1.07 per bushel, outside. Buckwheat—68c. to 70c. per bushel, outside. Barley—For malting, 95c. to 96c. (47-lb. test); for feed, 65c. to 75c. Corn—No. 3 American yellow, all rail, Chicago, 71c., track, Toronto. Peas—No. 2, \$1.15 to \$1.25, outside. Flour—Ninety-per-cent. winter-wheat flour, \$3.85, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.50; second patents, \$5; strong bakers', \$4.90.

HAY AND MILLFEED.

Hay.—Baled, in car lots, \$16 to \$16.50 per ton for No. 1; No. 2, \$14 to \$15. Bran—Manitoba bran, \$25 per ton; shorts, \$27; Ontario bran, \$25 in bags; shorts, \$27, car lots, track, Toronto.

COUNTRY PRODUCE.

Butter.—Creamery butter is firmer. Creamery pound rolls, 37c. to 39c.; creamery solids, 37c.; separator, dairy, 34c. to 35c.; store lots, 32c. to 34c.

Eggs.—New-laid, firm, at 38c. to 40c. Cheese—Large, 16c.; twins, 17c.

Honey.—Extracted, 13c.; combs per dozen, \$2.50 to \$3.

Beans.—Market steady. Broken lots, \$2.35 to \$2.40 for primes, and \$2.45 to \$2.50 for hand-picked.

Potatoes.—Large receipts of potatoes from Ireland have caused an easier feeling in the potato market. Ontario potatoes, car lots, track, Toronto, \$1.65 to \$1.70; New Brunswick Delawares, \$1.80 per bag, track, Toronto; Irish potatoes are selling at \$1.80 per bag, track, Toronto.

Poultry.—Receipts light, and cold-storage poultry is now being freely offered. Fresh dressed poultry prices are as follows: Turkeys, none offered; chickens, 18c. to 20c.; hens, 12c. to 14c.; ducks and geese, none offering.

HIDES AND SKINS.

E. T. Carter & Co., 85 East Front street, have been paying the following prices: No. 1 inspected steers and cows, 11c.; No. 2 inspected steers and cows, 10c.; No. 3 inspected steers, cows and bulls, 9c.; country hides, cured, 11c. to 11c.; green, 10c. to 10c.; calf skins, 12c. to 15c.; sheep skins, 85c. to \$1.15 each; horse hides, No. 1, \$3 to \$3.25; horse hair, per lb., 33c. to 35c.; tallow, No. 1, per lb., 5c. to 6c.

TORONTO SEED MARKET.

The William Rennie Seed Company report the following prices, at which re-cleaned seeds are being sold to the trade: Alsike No. 1, per bushel, \$15 to \$15.50; alsike No. 2, \$13 to \$14; red clover No. 1, per bushel, \$15 to \$15.50; red clover No. 2, per bushel, \$13.50 to \$14.50; timothy No. 1, per cwt., \$18 to \$19; timothy No. 2, \$16 to \$17 per cwt.; alfalfa No. 1, per bushel, \$11 to \$12; No. 2, \$9.50 to \$10.50 per bushel.

FRUITS AND VEGETABLES.

Apples—Spies, \$2.50 to \$4 per barrel;

Baldwins, \$2 to \$3.50; Greenings, \$2 to \$3.50; Russets, \$2.50 to \$3.50; Ben Davis, \$3 to \$3.50. Onions, Canadian, per bag, \$2.25; parsnips, per bag, \$1.35 to \$1.50; turnips, per bag, 40c. to 50c.; carrots, per bag, \$1.15 to \$1.25; cabbage, per barrel, \$2.50 to \$2.75; beets, per bag, 75c. to \$1.

Montreal.

Live Stock.—Receipts on the local market were very light, this being due partly to the lighter shipments, which naturally take place during Lent, and also to the heavy snowstorms of the week before last. As a result of the lighter offerings, the market was on the firm side, and fractional advances were reported. As a considerable number of cars were on the road, the dearth in the supply is likely to be corrected at any time. Sales of choice cattle were made as high as 7c. per lb., and from this prices ranged down to mixed lots of good stock at from 6c. up. Some bulls sold at 4c. to 5c. per lb. A few very choice steers brought over 7c.; fine quality sold around 6c.; good at 5c. to 6c.; medium at 5c. to 5c., and common down to 3c., while canners' sold at 2c. per lb. Choice milkers brought up to \$90 each, and common \$50, springers being \$30 to \$45. Spring lambs will soon be offering, and it is said some have been received. Ewes sell at 4c. to 4c. per lb.; bucks and culls at 3c. to 4c. per lb., and yearling lambs at 6c. to 7c. Calves are still selling at \$4 to \$10 each. The market for hogs shows little change, prices ranging from 7c. to 7c. per lb. for selects, weighed off cars.

Horses.—Dealers report a very good demand for horses, mainly for local account. For outside, however, there is but a slight demand. An occasional shipment of horses takes place to the Northwest for farming purposes, but these, as a rule, are of inferior grades. The local market is looking for a good grade of animals, and dealers are able to dispose of all they receive at a very fair price. Very few horses are now going to the lumber camps or to contractors. Prices steady, as follows: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$500; light draft, weighing from 1,400 to 1,500, \$225 to \$300; light horses, weighing from 1,000 to 1,100 lbs., \$100 to \$200; inferior animals, \$50 to \$100, and choicest saddle or carriage animals, \$350 to \$500 each.

Dressed Hogs.—There was a firm tone to the market for dressed hogs, and prices were slightly higher, at 10c. to 10c. per lb. for abattoir-dressed, fresh-killed, and for country-dressed at 9c. to 9c. per lb.

Poultry.—The market for poultry continues fairly active and steady. Prices show little change, being 18c. to 19c. per lb. for choice turkeys; 14c. to 16c. for chickens; 8c. to 11c. for fowl; 15c. to 17c. for ducks, and 14c. to 15c. for geese, best stock being referred to.

Potatoes.—There is great scarcity in the market for potatoes, and little evidence of a lower market. Prices steady, being \$1.70 per 90 lb., carloads, on track, for Green Mountains or English, or any other choicest quality, although it is quite possible to obtain stock at 10c. and 20c. less than these figures. When sold in bag lots, the price is fully 25c. more than the figures mentioned.

Eggs.—The market for eggs is a little uncertain. Occasional importations of American eggs take place, and this disturbs the situation, and has the effect of weakening the local market. These eggs—fresh, but not of as good quality as Canadian fresh eggs—sold at about 35c. to a few cents more, while Canadian fresh stock sold at 38c. to rather more than 40c. From this forward, the supply is apt to increase gradually.

Honey and Syrup.—Prices hold steady, and trade is dull. White clover comb honey is 10c. to 11c. per lb., and extracted is 7c. to 8c. Dark comb is 8c. to 10c., and extracted is 7c. to 8c. per lb.

Butter.—The market for butter holds very firm, and cheaper butter is still some distance away. Choicest stock is ranging from 33c. to 35c., according to quantity and quality, the fresh makes being still less desirable than the best held goods. Western dairy is 27c. to 28c., and rolls are 29c. to 30c. per lb.

Grain.—No. 2 Canadian Western oats

sell at 53c. to 53c. per bushel, car lots, ex store; No. 1 extra feed, 52c. to 52c.; No. 3 Canadian Western, 51c. to 51c.; No. 2 local, 50c. to 51c.; No. 3, 49c. to 50c., and No. 4, 48c. to 49c.

Flour.—The market for flour shows no change. Prices for Manitoba spring-wheat patents, firsts, \$5.90 per barrel; seconds, \$5.40, and strong bakers', \$5.20. In bags they are 30c. less than the above figures. Ontario winter-wheat patents, \$5.10 to \$5.35 per barrel; straight rollers, \$4.60 to \$4.75.

Millfeed.—There is an active demand for all kinds of millfeed, and prices range in the vicinity of previous quotations. Bran is quoted at \$24 per ton, and shorts at \$26, while middlings are \$28 per ton. Pure grain mouille sells at \$32 to \$34 per ton, and mixed at \$28 to \$30 per ton.

Hay.—There is no change in the market for hay, prices being \$16 to \$16.50 per ton for No. 1 hay, carloads, track; No. 2 extra hay, \$15 to \$15.50; No. 2 ordinary, \$14 to \$14.50; No. 3, \$13 to \$13.50, and clover mixed, \$10.50 to \$11 per ton.

Seeds.—Prices are steady at the recent range, and demand not active. Red clover, 22c. to 26c. per lb.; alsike, 21c. to 26c., and timothy, 16c. to 20c. per pound.

Chicago.

Cattle.—Beeves, \$4.90 to \$8.60; Texas steers, \$4.60 to \$5.90; Western steers, \$5 to \$7; stockers and feeders, \$4.80 to \$6.20; cows and heifers, \$2.15 to \$6.65; calves, \$5.75 to \$8.50.

Hogs.—Light, \$6.25 to \$6.50; mixed, \$6.25 to \$6.55; heavy, \$6.25 to \$6.55; roughs, \$6.25 to \$6.35; pigs, \$4.65 to \$6.30.

Sheep and Lambs.—Native, \$3.25 to \$4.85; Westerns, \$3.75 to \$4.90; yearlings, \$4.90 to \$5.75; lambs, native, \$4.50 to \$7; Western, \$5 to \$7.10.

Buffalo.

Cattle.—Prime steers, \$7.50 to \$8; butcher grades, \$3.50 to \$6.90.

Calves.—Cull to choice, \$6 to \$10.50. Sheep and Lambs.—Choice lambs, \$7.15 to \$7.25; cull to fair, \$5.50 to \$7; yearlings, \$5.50 to \$6; sheep, \$2 to \$5.50.

Hogs.—Yorkers, \$6.85 to \$6.90; pigs, \$6.40; mixed, \$6.80 to \$6.85; heavy, \$6.70 to \$6.80; roughs, \$5.50 to \$6.10; stags, \$5 to \$5.50.

British Cattle Market.

John Rogers & Co., of Liverpool, cable both States and Canadian steers making 14c. to 15c. per pound.

QUESTIONS AND ANSWERS.

Miscellaneous.

BAD QUARTER.

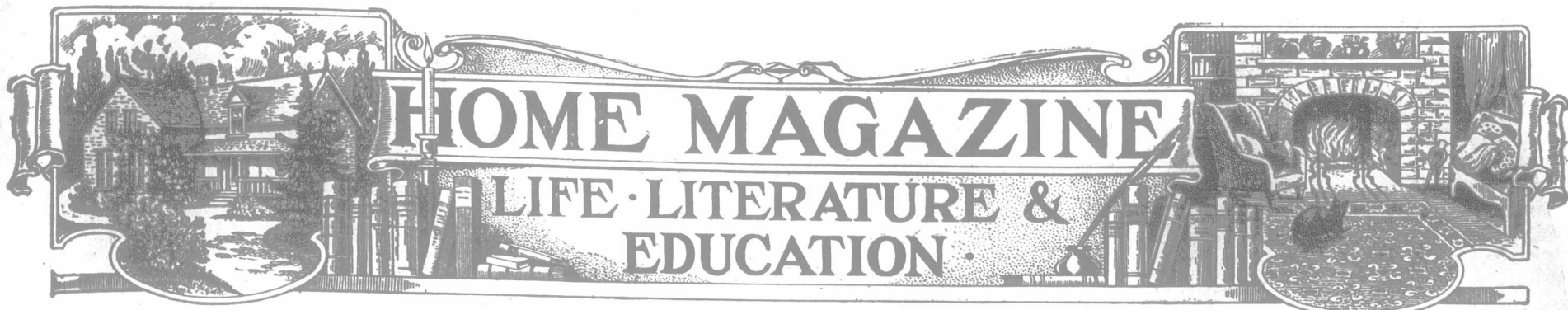
Cow having lost the use of one teat, has been dry in that quarter for nearly two months. Has been milking for 11 months, and will not freshen until end of August. Milk seems to be coming back to teat. Should it be kept milked out or not? Some say leave until freshening. D. H. P.

Ans.—As the milk is returning to the quarter, would advise that it be milked out thoroughly at each milking; also, would advise rubbing the quarter well twice a day.

SICK BIRD.

I have a Black Minorca rooster about two years old; took swelling in the head; large, hard lump appeared on the breast. Since, several lumps have appeared on different parts of the body. Have isolated him from the rest. Hens are in good condition, laying through the recent cold weather. Could you tell me what the disease is, and if there is any cure? SUBSCRIBER.

Ans.—If there is a foetid discharge from the nostrils, the disease is likely one of the forms of roup. Keep the bird isolated. Clean and disinfect the poultry house. Feed the hens liberally, giving exercise by allowing them plenty of litter to scratch in, and if the bird does not recover in a short time, destroy him.



Child Training.

(By M. C. Dawson.)

If I had to choose for my child among learning, wealth, power, and common sense, I hope that I should be courageous enough to choose the last. The other three may be acquired, but, as an old Scotch friend used to say, "If the Lord forgot to gie ye common sense, ye'll never get it." Then, having a child endowed with common sense, if I had to choose between his running wild and being over-trained, I should undoubtedly choose the former. For the child who runs wild has some chance to develop its own individuality, its own originality, and peculiar ability; but the over-trained child is cast in the mould of his mother's will. He is like a trimmed tree which is forced into some conventional shape by constantly using the shears to clip off every stray branch and thwart the natural inclination of the tree itself. I have in mind a boy of whom the neighbors always say, "Reginald is so well trained," and I never hear those words of praise without that same feeling of pitying protest with which I once watched the tricks of some trained dogs. They could walk erect, ride on horse-back, leap through fire-troops, kneel as in prayer, and do other undoglike antics. He, the boy, can take off his hat with Chesterfieldian grace; his bow is the finest thing in its class with which I have ever had any experience; his walk is graceful perfection. He comes straight home from school. He always helps with his father's business, morning, noon and night. No one ever saw him play. He is, in fact, a perfect paragon. It was once suggested that, as his twin brother had died at birth, all this perfection was the result of having received the training which was meant for two. This theory may be correct, but, as he is the youngest of nine living children, I "ha'e ma doots." But what I would like to know is this—If he is always so right, so polite, so exactly just and conventional, will he ever be likely to develop anything so erratic as genius, or anything so out of the beaten path as original thought and action?

Women will tell you that children should be carefully trained, and they go at child-training just as they do at scrubbing floors or chasing buffalo moths. They intend to make a thorough job of it, and, unless some kindly providence intervenes, they will do it, too. They believe that it is their bounden duty to let no part of the child nature escape their vigilance, to leave no little nook or corner of the child-mind unexplored. Now, mothers, is this necessary? Surely we do not believe in original sin to such an extent that we cannot allow some of those graces of mind and some of those lovely traits of character to develop without fearing for the result. The more experience I have, the more I am inclined to think that children should not be carefully trained, as most women understand careful training. You do not want the trimmed tree, you want the tall, graceful, natural tree, and to get that, children should be "judiciously" trained. Train them to be honest, brave, courteous, reverent, generous, true to the right and loyal to God and the King. These are the big things. These will make a sweet, sound core to their characters, and, having that, you need not worry about the rest.

The woman with one child needs to set a watch on herself, for the task she has undertaken is, quite likely, too small for her. Nature intended every woman to be the mother of a family, and when she concentrates the attention which should have been shared by half a dozen, on one, the result is frequently disastrous. She wants that child to be good and

clever and wise, whereas, if she had three children, one would be good, one clever, and one wise. So she would be satisfied with her offspring without expecting the impossible of any one of the three. If you have only one little girl to dress, you do not expect to make for her a dress in every style which the fashion-book portrays,—you choose one or two models. So, if you have only one little mind to dress, be reasonable, and do not expect to find in the one all that the woman next door finds in her six. And, if you have only the one, try not to become so all-pervading as was the mother of a child of six years of age, who boasted that she never once had allowed Mary out of her sight in all those six years. A beautiful example of devoted mother-love, was it not? But when was Mary going to learn to rely on her-



Earl James Brown.
Wyevale, Ont.

self? Mother-love is the grandest thing on earth, when it is not the most ridiculous. Another mother sends a big boy of ten years to school with a soft rubber ball, which he bounces in a secluded corner of the yard, while his mates play baseball. If he happens to make an extra effort to catch his ball on the bounce, someone is always ready to remind him, "Be careful, dear! You will stretch your underwear." Still another mother sat on the doorstep, watch in hand, apparently intent on a game of tag in which her child was taking a happy part. It was a pretty picture which was speedily destroyed when the mother said, "Now, dear, you've played five minutes, and if you play any longer you will sweat!" What dire calamity would have befallen if a few drops had appeared on the child's lovely brow? I leave each reader to decide for herself. But was there ever a more shining example of mother-love which even went so far as to regulate the functions of the skin for her daughter! Canute, standing on the shore and bidding the waves recede, is the only scene in all history which would make a companion picture for such an assumption of authority as this.

Children would run a better chance of being well trained if they could go without clothes,—well, that is, without such clothes as are written with a capital "C." I mean, for if a child has had her dress changed for grass-stains, and for mud-stains, and for a tear, and has been washed and curled each time, and has been told not to climb, not to run, not to fall down, not to play mud-pies, not

to sit, and so on, and so on, and she develops into a fretful whiner, can you blame her? What is the matter with her?—Just her mother.

"The folks at my house half the time are thinkin' about dirt, It sort of gives 'em horrors an' they act as if it hurt, The sight of just a little makes 'em daffy as can be— They're always washin' somethin', an' half the time it's me."

Every child is entitled to a little wholesome neglect, but, especially in towns and cities, it requires some strength of mind to give it. But with all a child's dainty spotlessness, what is she, too often, but a sop to her mother's vanity? For it is vanity when you subject it to analysis, just as good housekeeping, when overdone, is vanity. There was a woman so vain of her kitchen stove, that in the coldest weather she always used to take the frying-pan out on the veranda before she took off the lid and turned the meat over. And there are dozens of women so vain of their dainty, fairy-like little daughters, that they compel the poor darlings to wear lingerie dresses in play-time, and "dress clothes" in play-time are as much out of place as a silk dress at a paring-bee. If you want your child to place a proper value on things in after life, then do not teach him or her to place too high an estimate on clothes.



Robbie Buchanan.
Ravenna, Ont.

No one wants a child to be so fastidious that she will stop three times in going as many blocks to wipe the dust from her patent-leathers with a rag carried for that purpose,—and I know a girl, the daughter of a good, honest, hard-working mother, who has been so trained that she goes to that extreme.

"Come, let us with our children play," is an excellent motto for mothers. In a game, you see the real child, and in a game you can teach so many lessons for the great game of life. Does your boy cheat to win? He will be dishonest in business, tricky in politics, and will achieve commercial success at any cost—unless you teach him otherwise. Does he get angry and "Won't play?" Teach him that if a man would lead, he must also yield. Teach him that it is really cowardice and lack of persistent effort in the face of failure or non-success which prompts such an action. Does he cry if he loses? Teach him to be a good

sport, and to lose with a smile, and you will have done more for his success in life than you can realize. Does he "crow loud" when he wins? Teach him to consider the feelings of others, to wear his honors modestly, not to keep rubbing on a sore spot. Is he inclined to be selfish? Then teach him to lose purposely to those younger and less proficient than himself. Does he make a mis-play? Teach him to acknowledge his mistake frankly. Teach him, in short, all those little courtesies which make men civilized; implant the chivalrous idea that "might is not right," and that a true sport is a gentleman.

And after all is said and done, are our children really trained by the training we try to give them? Are they not rather trained by what we are ourselves? Can anyone train a child to be better than her own idea of right and wrong, to be better than her own ideal? Assuredly not. Then would it not be wise to pay more attention to fitting ourselves for the position we occupy, instead of saying, "Do as I say, and not as I do." For, teach as you will, the time will come when you will stand at the bar of your own conscience, and, sitting in judgment on yourself, will ask, "Where did my child acquire that imperfection of character?" And in the deepest humility, if you are an honest woman, you must answer, "I taught it to him by my life, for I lived it." God pity the mother who has to lay a charge like this at her own door, knowing that it is too late to undo her work. And God pity the faithful wife who, in spite of her teaching, finds a fault like this to lay at the door of him who should have helped instead of setting her work at naught.

Practising On Him.

An amateur charity worker, visiting a family in the tenement district, was alarmed to see the mother dash a cup of cold water in the face of the baby she had just finished dressing.



Graham Walker.
Strathroy, Ont.

Too polite to express her amazement, the visitor held her breath, expecting the air to be rent with screams. When none came, the child merely whimpering, she said: "Dear me, I should think he'd object more than that."

"Wouldn't ye now?" said the fond mother, admiringly; "sure I've been practicing on him for three weeks. He won't yell when he's baptized next Sunday! He'll be used to it."



Freddie Buchanan.
Ravenna, Ont.



Little Master Telfer.
Markhamville, N. B.



Little Leslie Douglas.
Wroxeter, Ont.

Hope's Quiet Hour.

Loved, Chosen, Invited.

Then Jesus beholding him loved him, and said unto him, One thing thou lackest: go thy way, sell whatsoever thou hast, and give to the poor, and thou shalt have treasure in heaven: and come, take up the cross, and follow Me.—S. Mark x.: 21.

The Bible is a very human Book, and it draws our attention in very matter-of-course fashion to many startling things in this mysterious human nature of ours. One thing—a thing which is disbelieved by some unemotional people—is usually called "love at first sight." Jacob evidently fell in love with his cousin "at first sight," with a love so strong that he served her father seven years for her, and they seemed unto him but a few days. Jonathan fell suddenly in love with David, and "the soul of Jonathan loved him as his own soul," with a wonderful love, passing the love of women. Do you think that this sudden, instinctive recognition of a kindred spirit is one of the weaknesses of our human nature? No, it is one of the many proofs of our power to read the heart of another, by some subtle spiritual sense which we exercise often without knowing it. To-day, let us look at a picture which is placed before us in three of the Gospels; a picture which shows how our Lord's human love went out, in eager desire for friendship, towards one who came running to consult him about a matter of vital spiritual importance. The three Evangelists tell us the dear story of the little children who were brought to the arms of their loving Lord, then they go on at once to describe the Master's attraction for the rich young ruler who came "running"—showing his eagerness—"kneeling" to Christ—showing his reverence—and asked the question which seemed to him to be of vital importance: "Good Master, what shall I do that I may inherit eternal life?" He was told to obey God's Commandments—a self-evident duty. These, he declared, had been kept from his youth. Then the heart of Jesus went out to him in strong, personal affection; he was counted worthy of a place in the chosen band of picked men who followed the Master, and instantly invited to throw in his lot with them. If this young man, who had climbed so steadily from his youth, had accepted the call, he might have been known to us as one of the leaders in the world-uplifting force which we call Christianity. But—though he longed to climb nearer to God—his riches were dearer to him than he had imagined. He was very sorrowful, and went away grieved—for he had great possessions. And the King,

whose invitation had been refused, turned to those disciples who had found it easier than this young ruler to leave all and follow Him, saying: "Children, how hard is it for them that trust in riches to enter into the kingdom of God! It is easier for a camel to go through the eye of a needle, than for a rich man to enter the kingdom of God. . . . With men it is impossible, but not with God: for with God all things are possible."

Does the Gospel tell us the end of this story which is often called "The Great Refusal"? Was this young man, who so

sorrowfully chose the world instead of Christ, drawn back again by the strong attraction of One Who loved him? There is a tradition to the effect that he found all his possessions had lost their value in his eyes, he could not forget the call to follow the Leader Who had shown him that the vision of a higher life meant sacrifice. At last he gave up the wealth which was clogging his soul, and found the heavenly treasure of Joy, which could never be his while he was disobeying God's call to go up higher. It may have been so, and very probably it was so. Jesus loved him at first sight, see-

ing how deeply in earnest he was, and put him to a severe test, even as he had been asked to do. The young man, in saying: "What good thing shall I do, that I may have eternal life?" was virtually saying: "If you tell me what to do, I am prepared to do it." He honestly thought so, until the test he had demanded revealed to his own conscience that his "great possessions" really possessed him, that he loved them best of all.

Why did Christ—because He loved this young man—at once tell him to do a thing which was so terribly difficult? We are told that He especially loved Lazarus and his two sisters; yet they were not asked to give up their comfortable home, where Jesus Himself was always a welcome Guest when He was staying in the neighborhood. Abraham is called "the friend of God," yet he was a very rich man, and was not asked to give up his wealth. But Abraham was asked to do a much harder thing—to give up the son he loved so dearly: Abraham possessed his riches, they did not drag his soul down. It is not money, but the love of money which is the root of all kinds of evil. Christ loved this young ruler, and desired to break the chains of avarice before they had hopelessly crushed the love of God and holiness in his soul.

In the story of Job, he is described as the greatest of all the men in the east, with enormous herds of cattle, and a very great household. He was not asked to give away his wealth, but God took it from him, together with his children, and even his health. This was a terrible test of his faith in God, but he endured it triumphantly. Though no explanation of his troubles was offered, his trust in Jehovah was proved to be far stronger than his natural love of wealth and comfort. Hear his glorious words as he breasted the storm: "The LORD gave, and the LORD hath taken away, blessed be the name of the LORD." "Though He slay me, yet will I trust in Him." "I know that my Redeemer liveth."

Christ does not call everyone who seeks His service to strip himself of all his wealth, though He does call every disciple to follow Him in a life of self-denying service. It would be a ruinous thing for the world if all true and noble Christians should refuse to use the valuable weapons of riches and worldly position, leaving those weapons to be used unscrupulously by men who cared nothing for God or their own consciences. Men who consecrate their money as well as their lives to God's service, can do much to help the world, but the money must always be held at God's disposal. If He asks for it there must be no refusal, if He takes it away there must be no murmuring nor rebellious complaint—unless the money is loved more than



Teddie Miner.
Kingsville, Ont.



Little Miss Craig.
Cyrville, Ont.



Margaret P. Hillhouse.
Bondville, Que.



Florence Lenore Forman.
Alvinston, Ont.

God. It is exactly the same with other gifts of our Father. We must not love the gift more than the Giver; we must be always prepared to give it up at His demand, if we would prove ourselves worthy of His friendship. The Master still says to us: "He that loveth father or mother more than Me is not worthy of Me: and he that loveth son or daughter more than Me is not worthy of Me. And he that taketh not his cross, and followeth after Me, is not worthy of Me."

No wonder that the disciples were "exceedingly amazed" when they were told of the difficulty a rich man must find in entering the kingdom of God. No wonder they exclaimed: "Who, then, can be saved?"

We, who—like the rich young ruler—eagerly desire to climb to a higher level than we have yet reached, may have good reason to fear that, like him, we might fail to make the right choice if severely tested. Let us prayerfully try to cultivate our higher desires, and keep earthly desires under strictest control, lest we also should sadden our own souls and grieve our best Friend by making a great refusal—refusing to do the best that we can see.

I read in the paper a short time ago that a rich American girl was receiving a nurse's training, in order to join Doctor Grenfell's Labrador mission. I have no doubt that her life of self-sacrificing service will be far more interesting, far more joyful than the wearisome round of "society" would have been. Our Captain knows his soldiers, and calls them to the work which will really give them deepest satisfaction and lasting happiness.

And even those who sorrowfully refuse to take the step which He is demanding of them, are not shut out from His love. "Jesus, beholding him, loved him," and yet He must have known that the young man kneeling at His feet, in apparently wholehearted earnestness, would not be able to stand the searching test. So also He loves each eager soul that hungers and thirsts after righteousness, and though His treatment may sometimes seem to be severe, it is always a proof of His special love. The stern call, the stunning shock of overwhelming trouble, the weary round of tedious duty, show that He is offering His own wonderful Friendship to one He loves. He is saying very tenderly: "Come, follow ME."

"In the gloom and darkness
Clasp His loving hand,
He will guide and cheer thee
Through the desert land."

DORA FARNCOMB.

The Beaver Circle.

OUR SENIOR BEAVERS.

[For all pupils from Senior Third to Continuation Classes, inclusive.]

Senior Beavers' Letter Box.

[Gordon Baynton made a mistake and entered the "Junior Beavers" Competition. His letter, however, was very good, so we are letting it appear here.]

Dear Puck and Beavers,—As your new competition is on, I thought I would like to try in it. The subject was to be on "Going to School in Winter."

Regarding the cold, it is sometimes very trying, but after you get toughened it isn't so bad after all, is it? Another thing the boys have to put up with is a long walk. Of course, some of us live quite close to school, and that makes some difference. Next comes the time-and-chose question. In the morning when one gets up he has to go to the barn to do chores. Probably some of our Beavers do not. After chores are done, of course, we get our breakfast of hot buckwheat cakes. Nearly all people around here have these. Next comes the going to school. Some of us might say, "Oh, dear! I don't want to go to school to-day; it's too cold." It may be cold, but all I say is to "dress up warmly" and keep your legs a-going. The lesson-books are not to be forgotten.

because they are the main part of the day. Some pupils at our school think books are merely to read out of, such as history, arithmetic, etc., but books are to learn out of.

The pleasures are next to be thought of. As to getting up and doing chores, I think it gives one a good appetite.

Walking to school is a rather refreshing task, especially if it happens to be between warm and cold, and more if you happen to see a curious bird or animal. When you get to school, the next pleasure, I must say, is study (not play). Education nowadays is very useful. It is an absolute necessity. Would a man with no education do to go into a post-office and do check work, etc.? No. No man would be of any use at all. So it will be with us if we do not study. Study, study, study, all day long, and nothing but study. That is what makes us great men and women. Some day some of us shall be doing good works for someone. Have a motto to go by; that motto for school is "Study." For home is "Work."

Taking going to school in winter all through, I think it is a pleasure—and a necessity. Wishing the Beavers and Puck every success.

GORDON BAYNTON
(Age 12, Book IV.)

Cairo P. O., Ont., R. R. No. 3.

You are right about education being very necessary nowadays, Gordon, but it is just as necessary for the farmer as for the man who works in an office. You will find that out by-and-by.—P.

Dear Puck and Beavers,—This is my first letter to the Circle. I would like to join very much. Will you please let me? I enjoy reading the letters. I am going to write about my home. I live in the country, and it is a very pretty place. I live three miles from a village. We have quite a walk to school; it is nearly a mile. We had a very nice teacher this year. We all liked her very much. My sister goes to school with me in the autumn, but in the winter she goes away to school. I have a fine time in the winter sleighing, and lots of other things besides. I will now close, hoping this will escape the w.-p. b., and wishing the Beavers every success.

AGNES RICHARDSON
(Age 13, Jr. IV. Book).

Belmere, Georgeville, Que.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle, so I hope it will escape the w.-p. b. My father has taken "The Farmer's Advocate" for a short time, and now he says he would not be without it. I enjoy reading the letters from the different Beavers. I go to the Pine Grove school. It is about a mile from our place. There



Marjorie Grey Lyon.
Londesboro, Ont.

are eighteen pupils. We go skating on the creek that runs by our place. We have a pony; she is four years old. My father is a blacksmith. He has a great many horses to shoe in the winter time. My letter is getting rather long, so I think I will close now, wishing the Circle every success.

EDNA WATSON

(Age 12, Sr. IV. Book).

Alford Junction, Ont.

Dear Puck and Beavers,—As I wrote before and my letter was not published, I thought I would try again. They say, "If at once you don't succeed, try, try, again," so I thought I would see if I couldn't succeed, as I would like to join your corner.

There is a creek that runs very near us, only about five minutes' walk. In the winter we skate on it, and sleigh-ride on the hill, and in the summer we fish nearly every night, and sometimes in the afternoon. I think fishing is fun, only I don't like to bait the hook. I do not want to take up too much room in your corner, but I am like one of the other Beavers, I would like to see what Puck looks like. I guess he is like a Santa Claus,—if everybody knew him he wouldn't be Puck; isn't that right? I will close, hoping this escapes the hungry waste-paper basket, and also asking some of the Beavers my own age or over to write.

ZILPHA ADAMS

(Age 12, Class Jr. IV.).

Brantford, Ont., Box 55.

Dear Beavers,—At our city there is an hydraulic lift-lock, the largest in the world. A party of our friends went down the river on an excursion, and when we came back at night we all went up over the lift-lock. It was the official opening of the lighting of the lift-lock by electric light. There were a thousand people there to see it being lighted up for the first time. This was one of the treats I had in last summer holidays.

Our city is called the Electric City. The city is built on the Otonabee River, which furnishes it with power.

I expect to try the Entrance examinations next summer, and I hope I will pass. Wishing the Beaver Circle every success. Hoping this will escape the w.-p. b.

ALEX. MCGREGOR

(Age 14, Book Sr. IV.).

Peterboro, Ont.

To The Buds.

By Mary B. Fuller.

Stay in, little buds, stay in,
Too early you're out to play,
For this is the first of March, dear buds,
There are two months yet till May.
Stay in, little buds, stay in.

Stay in, little buds, stay in,
The north wind still will blow.
He's only waiting to draw you out,
Then nip you under the snow.
Stay in, little buds, stay in.

Stay in, little buds, stay in,
Though the warm sun call you out,
And the soft little breezes beckon, too,
As they flourish all about.
Stay in, little buds, stay in.

Stay in, little buds, stay in.
Be patient yet a while,
Till after the winds and rains are past,
And May says, "Come," with a smile.
Stay in, little buds, stay in.

Beaver Circle Notes.

Don't forget, Beavers, that all letters written on both sides of the paper are thrown into the w.-p. b. They give too much trouble to the busy printers.

How many of you have trouble with the upsetting of your ink-bottles in school? If so, make a circle of stiff paste-board wide enough to reach far past the bottle, cut a hole in the middle of it for the neck of the bottle, and slip it on like a collar. When this collar is on, the bottle cannot tip over far enough to spill the ink.

If any of you do not find your letters in the Letter Box inside of four or five months, you may be sure that they were too short, and not interesting enough, for publication. Do not make a list of your horses, cows and sheep, nor yet of your pets, but if you have anything in-

teresting to tell about any one of these, tell it. . . . Again, a mere list of your brothers and sisters is not interesting to strangers, but anything clever done by one of them, or any cunning little speech of the "baby," is sure to be. If there is any fine scenery near your home, tell about that—or any spot where a historical event has taken place. Close observations of birds, plants or insects, are always worth giving,—also accounts of fishing or picnic trips, of school fairs, Arbor Day work, school libraries, school gardens, etc. Most interesting of all, perhaps, is your own opinion on any subject interesting to boys and girls. Your letters on the Home-work question showed that you are quite equal to this last.

Now, Beavers, think this over, and decide what you will write about when it is time to write again. You see I don't want any letters at all for a few weeks, until we "catch up" with those on hand. In the meantime, however, I think we may give you a new competition.

The New Competition.

Our competition this time will be in drawing. Take your choice of any one of the following subjects:

(1) Place on the table a pitcher, a bowl, and three apples, carrots, onions or potatoes. Make a drawing of the group.

(2) Draw a picture of someone in your house, sitting by a table reading by the light of a lamp.

(3) Draw a picture to represent "April." The best prize will be given for No. (3), which is the hardest.

All drawings must be received here not later than April 1st. Address, The Beaver Circle, "The Farmer's Advocate," London, Ont.

Riddles.

Green, white, pink and black,
Large as a hump on a camel's back,
Soaking wet like a dropsical sponge,
Into its heart a knife I'll plunge,
From its body I'll take a slice,
Smack my lips and call it nice;
Skin and bones I'll throw away,
What's its name?—I pritheer, say.
Ans.—A Watermelon.
Sent by Miller Johns, Fairfield East, Ont.

Why are naughty children like corn-stalks? Ans.—Because they get their ears pulled.

House full, hole full, and can't catch a bowlful. Ans.—Smoke.

What makes more noise under a gate than a pig? Ans.—Two pigs.

Sent by Helena King, Oakdale, Ont.

OUR JUNIOR BEAVERS.

[For all pupils from First Book to Junior Third, inclusive.]

Junior Beavers' Letter Box.

GOING TO SCHOOL IN WINTER.
(An Honor Roll Letter.)

I saw your competition in "The Farmer's Advocate," and thought I would write. I have a mile and a quarter to go to school. I have not missed many days. Papa takes us when it is stormy, and when the snow is deep. Sometimes coming home we jump on sleighs or run behind them, and the horses may go fast and leave us behind. We get on runners of cutters. Sometimes there is not room for all of us in it. We play building forts, snowballing, and horse. My teacher's name is Miss Morton. I like her very much. There are just two in my class. We have an examination nearly every Friday. Three other little boys come my way. We often 'phone about school. I have a dog called Sport. One day he came after our cutter to school. He did not wait for a lesson, but went home. I will close, wishing the Beaver Circle every success.

EVAN JACKSON

(Age 8, Class Part II.).

Chesley, Ont., Box 264.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle. My father has taken "The Farmer's Advocate" for some years, and I enjoy read-

"HAVE YOU A LITTLE 'FAIRY' IN YOUR HOME?"



Be Fair to Yourself—Try Fairy

You may think the toilet and bath soap you use is the best simply because you have used it for years and have become accustomed to it. If you are open to conviction, however, we can truthfully state that, if it isn't Fairy Soap, it isn't the best. Fairy is a white cake of floating purity—made from edible products that cost more than the ingredients used in other white soaps.

Its oval shape is a decided advantage over other soaps.

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ing the letters. I live on Lake Side Farm, about five miles from Galt. I have gone to school three years, and am in the Junior Second Class. I like my teacher fine; her name is Miss Gertrude Moffat. We had a concert at our school at Christmas, and all seemed to have an enjoyable time. When we were going to stop, Santa Claus came in and scared us. I think I will close, so the other pupils will have room.

Here is a riddle:

Why do dentists make good farmers?

FLORENCE J. DEANS

(Age 8, Book Jr. II.).

Galt, Ont.

Dear Puck and Beavers,—I thought I would write to your Circle, as I am interested in reading the letters. I live on a farm of two hundred acres. I live about a quarter of a mile from school. There is a creek running through our place, and we have some fun skating; I started to school when I was seven. There is a crowd skating every night, and I go out. I am very fond of working around horses and riding horse-back. As the rest of the Beavers don't write very long letters, I won't for the first time. Wishing the Circle every success.

HUGH M. TAYLOR

(Age 10, Jr. III.).

Aberarder, Ont.

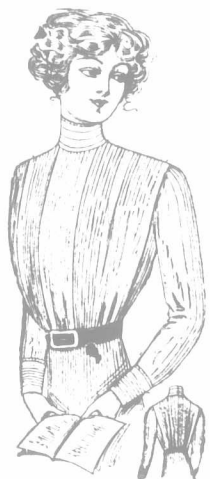
Dear Puck and Beavers,—This is the first time I have written to your Circle, so I hope it will escape the waste-paper basket. My father has taken "The Farmer's Advocate" for a number of years. I like my teacher fine. Her name is Miss Stewart. I have a dog; his name is Watch. He will draw me on the sleigh. I have a pet calf; I call him "White-face." I will close, wishing the Circle every success.

LEONARD BRAMBLE

(Age 8, Part II. Book).

Orangeville, Ont.

"The Farmer's Advocate" Fashions.



7286 Tucked Blouse, 34 to 42 bust.



6775 Girl's Apron, 8 to 14 years.



6951 Child's Bishop Dress, 6 months, 1, 2 and 4 years.



7043 Child's One-Piece Dress, 2, 4 and 6 years.

Please order by number, giving age or measurement, as required, and allowing at least ten days to receive pattern. Price, ten cents per pattern. Address, Fashion Dept., "The Farmer's Advocate," London, Ont.

The Ingle Nook.

[Rules for correspondents in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen-name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

Dear Ingle Nook Folk,—You will be pleased to see Mrs. Dawson's article this week, as "leader" on our first page of our Home Department. I hope it will be but the introduction to a general discussion on all the problems connected with the training of our future men and women.

Cookery for Invalids.

(Requested.)

Chicken Jelly:—Clean and disjoint the chicken, break the bones and cut into small pieces. Add the feet, which have been cleaned by plunging them into boiling water and skinning carefully. Add 1 pint cold water for every pound chicken. Heat slowly, and simmer until the meat falls from the bones. Strain, let stand until cold, remove the fat, reheat, season nicely, then turn into a mould and set in a cold place to harden. Chicken broth may be made from this easily, by thinning a bit of the jelly with boiling water.

Chicken Soup:—Prepare as above. Remove the meat when it has fallen from the bones, strain, add a tablespoonful of rice, a small piece of onion, the seasoning and a few bits of the meat, then cook until the rice is done. Remove the onion and serve with bits of buttered bread toasted in the oven, or with plain toast.

Grape-fruit Juice and Egg:—Beat the white of egg a little, add 2 tablespoons grape-fruit juice, sprinkle with sugar and serve. It should be very cold.

Egg Lemonade:—Beat one egg a little, mix in juice of half a lemon, 2 table-spoons sugar, 1 cup cold water. Stir, strain, and serve.

Mutton Broth:—1 qt. water, 1 lb. lean mutton, 1 tablespoon barley. Cut the meat in small pieces, put in the water with the barley and simmer together 4 hours, adding a little more water as the water boils away. Strain, cool, and skim off the fat, then reheat when necessary. When not in use, all broth such as this should be kept closely covered, and on ice.

Tapioca Jelly:—Wash the tapioca well, soak in fresh water 5 or 6 hours, and simmer in the same until quite clear, then add a little lemon juice and sugar. Boil a bit of the peel with the tapioca.

Arrowroot Jelly:—Put into a saucepan 1 cup water, a little grated nutmeg and sugar enough to sweeten. Let boil up, then stir in gradually 1 dessertspoonful of arrowroot rubbed smooth in 2 spoonfuls cold water.

Egg Broth:—Beat an egg smooth, add to it hot mutton or chicken broth nicely seasoned, and serve with toast.

Always remember that, although thin broths and soups are stimulating, they do not possess a high percentage of nutriment—not nearly so high as sweet, fresh but-



"Had to go to Father Every Time"

Miss Anna Martin, of Montreal, writes:

"It used to be that I had to go to father every time I wanted some new clothes, but now it is different since I discovered Diamond Dyes."

"Every once in a while I just take my dresses that are faded or worn a little and with the aid of a style book and Diamond Dyes they are soon made new and beautiful again."

There is nothing unusual in Miss Martin's method of keeping up her wardrobe. It is being done by thousands of women everywhere to-day.

And households, too, all over the country, are being constantly given new beauty, through new colourings, with the aid of

Diamond Dyes

THERE are two classes of Diamond Dyes—one for Wool or Silk, the other for Cotton, Linen, or Mixed Goods.

Diamond Dyes for Wool or Silk now come in BLUE envelopes. And, as heretofore, those for Cotton, Linen, or Mixed Goods, are in WHITE envelopes.

Here's the Truth About Dyes for Home Use

Our experience of over thirty years has proven that no one dye will successfully color every fabric.

There are two classes of fabrics—animal fibre fabrics and vegetable fibre fabrics:

Wool and Silk are animal fibre fabrics. Cotton and Linen are vegetable fibre fabrics. "Union" or "Mixed" goods are 60 per cent. to 80 per cent. Cotton—so must be treated as vegetable fibre fabrics.

Vegetable fibres require one class of dye, and animal fibres another and radically different class of dye. As proof—we call attention to the fact that manufacturers of woollen goods use one class of dye, while manufacturers of cotton goods use an entirely different class of dye.

Do Not Be Deceived!

For these reasons we manufacture one class of Diamond Dyes for coloring Cotton, Linen, or Mixed Goods, and another class of Diamond Dyes for coloring Wool or Silk, so that you may obtain the very best results on EVERY fabric.

REMEMBER: To get the BEST POSSIBLE results in coloring Cotton, Linen, or Mixed Goods, use the Diamond Dyes manufactured ESPECIALLY for Cotton, Linen, or Mixed Goods.

AND REMEMBER: To get the BEST POSSIBLE results in coloring Wool or Silk use the Diamond Dyes manufactured ESPECIALLY for Wool or Silk.

Diamond Dyes are sold at the uniform price of 10 cents per package.

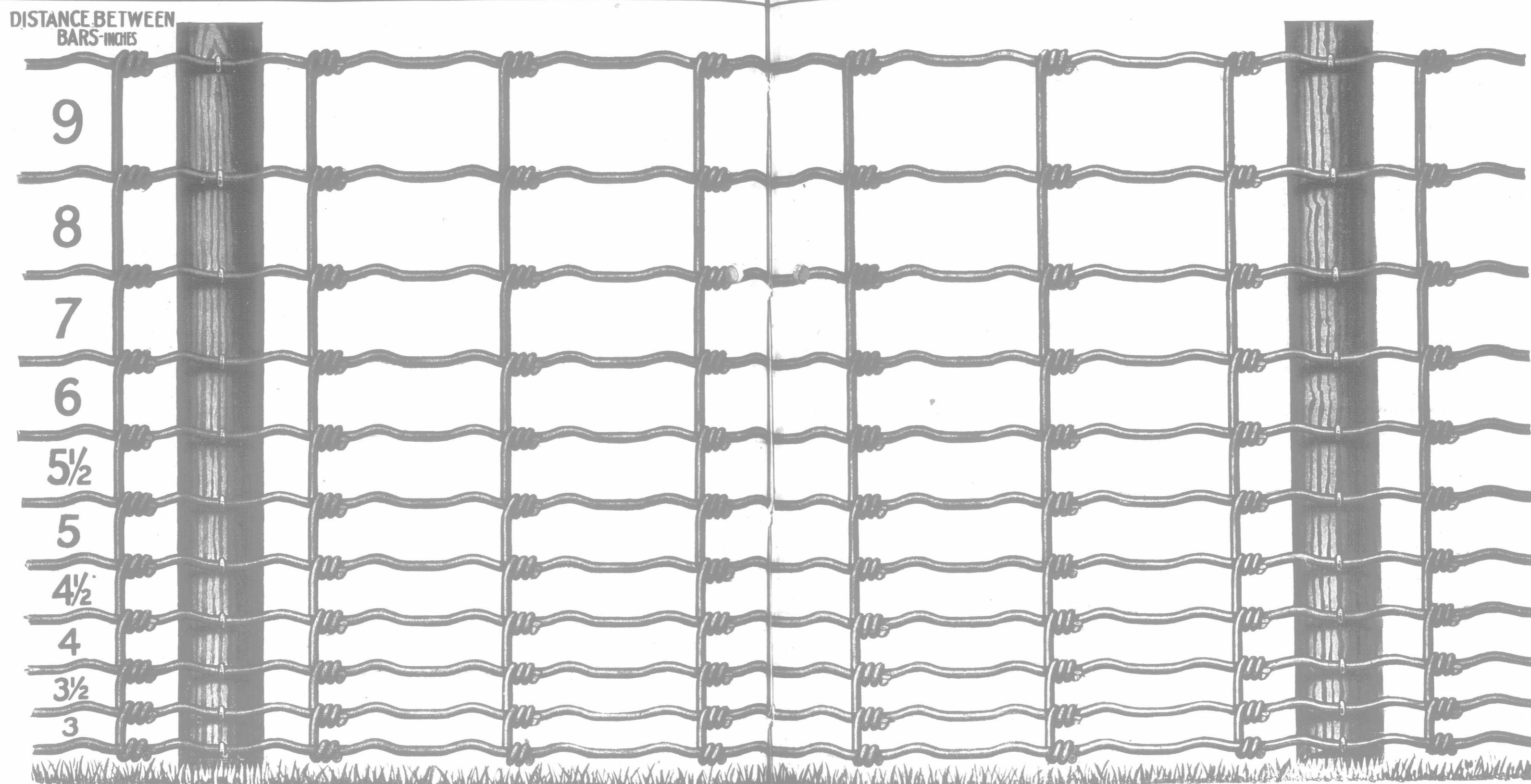
VALUABLE BOOKS AND SAMPLES FREE—Send us your dealer's name and address—tell us whether or not he sells Diamond Dyes. We will then send you that famous book of helps, the Diamond Dye Annual, a copy of the Direction Book, and 36 samples of Dyed Cloth—Free.

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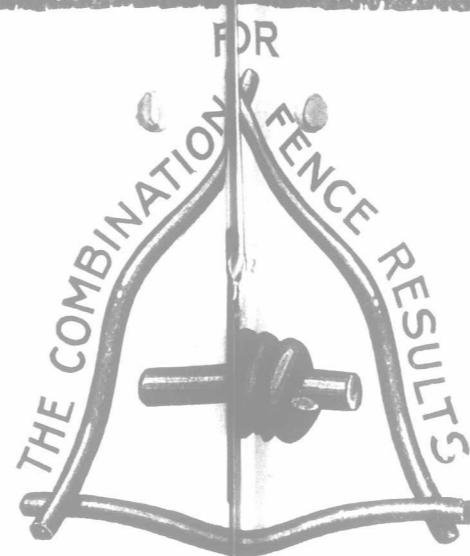
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The real test of a fence is the service you get out of it. Test, judge, and compare "AMERICAN" Fence under any and all conditions, and you will find the structure of the fence and the galvanizing of the wire are equal in durability, strength and



efficiency to the hardest usage, and absolutely without equal amongst woven fence fabrics.

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If you don't know him, write us direct.

THE CANADIAN STEEL & WIRE COMPANY, LIMITED
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Learn why PURITY FLOUR is unlike any other brand

PURITY FLOUR is unlike any other brand of flour. No two milling companies follow exactly the same process of milling. In fact, no two different brands of flour in the world are exactly alike in quality.

And here is another fact worth knowing: Every wheat berry contains both high-grade and low-grade portions.

The process of milling PURITY flour costs more than to mill ordinary flour. The low-grade portions are separated and excluded. PURITY is an ALL HIGH-GRADE, hard wheat flour. It has greater strength, greater absorption and greater expansion. It is a thirstier, more elastic flour. It drinks more water and expands into more loaves.

Use PURITY FLOUR for your next batch of bread. Count the loaves. You'll find you have made "MORE BREAD AND BETTER BREAD" from PURITY than when you've used an equal weight of weaker and cheaper flour.



PURITY FLOUR

"More bread and better bread"

IMAGINE, if you can, how much whiter, and more toothsome, and more nutritious, the bread made from such a HIGH-GRADE flour must be.

And can you imagine yourself enjoying the flaky pie-crust and the light, delicate cake?—your reward for using PURITY flour

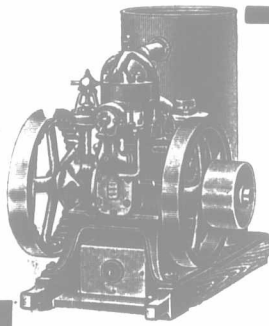
When making pastry, please remember to add more shortening than required with ordinary flour—for on account of its extra strength, PURITY FLOUR requires more shortening for best pastry-results

Yes, PURITY FLOUR costs slightly more than ordinary flour. But use it once and you'll say it's worth more—much more—than the difference.

Add PURITY FLOUR to your grocery list right now.



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Every farmer can afford an Ellis Coal Oil Engine. They give far more power from coal oil than other engines do from gasoline. They are safe, as well as cheap; no danger of explosion or fire.

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termilk, which is often prescribed. Even beef tea, says Dr. Hutchinson, in his work on "Foods and Dietetics," contains only about 2 per cent. of nutriment. While these drinks, therefore, are excellent aids to an invalid's diet, they must not be depended upon to nourish, or the patient is likely to starve. To make them really nourishing milk or egg must be added to them. In case of sickness always consult the attending physician in regard to the foods that are to be given. A mistake may be fatal.

Fish and Egg Dishes.

Salt Cod:—Wash the cod (the quantity necessary) and soak over night in water to which a little vinegar has been added. Next day boil in fresh water, and flake into a dish. Serve with parsnips boiled, mashed, and beaten up with hot cream to which a piece of butter has been added. If liked the cream may be slightly thickened with flour before the parsnips are added.

Smelts:—Flour lightly, dip into beaten egg then into fine bread crumbs and fry in deep boiling grease. Garnish with slices of lemon.

Baked Whitefish:—Split the fish open on the back, remove the bones, lay it inside up in a baking pan, brush over with a tablespoon butter and juice of half a lemon, season with salt and pepper, sprinkle with cracker crumbs and bake in a hot oven 30 minutes.

Stuffed Whitefish:—Make a stuffing of 1½ cups dry bread crumbs, a heaped tablespoon butter, salt and pepper to season, 1 beaten egg. Stuff the fish and sew it up. Put in the baking-pan with 1 cup vinegar and bake 1 hour, basting with butter and water. Thicken the gravy with browned flour and serve around the fish.

Cheese Omelet:—Beat yolks of eggs well, add 5 tablespoons milk and seasoning to taste. Beat the whites very stiff and stir them into the yolks. Butter a large frying-pan and heat it, then pour the mixture in, cover tightly, and cook slowly until brown on the bottom. Sprinkle ¼ cup fresh grated cheese over, fold together and serve at once.

Creamed Eggs:—Boil 5 eggs hard, take 2 cups bread crumbs, 1 cup milk, ½ tablespoon butter, salt and pepper to season. Scatter the crumbs over the bottom of a baking-dish, lay on the sliced eggs, sprinkle with salt and pepper and bits of the butter. Keep on thus in alternate layers until all are used, having crumbs on top; pour the milk over and bake in a moderate oven.

Dropped Eggs:—Have 1 qt. boiling water and 1 tablespoon salt in a frying-pan. Set on back of stove. Break 5 eggs, one by one, into a saucer and slide carefully into the water. Cover closely and let the eggs cook lightly. When done lift each out with a pancake turner and place on buttered toast.

Our Scrap Bag.

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If you have not received a seed catalogue send a postal card to a reliable seed house asking that one be sent you. Those that advertise in this journal are all reliable.

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Cook graham flour in salted water and eat with sugar and cream. This makes a nice change for breakfast.

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Woolen underwear that has become too thin to stand ordinary darning may be made to last until warm weather by treating as follows: Soak a piece of net until soft and when dry tack on to the thin place on the inside of the garment, then darn by weaving in and out through the meshes of the net.

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A writer in British Medical Journal says that in-growing toenails may be cured by painting the part twice a day with a solution of one ounce fresh tannic acid dissolved in 6 drachms pure water, by a gentle heat.

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Rub with hot cornmeal and brush out, or mix pipe-clay or magnesia to a paste with water, spread on the hat and when perfectly dry whisk off.

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G43. This Coat is made of All-wool English Serge, in a neat design, distinctly up-to-date. The colors are black and navy, the dye being there to stay. The back of the coat is semi-fitting and the seams are raised. The front is single-breasted and fastens with three buttons. The collar is plain tailored and the revers are overlaid with black satin, and the cuffs are finished with a stitched tab of self material, ornamented with buttons. There are patch pockets with flaps and buttons. All seams are well bound inside; the coat is lined across the shoulders, and finished with French facings.
 Sizes 32 to 42 bust.
 Length 54 inches.
 Price, delivered . . .

\$10.00

G92. This is a Neatly Tailored Suit, noticeable anywhere for its simple grace and dignity. The coat is semi-fitting back and front and lined with grey satin. The collar has large pointed revers and finished with piping of narrow striped fabric. The sleeves are tailored, with cuffs that match the collar. The pockets are stitched in obliquely. The skirt has the new wide front panel, and the fold below the knee line is ornamented at the front seams with little buttons. It has a full length back panel, which fastens to the left. Sizes, bust 32 to 42; waist 22 to 29. Length 38 to 42. Price, delivered . . .

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The Passer-by—"You took a great risk in rescuing that boy; you deserve a Carnegie medal. What prompted you to do it?"

The Hero—"He had my skates on!"

The Scarlet Pimpernel.

A STORY OF ADVENTURE.

By Baroness Orczy.

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(Continued from last week.)

CHAPTER XI.

Lord Grenville's Ball.

The historic ball given by the then Secretary of State for Foreign Affairs—Lord Grenville—was the most brilliant function of the year. Though the autumn season had only just begun, everybody who was anybody had contrived to be in London in time to be present

there, and to shine at this ball, to the best of his or her respective ability.

His Royal Highness the Prince of Wales had promised to be present. He was coming on presently from the opera. Lord Grenville himself had listened to the two first acts of Orpheus before preparing to receive his guests. At ten o'clock—an unusually late hour in those days—the grand rooms of the Foreign Office, exquisitely decorated with exotic palms and flowers, were filled to overflowing. One room had been set apart for dancing, and the dainty strains of the minuet made a soft accompaniment to the gay chatter, the merry laughter of the numerous and brilliant company.

In a smaller chamber, facing the top of the fine stairway, the distinguished host stood ready to receive his guests. Distinguished men, beautiful women, notabilities from every European country had already filed past him, had exchanged the

elaborate bows and curtsies with him, which the extravagant fashion of the time demanded, and then, laughing and talking, had dispersed in the ball, reception, and card rooms beyond.

Not far from Lord Grenville's elbow, leaning against one of the console tables, Chauvelin, in his irreproachable black costume, was taking a quiet survey of the brilliant throng. He noted that Sir Percy and Lady Blakeney had not yet arrived, and his keen, pale eyes glanced quickly towards the door every time a newcomer appeared.

He stood somewhat isolated: the envoy of the Revolutionary Government of France was not likely to be very popular in England, at a time when the news of the awful September massacres, and of the Reign of Terror and Anarchy, had just begun to filtrate across the Channel.

In his official capacity he had been

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received courteously by his English colleagues: Mr. Pitt had shaken him by the hand; Lord Grenville had entertained him more than once; but the more intimate circles of London society ignored him altogether; the women openly turned their backs upon him; the men who held no official position refused to shake his hand.

But Chauvelin was not the man to trouble himself about these social amenities, which he called mere incidents in his diplomatic career. He was blindly enthusiastic for the revolutionary cause, he despised all social inequalities, and he had a burning love for his own country: these three sentiments made him supremely indifferent to the snubs he received in this fog-ridden, loyalist, old-fashioned England.

But, above all, Chauvelin had a purpose at heart. He firmly believed that the French aristocrat was the most bitter enemy of France; he would have wished to see every one of them annihilated: he was one of those who, during this awful Reign of Terror, had been the first to utter the historic and ferocious desire "that aristocrats might have but one head between them, so that it might be cut off with a single stroke of the guillotine." And thus he looked upon every French aristocrat, who had succeeded in escaping from France, as so much prey of which the guillotine had been unwarrantably cheated. There is no doubt that those royalist emigres, once they had managed to cross the frontier, did their very best to stir up foreign indignation against France. Plots without end were hatched in England, in Belgium, in Holland, to try and induce some great power to send troops into revolutionary Paris, to free King Louis, and to summarily hang the blood-thirsty leaders of that monster republic.

Small wonder, therefore, that the romantic and mysterious personality of the Scarlet Pimpernel was a source of bitter hatred to Chauvelin. He and the few young jackanapes under his command, well furnished with money, armed with boundless daring, and acute cunning, had succeeded in rescuing hundreds of aristocrats from France. Nine-tenths of the Emigres, who were feted at the English court, owed their safety to that man and to his league.

Chauvelin had sworn to his colleagues in Paris that he would discover the identity of that meddling Englishman, entice him over to France, and then . . . Chauvelin drew a deep breath of satisfaction at the very thought of seeing that enigmatic head falling under the knife of the guillotine, as easily as that of any other man.

Suddenly there was a great stir on the handsome staircase, all conversation stopped for a moment as the major-domo's voice outside announced,— "His Royal Highness the Prince of Wales and suite, Sir Percy Blakeney, Lady Blakeney."

Lord Grenville went quickly to the door to receive his exalted guest.

The Prince of Wales, dressed in a magnificent court suit of salmon-colored velvet richly embroidered with gold, entered with Margaret Blakeney on his arm; and on his left Sir Percy, in gorgeous shimmering cream satin, cut in the extravagant "Incrayable" style, his fair hair free from powder, priceless lace at his neck and wrists, and the flat chapeau-bras under his arm.

After the few conventional words of deferential greeting, Lord Grenville said to his royal guest,—

"Will your Highness permit me to introduce M. Chauvelin, the accredited agent of the French Government?"

Chauvelin, immediately the Prince entered, had stepped forward, expecting this introduction. He bowed very low, whilst the Prince returned his salute with a curt nod of the head.

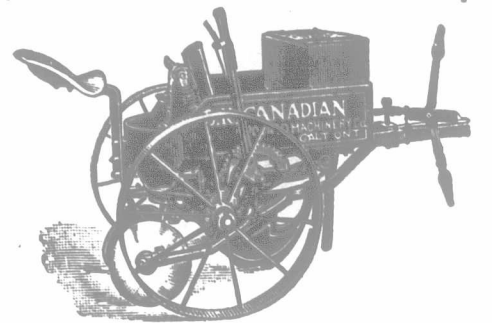
"Monsieur," said His Royal Highness coldly, "we will try to forget the government that sent you, and look upon you merely as our guest—a private gentleman from France. As such you are welcome, Monsieur."

"Monsieur," rejoined Chauvelin, bowing once again. "Madame," he added, bowing ceremoniously before Margaret.

"Ah! my little Chauvelin!" she said with unconcerned gaiety, and extending her tiny hand to him. "Monsieur and I are old friends, your Royal Highness."

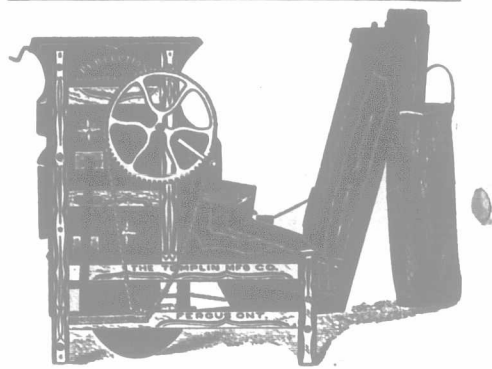
"Ah, then," said the Prince, this time

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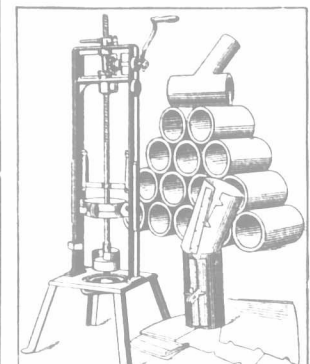


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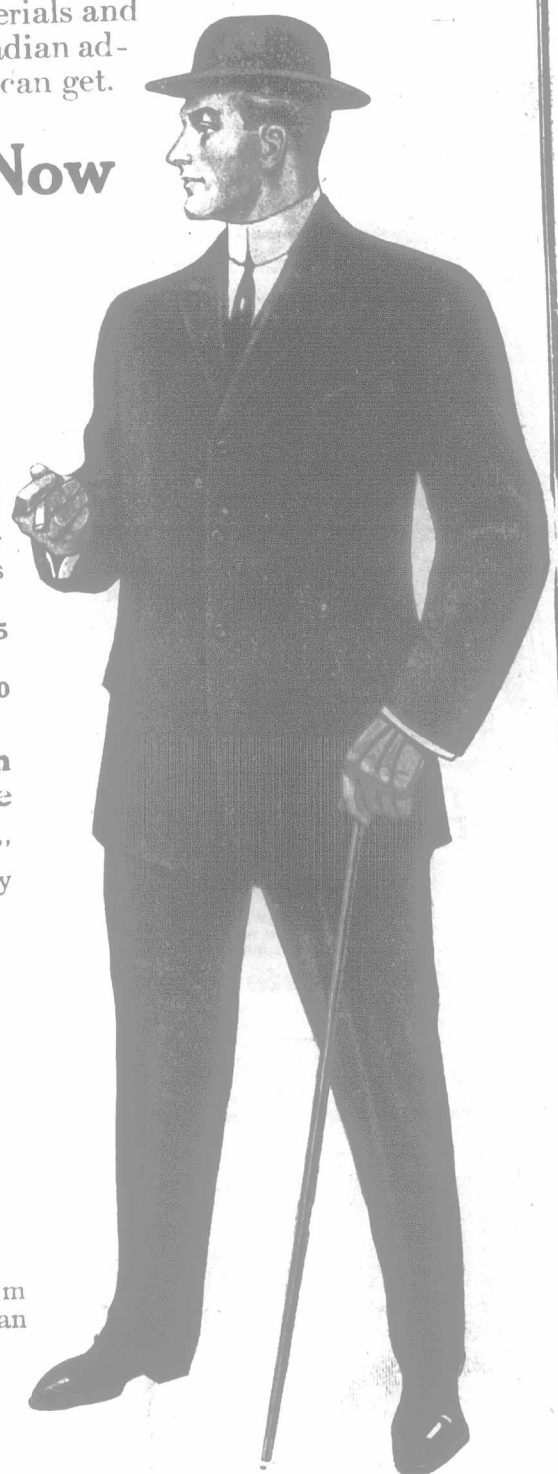
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very graciously, "you are doubly welcome, Monsieur."

"There is someone else I would crave permission to present to your Royal Highness," here interposed Lord Grenville.

"Ah! who is it?" asked the Prince.

"Madame la Comtesse de Tournay de Basserville and her family, who have but recently come from France."

"By all means!—They are among the lucky ones then!"

Lord Grenville turned in search of the Comtesse, who sat at the further end of the room.

"Lud love me!" whispered his Royal Highness to Marguerite, as soon as he had caught sight of the rigid figure of the old lady; "Lud love me! she looks very virtuous and very melancholy."

"Faith, your Royal Highness," she rejoined with a smile, "virtue is like precious odors, most fragrant when it is crushed."

"Virtue, alas!" sighed the Prince, "is mostly unbecoming to your charming sex, Madame."

"Madame la Comtesse de Tournay de Basserville," said Lord Grenville, introducing the lady.

"This is a pleasure, Madame; my royal father, as you know, is ever glad to welcome those of your compatriots whom France has driven from her shores."

"Your Royal Highness is ever gracious," replied the Comtesse with becoming dignity. Then, indicating her daughter, who stood timidly by her side: "My daughter Suzanne, Monseigneur," she said.

"Ah! charming!—charming!" said the Prince, "and now allow me, Comtesse, to introduce to you, Lady Blakeney, who honors us with her friendship. You and she will have much to say to one another, I vow. Every compatriot of Lady Blakeney's is doubly welcome for her sake . . . her friends are our friends . . . her enemies, the enemies of England."

Marguerite's blue eyes had twinkled with merriment at this gracious speech from her exalted friend. The Comtesse de Tournay, who lately had so flagrantly insulted her, was here receiving a public lesson, at which Marguerite could not help but rejoice. But the Comtesse, for whom respect of royalty amounted almost to a religion, was too well-schooled in courtly etiquette to show the slightest sign of embarrassment, as the two ladies curtsied ceremoniously to one another.

"His Royal Highness is ever gracious, Madame," said Marguerite, demurely, and with a wealth of mischief in her twinkling blue eyes, "but here there is no need for his kind mediation. . . . Your amiable reception of me at our last meeting still dwells pleasantly in my memory."

"We poor exiles, Madame," rejoined the Comtesse, frigidly, "show our gratitude to England by devotion to the wishes of Monseigneur."

"Madame," said Marguerite, with another ceremonious curtsy.

"Madame," responded the Comtesse with equal dignity.

The Prince in the meanwhile was saying a few gracious words to the young Vicomte.

"I am happy to know you, Monsieur le Vicomte," he said. "I knew your father well when he was ambassador in London."

"Ah, Monseigneur!" replied the Vicomte, "I was a little boy then . . . and now I owe the honour of this meeting to our protector, the Scarlet Pimpernel."

"Hush!" said the Prince, earnestly and quickly, as he indicated Chauvelin, who had stood a little on one side throughout the whole of this little scene, watching Marguerite and the Comtesse with an amused, sarcastic little smile around his thin lips.

"Nay, Monseigneur," he said now, as if in direct response to the Prince's challenge, "pray do not check this gentleman's display of erudition; the name of that interesting red flower is well known to me and to France."

The Prince looked at him keenly for a moment or two.

"Faith, then, Monsieur," he said, "perhaps you know more about our national hero than we do ourselves. . . . I beseech you know who he is. . . . See?" he added, turning to the groups round the room, "the ladies hang upon your lips. . . . You would render your-

POULTRY AND EGGS

BARRED ROCK, Rose and Single-comb, Minorca, Houdans and Brown Leghorns, Stock and eggs. Prizewinning and great laying strain. Free circular. C. Day, Highgate, Ontario.

BLACK Langshan and White Plymouth Rock (Fished strain); eggs, fifteen, \$1.50. S. C. White Leghorn and S. C. Brown Leghorn; eggs, twelve, \$1.00. Bronze turkey eggs, 30c. each. A Shorthorn bull calf, pure-bred, 9 months old, beautiful roan, from a good milking strain, for sale. Frank Dixon, Thorold, Ontario.

BEST Royal Blood Barred Rocks, Cockerels, two dollars; pullets and hens, one fifty. Eggs, one twenty per fifteen; five dollars per hundred. A. C. Donaghy, Colborne, Ont.

BARRED Plymouth Rock cockerels. High grade birds at reasonable prices. Write your wants. Leslie Kerns, Freeman, Ontario.

BRONZE TURKEYS—Fine heavy birds for sale. My strain have won a large share of first prizes at London Western Fair for the past eight years. Also choice Partridge Wyandotte cockerels. R. G. Rose, Glanworth, Ont.

BARRED ROCKS—Eggs from winners at Toronto, Guelph, Galt, Hamilton. Both cockerel and pullet mating; \$2.00 per setting. Some nice cockerels for sale at \$2.00 and \$3.00. G. Morton, Box 130, Carleton Place, Ontario.

BUFF ORPINGTONS—Pure-bred. Ten splendid broad, deep, thick cockerels, \$3 each. Satisfaction guaranteed. Hugh A. Scott, Oshawa, Ontario.

CLARK'S BUFF ORPINGTONS—Special clearing sale to make room. 40 cockerels, big, vigorous birds, low set, blocky, good color, \$2.00 to \$5.00 each; 10 high-class breeders, \$10.00 each. 50 pullets, at \$1.50 to \$2.00 each. 50 yearling hens, good breeders, \$1.50 to \$2.00. All same breeding as Ontario and New York winners. J. W. Clark, Canisville, Ontario.

EGGS from bred-to-lay winter-laying White Leghorns, \$1 per fifteen; \$5 per hundred. W. A. Gurney, Box C, London, Canada.

EGGS FOR HATCHING—From Barred Rocks, Partridge Rocks, Rhode Island Reds, White Wyandottes, White and Brown Leghorns. Bred to lay; grow quickly; fatten readily. \$1.50 per 15; \$6.00 per 100. Norfolk Specialty Farm Co., Ltd., St. Williams, Ontario.

EGGS FOR HATCHING—From pure-bred White Wyandottes; \$1.00 per 15. N. McCully, St. Mary's, Ontario.

FOR SALE—Choice breeding Pekin ducks, both sexes; prizewinners at fall fairs. Garland Bros., Pinkerton, Ontario.

FOR SALE—Single-comb Brown Leghorns. Cocker and six cockerels, one to three dollars. Arthur Irwin, Mt. Forest.

PARTRIDGE ROCKS are becoming more popular every day on account of their utility qualities and magnificent plumage. Eggs from six pens of prizewinners at one to five dollars per fifteen. Send for mating list. F. T. Hall, Drumbo, Ontario.

RHODE ISLAND RED EGGS—Either comb, \$1.00 per 15; 100, \$4.50. Wm. Runchey, Byng, Ontario.

RARE BARGAIN—Barred Rock cockerels, great big, strong birds, two and three dollars each. James Coker, Jerseyville, Ont.

S. C. RHODE ISLAND REDS—Eggs for hatching, \$1.50 per 15. A few choice laying pullets for sale, at \$2.00 each. H. Graham, 930 Wellington St., London.

SEND for my circular of twenty-five varieties of poultry. Robert Houser, Canboro, Ontario.

STOCK AND EGGS—From prizewinning Golden and Silver Sebright and Black Rose-comb Bantams, Indian Cornish Game and Light Brahmas. M. B. Cosby, Smithville, Ontario.

WHITE WYANDOTTES—A few good cockerels left, at \$1.50 and \$2.00; the best of breeding; also eggs for hatching. Alex. McTavish, Chesley, Ontario.

\$6.41 PER HEN—Write for our beautiful fully illustrated catalogue. Photos from life. B. P. Rocks, White Wyandottes, R. C. R. I. Reds, S. C. White Leghorns. Eggs: \$1.50 per 15; \$2.75 per 30; \$7.00 per 100. L. R. Guild, Box 16, Rockwood, Ont.

A GREAT COMBINATION

Only one left, eleven months old, mostly white. This bull combines blood of Pont, Korndyke, and Hengerveld De Kol, who now have eleven thirty-pound daughters.

A. A. Farewell, Oshawa, Ontario

125 Egg Incubator and Brooder BOTH \$10
If ordered together.

Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.

Wisconsin Incubator Co., Racine, Wis.
Box 173

Replenishing the Soil

In the ordinary process of cropping, the soil becomes depleted of certain essential Plant Foods, and unless means are taken to restore these, the soil will become wholly unproductive.

Fortunately the progressive farmer is now turning his attention to the use of fertilizers, which will build up and maintain the fertility of the soil.

During recent years, a number of educative, illustrated Bulletins on the use of fertilizers in Canada have been prepared by agricultural experts in Canada. Amongst these are:

"Artificial Fertilizers: Their Nature and Use."

"The Potato Crop in Canada."

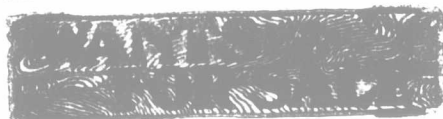
"Fertilizing Fodder Crops."

"Farmer's Companion," etc., etc.

Free copies of these, as well as special expert advice, may be obtained from

The German Potash Syndicate

1106 Temple Bldg., Toronto, Ont.



EXPERIENCED single man, 25, desires position to work farm for retired farmer or widow. Abstainer, and well up in all branches. D. Percival, care Post Office, St. Catharines.

FARM FOR SALE—172 acres, situated close to Berlin and Waterloo, in good state of cultivation. Good buildings and good water. Apply to Jno. H. Frey, Bridgeport, Ontario.

FARM FOR SALE—Humphries green-bone cutter, used only one season, perfect condition; also Chatham incubator. Box Y, "Advocate," London.

FOR SALE—Choice Alberta farm. One-half section of ideal grain and hay land, all fenced, 200 acres under cultivation, water unexcelled, \$4,550 worth of improvements, \$2,000 frame house with furnace, chicken house 14x50, also implement shed, barn and stable; granary and underground storage for 2,000 bushels of potatoes. Farm situated one-half mile from Fleet, on the C.P.R., Lacombe Outlook branch. Price for half section, \$12,000; \$6,000 down, balance on mortgage. This price also includes a homestead three miles distant, making 480 acres. Apply: Box 202, Castor, Alta., or Box 346, Ingersoll, Ont. Ernest Paterson, Castor, Alta.

SITUATION WANTED—Married man, temperate, non-smoker, experienced horse, cattle, gasoline motors; liberty April first. Gilling, Frome, Ontario.

WANTED—On 20th March, a married man with small or no family, to work 130-acre farm. Must be experienced in handling horses. References required. Apply at once to I. R. Thompson, Box 235, Guelph.

WANTED—Cash paid for Military Land Grants in Northern Ontario. Please state price and location. Box 88, Brantford.

800 ACRE FARM—For sale or rent, at Swan River, Manitoba; 400 acres cultivated. No one but a first-class man with means need apply. Mrs. N. Gable, 181 Canora St., Winnipeg.

WANTED—At the Delhi Tannery, Custom Robes and Fur Tanning. Horse and cattle hides make best Robes and Coats when properly tanned and made up right. Send them to me and have them dressed right, and you will be well satisfied.

B. F. BELL, Delhi, Ont.

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First-Class Fence
All No. 9, 8 wire 47 inch, 24c. per rod. Freight paid west of Belleville. Shipment from Hamilton. Many other styles. Write for prices to:

The National Wire Fence Co. Prescott, Ont.

MARRIED MAN wanted—Accustomed to fruit farm; must be good man with horses, and accustomed to all classes of work on fruit farm. Will provide a nice new cottage of seven rooms, large cellar, and water laid on, and land for garden, to right man. No objections to large family, if willing to work. Apply, stating experience, and give testimonials and references from previous employers in Canada.

GLEN ATHOL FRUIT RANCH

David Smith, Mgr. St. Catharines, Ont.

Island Seed Oats—The only really high-grade, absolutely safe seed oats in Canada this year. No danger frosted germs. Joseph Read & Co., Ltd., Summerside, P. E. Island.

self popular among the fair sex if you were to gratify their curiosity."

"Ah, Monseigneur," said Chauvelin, significantly, "rumour has it in France that your Highness could—and you would—give the truest account of that enigmatical wayside flower."

He looked quickly and keenly at Marguerite as he spoke; but she betrayed no emotion, and her eyes met his quite fearlessly.

"Nay, man," replied the Prince, "my lips are sealed! and the members of the league jealously guard the secrets of their chief . . . so his fair adorers have to be content with worshipping a shadow. Here in England, Monsieur," he added, with wonderful charm and dignity, "we but name the Scarlet Pimpernel, and every fair cheek is suffused with a blush of enthusiasm. None have seen him save his faithful lieutenants. We know not if he be tall or short, fair or dark, handsome or ill-formed; but we know that he is the bravest gentleman in all the world, and we all feel a little proud, Monsieur, when we remember that he is an Englishman."

"Ah, Monsieur Chauvelin," added Marguerite, looking almost with defiance across at the placid, sphinx-like face of the Frenchman, "His Royal Highness should add that we ladies think of him as of a hero of old . . . we worship him . . . we wear his badge . . . we tremble for him when he is in danger, and exult with him in the hour of his victory."

Chauvelin did no more than bow placidly both to the Prince and to Marguerite; he felt that both speeches were intended—each in their way—to convey contempt or defiance. The pleasure-loving, idle Prince he despised; the beautiful woman, who in her golden hair wore a spray of small red flowers composed of rubies and diamonds—her he held in the hollow of his hand; he could afford to remain silent and to await events.

A long, jovial, inane laugh broke the sudden silence which had fallen over everyone.

"And we poor husbands," came in slow, affected accents from gorgeous Sir Percy, "we have to stand by . . . while they worship a demmed shadow."

Everyone laughed—the Prince more loudly than anyone. The tension of subdued excitement was relieved, and the next moment everyone was laughing and chatting merrily as the gay crowd broke up and dispersed in the adjoining rooms.

(To be continued.)

INTERNATIONAL FEEDS FOR ONE CENT

We Positively Guarantee

That a 25-Pound Pail of International Stock Food

Will Save You \$7.00 worth of Corn or Oats

Because it promotes digestion and assimilation, and enables you to cut down the grain ration 15% to 25% and still get better results. This saving of grain represents a saving of good hard cash to you.

WE WANT YOU TO FEED 100 LBS. AT OUR RISK

It will not cost you a cent if you are not satisfied.

See our dealer in your town or write us for particulars. Mention this paper and the stock you own and we will send you a litho, size 16x22, of our three champion stallions.

International Stock Food Co. Limited, Toronto

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NEALS the reliable Seed Merchants, established 1820, have entered the Canadian Field. All Seeds 5 cents per packet. Duty and Postage paid.

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Light Draft Deering Drills Sow Seed Evenly at the Right Depth

PLANT wheat, rye, flax seed or any other small grain with the Deering Drill. Ten minutes after you are through with the small grain you can change to plant corn, peas, beans or other large seeds, with the same Deering. The Double Run Force Feed makes this possible—one run with large opening and one with a smaller opening. There are other Deering features. For example, the disk bearings on Deering Drills are practically dust proof. The oil comes in contact with the inner edge of the bearing surface first, oiling from the inside toward the outside. Instead of allowing dust or dirt to work in, the outward path of the oil and constant supply tend to force out any grit or dirt which may have worked into the bearing. Scrapers are easily moved away from

draft disks. On the 13-disk drills, the feed is divided into the end of the field, saving seed. On special order, a complete Deering tillage line, including disk, spring scufflers, seeders and land rollers, merits your town, or, write to the nearest branch you desire.



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International Harvester Company of America
(Incorporated)

AT
Hamilton, Ont. St. John, N. B.
Montreal, Que. Ottawa, Ont.
London, Ont. Quebec, Que.

I H C Service Bureau

The purpose of this bureau is to furnish farmers with information on better farming. If you have any worthy questions concerning soils, crops, pests, fertilizers, etc., write to the I H C Service Bureau, Harvester Building, Chicago, and learn what our experts and others have found out concerning those subjects.



Ideal Fence Is a Permanent Investment

More miles of Ideal Fence are sold in Canada annually than any other make. This should prove, without a doubt, that the prosperous and successful farmers throughout Canada have learned from experience that "Ideal" Fence offers them the best investment. They know when they buy "Ideal" they are getting full value for their money. They insist on quality, service and protection, and get it in "Ideal". You need not experiment in buying fence, but profit by your neighbor's experience and buy "Ideal."

QUALITY - First, Last, Always

This Lock makes **"IDEAL" FENCE** Strongest in Existence

Ideal Fence

is made exactly as described in our catalogue 121 Only full gauge No. 9 hard steel, evenly galvanized wire is used in our Heavy styles. The distance between uprights or stays is exactly as represented. You will no doubt be interested in our catalogue, which shows many different styles of Farm, Hog and Poultry Fence and other Ideal products, including Farm, Stock and Lawn Gates, Ornamental Lawn Fence, Flower Bed Guard, Vine Trellis, Window Guards, Stall Guards, Barb Wire, Coiled Wire, Post Hole Diggers, Stretchers, Staples and all Fence supplies. Send for this valuable book to-day. A postal card will bring it.

The McGregor Banwell Fence Co., Ltd.
Walkerville - Ontario

Feed Molasses Meal for a month. The results will warrant using it regularly

Four to six weeks constitutes a fair trial of Molasses Meal. By that time you will have an object lesson of its great feeding and therapeutic value. The results will warrant you using it regularly.

The Omnibus Company, of Paris, France, feed Molasses Meal regularly to 12,000 horses. Since starting this feed, they have reduced the mortality from colic and pneumonia from 5.42 to 1.68 per cent.

One of the large collieries in Germany has reduced the mortality among its horses from digestive diseases by over 40 per cent.

Astonishing results have also been reported by stockmen, horse fanciers, hog and sheep raisers, both at home and abroad. We've a booklet showing the results Molasses Meal has given prominent live-stock men in Canada. Ask for a copy.

Caldwell's Molasses Meal for cattle, horses, sheep, hogs and poultry

So largely is Molasses Meal now being used by many engaged in the live-stock industry that we fill their orders direct from the mill. We stand ready to do the same for you. Fill in, clip out and mail the coupon for further particulars.

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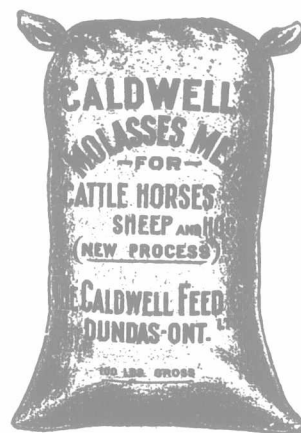
Please send me your booklet and full particulars about buying Molasses Meal at wholesale, as advertised in "Farmer's Advocate."

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A Booklet worth having

is the one we issue, containing full information of the scientific feeding of Molasses Meal.

It gives complete instructions for feeding it to work horses, show horses, race horses, brood mares, colts, milch cows, calves, steers, sheep, lambs, hogs and poultry.

It explains the superiority and economy of the meal over raw molasses. It gives profitable facts on feeding you'll be glad to know and to tell your friends about.

Ask for a copy. We like to send this booklet to progressive men.

Caldwell Feed Co., Ltd.
Dundas, Ontario

News of the Week.

The Ontario Hydro-electric Commission will secure 120,000 horse-power at the Chats Falls.

A hot debate on the necessity or otherwise for the re-establishment of Model Schools in Ontario was a feature of the February 29th session of the Legislature.

The C.P.R. has bought 1,800 acres of land adjoining Winnipeg, to be used as railway yards.

The C. P. R. has announced that in future Port McNicoll instead of Owen Sound will be the Georgian Bay terminus for its lake fleet.

The Mendelssohn Choir, under Dr. Vogt, has concluded a triumphal tour in the Eastern States. The choir sang in Buffalo, New York and Boston.

A large anti-suffragist mass meeting, presided over by Lord Cromer, was held in London last week.

Yuan Shi Kai's troops mutinied at the close of last week, and went about shooting and looting through the streets of Peking. The prospect of the transference of the seat of Government to Nanking is thought to have been at the root of the trouble.

Mr. Asquith declared last week that the principal of minimum wage, for which the 800,000 coal-miners on strike in England and Wales have been contending, must apply to mines. He made it understood that if the mine-owners refused to agree to this resort would be made to legislation.

Premier Borden has introduced into the House of Commons a resolution relative to the extension of the boundaries of Manitoba, Ontario and Quebec. By it the district of Ungava, consisting of 480,000 square miles, will be added to Quebec. Ontario's western line will run through the eastern end of Island Lake, long. 93° 40', lat. 53° 30', thence to Hudson's Bay, at the point where the 89th meridian intersects the shore-line, 50 miles south of Port Nelson. As this arrangement does not provide for available ports, a strip of territory five miles wide, to belong to Ontario, but under jurisdiction of Manitoba, although exempt from taxation, will be added, this strip to extend to the Nelson River, and to be selected by Ontario. In addition a shore-terminal ten miles long and half a mile wide, running along Nelson River or Bay, will be granted to Ontario, with an additional strip, 200 feet wide, from the Hudson River to the nearest point on the Hudson Bay Railway, in case that the Government decides to extend the line to Fort Churchill.

Canada's eminent lawyer and statesman, Hon. Edward Blake, K.C., LL.D., died in Toronto on March 1st. He was born at Cairngorm, Ont., October 13th, 1833, was called to the bar in 1856, and in 1867 began the brilliant political career in Canada in which he served as Member of the Legislature, Member of the House of Commons, Cabinet Minister, Privy Councillor and Leader of the Liberal party in the Commons (1878-'87). From 1892 to 1907 he sat as Member for South Longford, Ireland, in the British House of Commons. He also acted as one of the commissioners on several important commissions in regard to affairs in New Zealand, the Transvaal and Ireland.

Captain Albert Berry made a successful descent from an aeroplane with a parachute at St. Louis on March 1st.

One hundred and five Suffragettes, with Mrs. Pankhurst at their head, were arrested for window-breaking in London, Eng., on March 1st.

Sorghum Syrup.

At the direction of United States Secretary Wilson, Farmers' Bulletin No. 477, dealing with the manufacture of Sorghum Syrup, will soon be issued. The bulletin treats the industry from the time the seed is planted until it reaches the consumer at the breakfast-table.

"When the extension of the sorghum industry was first advocated," says the bulletin, "it was thought that this crop would play a notable part in supplying the nation's sugar on account of its wider distribution than sugar-cane, or sugar beets, its large yield per acre, and ease of cultivation, and its rather high sucrose content." "After many trials, however, it was found that the juices, although rich in sucrose, contained some reducing sugars, and also quite a large percentage of gums and gummy material which on concentration prevented crystallization. After these experiments were made, the question of using sorghum for sugar and syrup manufacture was dropped to a great extent until more recently, when the manufacture of sorghum syrup has been, in a measure, revived. This is true particularly in the regions where maple syrup was formerly made in notable quantities, as well as in the old sorghum States, and has been brought about in part by the depletion of the maple forests, and by the scarcity of the old-time cane syrup and molasses, and also by the fact that with patent evaporators, a good, light-colored sorghum syrup, with a pleasing taste, can be obtained."

Tennessee produces the greatest amount of sorghum, leading the other States with a production of 2,047,655 gallons. Missouri is a close second, with North Carolina third. Kentucky, Arkansas, Alabama, and Mississippi, follow in close order. A considerable amount of the product is produced in Texas, Georgia, Kansas, Illinois, Indiana, Virginia, Iowa, South Carolina, West Virginia, Ohio, Wisconsin, and Minnesota. For ten years following 1890, there was a falling off in the quantity of sorghum produced in the United States of over eight million gallons.

GOSSIP.

Henry Arkell & Son, Arkell, Ont., breeders of Oxford Down sheep, write: "We have sold retail since December first, thanks to 'The Farmer's Advocate,' sixty ewes, coming two years old, bred to our champion imported ram."

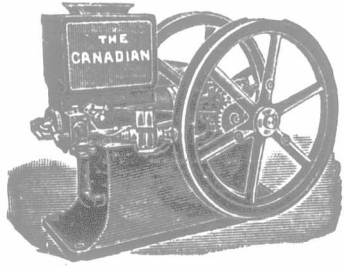
Volume 29, of the English Hackney Studbook, containing pedigree records of 298 stallions and 536 mares, has been issued from the office of the Society, 12 Hanover Square, London, W., Secretary Frank F. Euren. In this volume special notice is given that in volume 31, and subsequent volumes, no stallion or mare will be registered unless by a registered sire, out of a registered dam.

DISPERSION HOLSTEIN SALE.

Owing to his retiring from farming, Geo. Forester, of Gornley P. O., York County, Ontario, on the C. N. R., 26 miles north of Toronto, will sell at auction, on Thursday, March 14th, as advertised in this issue, his entire herd of 46 richly-bred, high-producing Holsteins, combining good type, quality and constitution with heavy milking capacity, the stock bulls used having been the best obtainable, including Inka Hengerfeld De Kol, and Salvador Cornelius Posch, winner of third at Toronto Exhibition last year. With the Record of Performance backing of such richly-bred sires, the progeny can scarcely fail to be of a high-class producing order.

TRADE TOPIC.

N. E. Mallory, Blenheim, Kent Co., Ont., advertises for sale seed corn of tried and proved varieties, among which are White Cap Yellow Dent and Longfellow, returnable at his expense if not satisfactory. Samples and price list mailed free on request. He also sells raspberry and strawberry plants of favorite varieties. See the advertisement and send for particulars.



THE BEST

For every purpose is the CANADIAN ENGINE. Most simple, durable and economical. Sizes, 1 1/2 h.-p. to 35 h.-p.

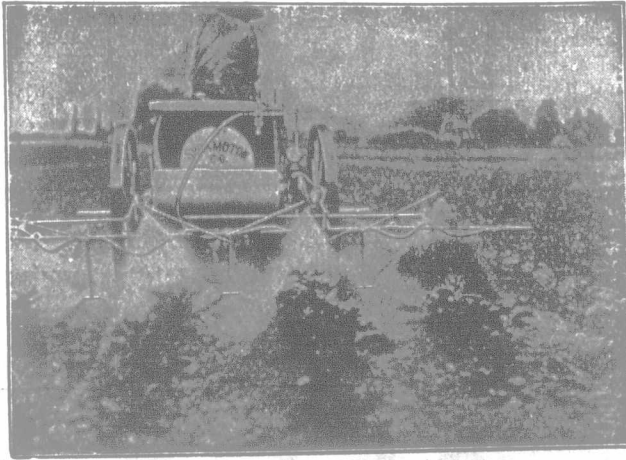
The Canadian-American Gas & Gasoline Engine Co., Ltd.

Dunnville, Ontario

HOPPER COOLED ENGINE

FROST & WOOD CO., LTD., Smith's Falls, Ont.

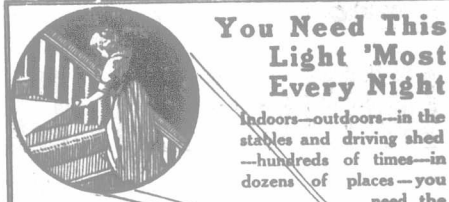
Exclusive selling agents for Eastern Ontario, Quebec and Maritime Provinces.



15 MINUTES TO THE ACRE

Does the work with the Horse-Power SPRAY-MOTOR, and does it well. Four rows, three nozzles to a row, adjustable up to 40 inch rows. Nozzles will not clog. 12-gal. air tank, automatic and hand-controlled. Guaranteed pressure of 125 pounds with all 12 nozzles working. Agitator clear-out, pressure relief into tank, nozzle protector under driver's seat. For 1 or 2 horses. Adjustable for vineyards, row crops or orchards. Write for free treatise on crop disease. AGENTS WANTED.

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Indoors—outdoors—in the stables and driving shed—hundreds of times—in dozens of places—you need the

"NINE LIVES" ELECTRIC FLASHLIGHT

with its bright but economical little Tungsten incandescent lamp. Compact, handy, and safe! Easily carried in your pocket or under your arm. Simply press the button and you have instantaneous flash. Can't set fire to anything.

We'll send you "Nine Lives" Electric Flashlight fully prepaid, Pocket type for \$1.50, Tubular type for \$2.00. It's too convenient to be without—write to-day.

CANADIAN CARBON CO., Limited
96 King St. West Toronto

AGENTS AND DEALERS WANTED

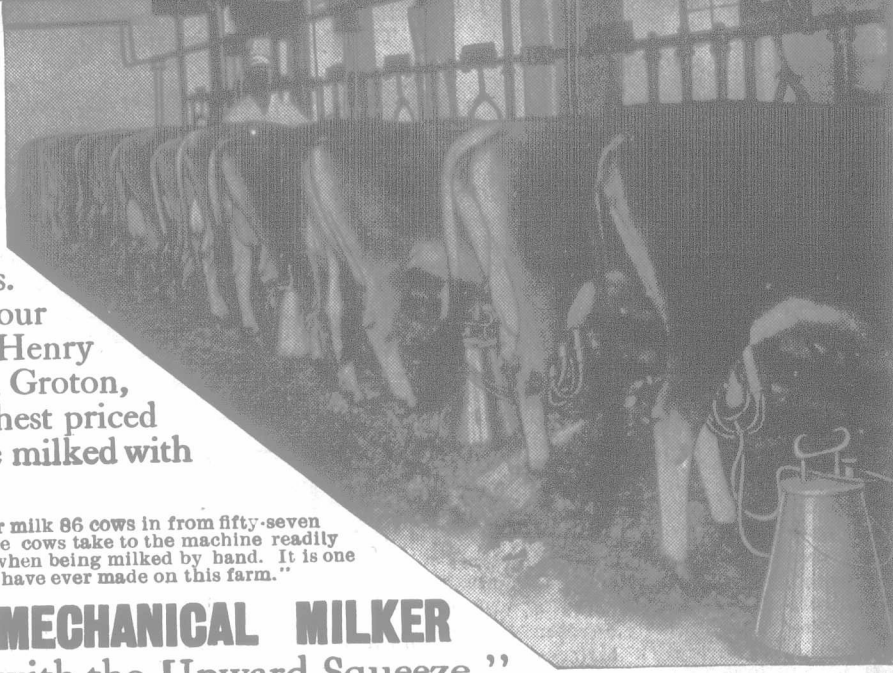
Clydesdale Stallion for Sale—Prince Charles (12573), foaled June 12, 1910; dark bay and stripe; weight, 1,250 lbs. An all-round good horse, full of life and quality. Will be sold worth the money. Write, or come and see.

JOS. W. HOLMAN, Columbus, Ont.
Myrtle, C. P. R.; Brooklin, G. T. R.

ADVOCATE ADVERTISEMENTS PAY.

\$300 TO \$1000 A YEAR IN EXTRA PROFITS FOR YOU

This is not a mere claim. It is the actual experience of all owners of Sharples Mechanical Milkers. We don't ask you to take our word, nor their word, for this. We stand ready to prove it on your own cows or no sale. Mr. Henry Fielden, Supt. Branford Farms, Groton, Conn., where some of the highest priced Guernsey cows in the world are milked with a Sharples Milker, writes:



"Two men with the Sharples Milker milk 86 cows in from fifty-seven minutes to an hour and a quarter. The cows take to the machine readily and seem much more contented than when being milked by hand. It is one of the most profitable investments we have ever made on this farm."

THE SHARPLES MECHANICAL MILKER

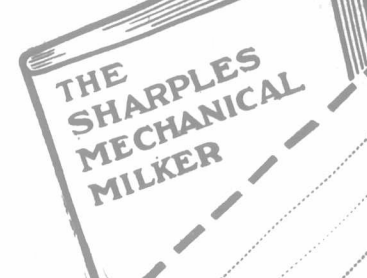
has the "Teat Cup with the Upward Squeeze," which pushes the blood back with each pulsation, overcoming the stumbling block of all former mechanical milkers. It leaves the teats in a perfectly normal condition, the same as after hand milking. The cow is treated so gently she enjoys it, and fears no injury, no abuse. She stands perfectly contented giving down her milk more readily and more freely than when milked by hand. The yield is increased—your dairy profits grow. Read this letter from Hon. Wm. C. Sproul, Chester, Pa.

"The Sharples Mechanical Milker seems to be entirely comfortable to the cows: in fact, our cows are in much better condition now than they were when the milker was started, and the quantity of the milk has increased about ten per cent. Altogether, I consider it about the most satisfactory investment about my dairy."

Fill Out the Coupon—Send for Catalog Today
Let us tell you how we will put a Sharples Milker in your dairy and guarantee it to give you perfect satisfaction or no sale. We prove it does the work to your satisfaction. We give you ample time for trial. Send the coupon now for catalog. Guaranteed by a company that has been making high-class dairy machinery for 31 years.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA. Chicago, Ill.; San Francisco, Cal.; Portland, Ore.; Dallas, Tex.; Toronto, Can.; Winnipeg, Can.

The Sharples Mechanical Milker has few parts, is easily cleaned, and produces milk of the lowest bacterial content. It milks the cow cleaner than the average hand milker.



Name _____
P. O. _____
State _____
I am milking _____ cows at present.
The Sharples Separator Co. Gentlemen: Please send me the Catalog of your Sharples Mechanical Milkery.

A BIG SALE OF IMPORTED CLYDE FILLIES

—AT THE—

Queen's Hotel Stables, Hanover, Ontario

—ON—

Friday, March 15th, 1912

Messrs. T. D. Elliott, of Bolton, and R. R. Kennell, Dundalk, will sell by Auction 20 Imported Clydesdale Mares and Fillies from 1 to 5 years of age.

This is an exceptionally choice lot, with big size, nice quality and particularly well bred. Well matched pairs and much show material are in the lot. There will be no better opportunity offer this year for getting high-class brood mares.

Hanover is on both the C.P.R. and G.T.R. lines, a few miles south of Owen Sound.

FOR CATALOGUE WRITE:

T. D. ELLIOTT, - BOLTON, ONTARIO

J. C. MYLES, Heathcote
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R. BRIGHAM, Allen Park } Auctioneers

QUESTIONS AND ANSWERS. Miscellaneous.

SUCCESSION DUTY.

What percentage does the Government take for succession duties on an estate amounting to about \$15,000, my legacy being \$2,000, and not a member of the deceased's family—is it 5 per cent. or 10 per cent.?
A SUBSCRIBER.

Ans.—Being a stranger in blood to the deceased, your legacy would be liable to a succession duty of ten per cent. on the amount thereof.

COLT SWEATS.

Could you please explain to me the cause of a four-year-old colt sweating after his day's work, just as if he had been in the brook, but gradually dries off except his mane, belly, and tail, which doesn't appear to ever dry off. His neck is falling away, and he is failing in flesh, but he has been in pretty good order, and doesn't seem to be sick. Please tell me what to do for him. The first we noticed of this was the 11th day of this month.
J. C.

Ans.—Some horses, particularly colts, sweat much more easily than others. This colt is likely shedding his teeth, and is somewhat weakened on that account. He likely also has a heavy coat of hair, which holds the moisture until morning. It is often the case that animals after working and coming into a warm stable immediately from their work, break out in perspiration. Have his teeth attended to. Feed him liberally, groom carefully, and don't overwork him, and he should be all right.

HORSE AND LUMBER QUERIES.

1. Can an ordinary man float or file the back teeth or molars of horses, without much experience?
2. Is it safe to dress the teeth of a mare heavy in foal?
3. If a two-year-old filly weighs 1,200 lbs., how heavy will she be when matured?
4. What are the dimensions of the standard log?
5. How many feet would there be in a log 21 inches through and 16 feet long?
W. H.

Ans.—1. A competent veterinarian would be more likely to do good work.
2. No bad results should follow.
3. This depends on the treatment from now until matured, also to some extent upon how she has been fed up to the present time. A colt is usually about half its mature weight at a year old.
4. A correspondent, A. A. Gilmore, of Huntingdon, Que., gives the dimensions of the standard log as 22 inches, or 24 inches in diameter at small end, and 12 feet long.
5. A log of this size would contain, approximately, 300 feet of square-edged lumber.

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"Diamond" Timothy.....	9 50
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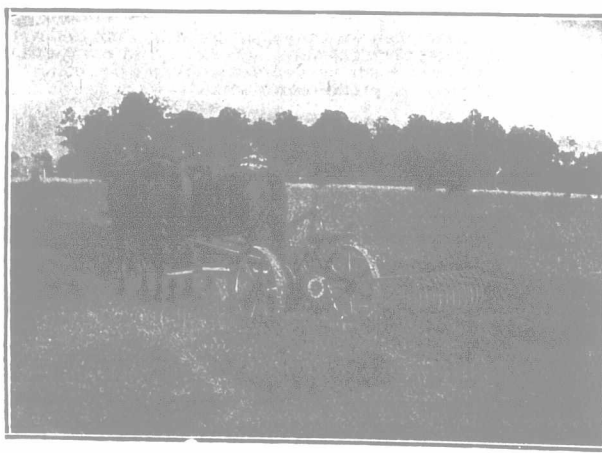
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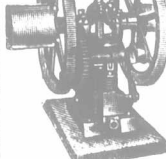


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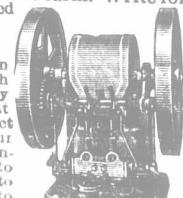
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6 to 25 H. P.
Two Cylinders

MARE ABORTS.

Would it be any use to breed a mare again that has lost her foal two years consecutively? In 1910 she carried it five months, and in 1911 she just carried it two and a half months. If you could tell me of any means to prevent this happening again, I would be much obliged. This mare is rising seven, perfectly healthy, has three or four crosses of Clyde. Would, therefore, like very much to get her to breed. Pasture being scarce with us the last two summers the teams were kept in the stable; also worked pretty steady, being allowed to run in the field on occasional idle days, but kept in the stable at night. C. M.

Ans.—It is a matter of conjecture whether or not the mare will carry the fetus full time if bred again. One does not like to pay for dead foals, neither does he like to lose the chance of getting a colt from a good mare. Some mares seem to form a habit of aborting. Under the circumstances, would try her again. Breed her to a young, active stallion. Give her regular light exercise, good feed, regularly, and by all means do not overwork her. Try a summer on pasture. Make no violent changes in her diet, as from green feed to dry, or vice versa, and if good results do not follow extra care, would give it up.

SAW-MILLING — DIVIDING SCHOOL SECTION.

1. Can a man owning and running a saw-mill legally keep the slabs off of logs owned by another party, but brought to his mill to be sawed into lumber, the latter paying the full price to get lumber cut, and nothing being said about slabs until after lumber is cut, when mill man claims them and cuts them up into wood, which is getting quite customary?

2. I live in a school section in the country which is about four miles long. The school is placed as near as possible in the center. Those at the ends of the section want it divided and have two schools. What would be the circumstances under which this could be forced, there being strong opposition to any change of this kind being made!—or could it be forced at all—the children being pretty well divided over the section?
Ontario.

Ans.—1. No; that is to say, not unless there is a local custom that warrants it, and is so long and well established that it may fairly be taken to be implied in the arrangement between the parties for the lumber-sawing.

2. It is a matter in the discretion of the Township Council. But they must first give reasonable notice—to all persons who would be affected—of the by-law proposed to be passed for the purpose of such division. And the Board of Trustees, or any five ratepayers of the section may appeal against the by-law, within twenty days of its date, to the County Council; such notice of appeal to be filed within the period mentioned, in the office of the County Clerk.

QUESTIONS AND ANSWERS.
Miscellaneous.

WORMS IN COLT.

Have a yearling colt that is well fed on bran and oats, but is not doing well. He passes large, long, white worms. Would you please advise as soon as possible, through the columns of your paper?

F. S.

Ans.—Take 1½ ounces each of sulphate of copper, sulphate of iron, tartar emetic, and calomel. Mix and make into 12 powders. Give a powder night and morning in damp food. After the last has been taken, give a purgative of 6 drams aloes and 2 drams ginger. Feed bran only for 24 hours after administering the purgative.

COLT KNUCKLING.

I have a two-year-old filly, agricultural class, stands on boards on cement, is let out to water, have never seen her strained, has never been lame, but stands knuckled on hind fetlock.

W. J. M.

Ans.—Knuckling is partial dislocation of the fetlock joints, due to various causes, as over-work when young, etc. Do not work the colt. Long rest and repeated blistering may effect a cure. Blister with 1½ drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off all around the joints, tie so she cannot bite the parts, and rub well with the blister once daily for two days, and on the third day wash off and apply sweet oil. Repeat the blistering every month until cured.

PEAMEALING PORK.

Kindly give some information through your valuable paper how the peamealing of hams and bacon is done.

M. H. B.

Ans.—In peamealing hams and bacon, only the meat portion is, of course, peamealed. Genuine peameal is used, and it is sprinkled lightly on the hams and bacon through a fine sieve, after the meat has been washed, and just before it is hung up in the smoke-house ready for smoking. The smoking then takes place in the usual way. There is nothing more in the process than this, it being extremely simple. Some packers substitute corn meal for peameal, but we never use it, as it is a cheaper substitute, and does not give the meats a nice appearance.

THE WM. DAVIES CO., Limited.

DRIVEN WELL.

Young farmer wishes to drive a well himself. Size of pipe about one and a half inches. I have read that it can be done very cheap. Please state when your pipe strikes quick-sand, how far does it need to go in the quick-sand to withstand a windmill or engine power attached to pump, and what would keep the sand from being sucked up with the water, or any other useful hints re a driven well, as best methods of driving pipes, etc. I think it would be of interest, not only to myself, but to a great many, if it can be done as cheaply and as quickly as I read somewhere.

L. B.

Ans.—The pipe, with suitable drive-point, can be driven into the ground either by hand or light pile-driver, depending on conditions. The point should be driven down into the quick-sand, and where the approximate depth of the water vein has not been ascertained, make a test every foot or two with a small hand-pump screwed on the top of the pipe to which the drive-point is attached. By this means you can tell when a satisfactory supply has been reached. At first, a quantity of sand will be pumped out, especially where it is very fine, but in a short time the coarse sand gathers around the outside of the drive-point, and after this there will be scarcely any sand discernible. It is only necessary to drive the point far enough into the quick-sand to get a satisfactory supply, but if it is known that by going through a certain stratum of sand you will find coarser sand or gravel, it is better to do so. The pipe between the drive-point and the sucker of the pump must not be more than 25 feet at the outside, as this is practically the limit from which water can be drawn by suction or atmospheric pressure.

W. H. D.

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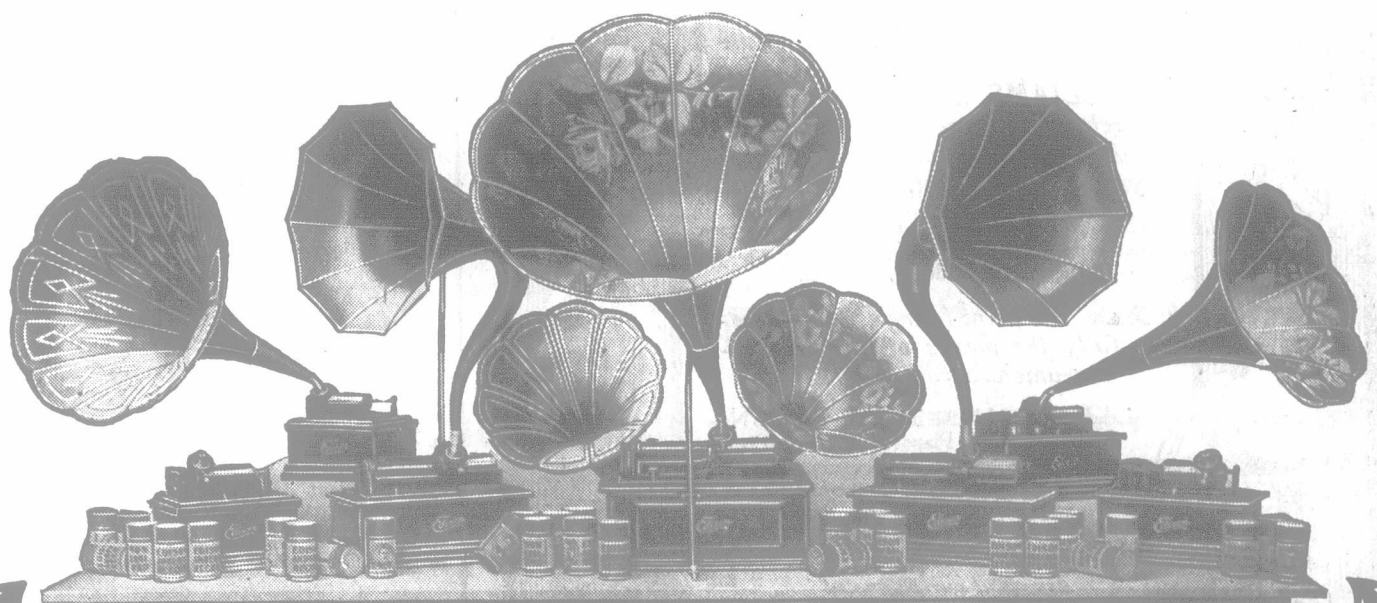
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TREES SPLIT.

Some of our apple trees have split open from top to bottom. Is there anything that can be done to keep them from dying?

C. K.

Ans.—Trees sometimes split open as a result of the wood not being properly ripened up in the autumn. An undue amount of sap in the trees upon freezing, expands, causing splitting. Trees on low ground do not ripen up as easily as those on higher land, and cover crops also aid in ripening the wood. Would suggest that you cease cultivation earlier another year, if such has been practiced this year, and that you use a cover crop. The injured trees can be wrapped with cloth or paper, after waxing over the cracks to keep out moisture. If these trees are split as a result of ice or injury, they may be bolted together, or bound with iron bands.



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QUESTIONS AND ANSWERS.
Miscellaneous.

REFRIGERATOR IN CELLAR.
Can I build a satisfactory refrigerator or cold-storage box in my cellar? I am thinking of making it about 3 x 4 feet, and in one corner against a brick wall. Would you give me directions how to proceed, and about how much ice it would require to run it? A. L.

Ans.—It is very difficult to build a satisfactory refrigerator in a cellar on account of the difficulty of keeping the insulation dry. The floor and the walls would have to be insulated in practically the same manner as if the refrigerator was above ground. I am sending Mr. Lamont the bulletins published by this Branch, which give more detailed information on this subject than it is possible to give in your paper in answer to this question. J. A. RUDDICK, Dairy and Cold-storage Commissioner.

SHEEP QUERIES.

1. Sheep took sick and had a discharge from nostrils. I put pine tar on, which seemed to help it; finally, all wool came off. She got very weak, and after a while died. What was the trouble or disease, and what should I have done for it? G. H. B.

2. If A's ram jumps the fences and breeds B's sheep of a different breed, and they are in lamb to A's ram, can B collect damages from A, B warning A to take care of his sheep? My ewes are lambing now, and the weather is so cold it will be impossible to raise the lambs. I am trying to get a pure-bred flock, and it is a great drawback to me, as I cannot get for them on the market what I will have to pay for ewe lambs to the breeders. G. H. B.

Ans.—1. From the description given, it is impossible to state the cause of death. Inflammation of the lungs, grub in the head, catarrh, sheep-pox, and many other diseases, cause a discharge from the nose. The wool coming off indicated a skin disease. Dipping will control these, but must be practiced with care in cold weather.

2. If the fence is a lawful one, and other conditions are lawful, we think A is liable for the damage done by his ram.

GARGET—LICE—EVERGREENS.

Three-year-old heifer in good condition, due to calve February 27th, has udder on right side very much larger than left, and very hard; also teats on same side very large and hard at base.

1. What is the cause and treatment?
2. If after calving she should have caked udder, how should I treat it?
3. Are cattle always lousy when they lick themselves? I cannot see lice on them, only dandruff.
4. What is the best kind of evergreens to plant for windbreak?
5. When and how should they be planted?
6. What care should they receive after planting? M. H. P.

Ans.—1 and 2. This is garget, or caked udder. As the cow will likely have calved before this, purge her with a pound of Epsom salts, given in a pint of water as a drench. Then give a desert-spoonful of saltpetre twice a day for two or three days. Foment the udder with cloths wrung out of hot water, and rub twice daily with camphorated oil, 7 ounces, and fluid extract of belladonna 1 ounce, mixed. Bathing with hot water and vinegar is good. Massage thoroughly. Goose grease and turpentine has also been found beneficial, applied locally.

3. All forms of itchiness are not due to lice. Skin troubles may be the cause.

4. Norway spruce has proved valuable.

5. When very small trees are obtained from the nursery, they can be planted and cultivated in a nursery row for a year or two. Larger trees can be planted where desired upon getting them from the nursery in the spring. Some plant a double row 10 or 12 feet apart, others plant a single row.

6. They could be mulched for a few years until thoroughly started, after which little care is required other than removing dead or rotten.

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QUESTIONS AND ANSWERS.
Miscellaneous.

FEEDING VALUES.

1. How many pounds of fat will corn and oats equal parts put on a critter? We are feeding them equal parts of ensilage and cut straw mixed.
2. Will 1 1/2 shovels of ensilage put on mixed feed for each steer, put on more fat than 1/2 gallons of oat chop?

A. S.

Ans.—1. As the age, size and class of "critter" are not given, and the amount of oats and corn fed is not mentioned, we are at a loss to know. No definite rule as to gains can be laid down; some animals make larger gains than others on the same feed. Liberally fed, good-doing two-year-old steers should gain when at their best from 1 1/2 to 2 lbs. daily.

2. Figuring 1 1/2 shovelfuls of silage to be 1/2 bushel, and figuring oats at 34 lbs. to the bushel, the actual amount of nutrient materials in each is very nearly the same. Roughage and concentrate material is required in all well-balanced rations, therefore oats and silage is not a fair comparison.

SINK DRAINAGE — MOISTURE ON WALL.

1. In putting in a sink in a farmhouse, and connections to be made to carry off the water from washing machine, etc., would tile bedded in concrete or cement be satisfactory to carry it a safe distance from the house? If this emptied into a three-inch tile drain that runs about 35 rods, and then empties into a creek, would it be liable to block the drain? Would a cement vat, underground near the house, be any advantage by allowing it to fill with waste water, etc., and then run through the drains at once. What would you consider a cheap and satisfactory way to get rid of the waste water?

2. A cement silo with a ventilator in the roof is directly connected with the stable, and by leaving the door between silo and stable open in mild weather, it makes a fine ventilation for the stable. (a) So much moisture forms on the walls that water will trickle down them sometimes. Is this any detriment to the walls when it freezes? (b) Will it make the ensilage freeze any more?

W. H. W.

Ans.—1. They should be. Cases are known of ordinary four-inch drainage tile on a fair fall doing the work satisfactorily. To keep a drain from a kitchen sink clear, it is necessary to prevent solid matter from entering it, especially any coarse, insoluble matter. In addition, a trap just below the sink, should be provided to catch any solid matter that gets into the sink accidentally. The trap may be removed from the pipe and cleaned occasionally without difficulty. It is preferable to use sewer tile and cement the joints, but laid carefully with the joints well fitted and the grade true, so as to have no ups and downs to hold water, ordinary tile give good results. Of course, the pipe leading from the sink should be capped with a fine strainer. A cesspool is sometimes necessary. A close subsoil makes a cesspool useless, except as a receptacle for solid matter, and where it is intended to receive just the water from the kitchen sink, a cesspool seems unnecessary. If the subsoil is open and porous, a cesspool is a possible source of danger to the well, and must be placed as far from the house and well as possible, with good opportunity for drainage and seepage away from these. A good plan is to make the cesspool from 12 to 15 feet deep, from the ground surface, with a diameter of 6 to 8 feet. Curb the excavation with a stone wall to within three feet of the top of the ground. On top of this wall lay cedar logs, cover with a little brush, and fill up with soil to the ground level. An overflow from the pool must be provided. Drain tile leading to a suitable outlet, works all right for this. A solid cement vat could not be of any more benefit than to catch solid matters. A septic tank to handle all the house sewage might be a good investment.

2. (a) This may in time cause the walls to chip, but it is scarcely likely to do much harm.

(b) The effect on the silage should not be noticeable from this cause.

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neighbors and they will recognize what a bargain it is, and I will get big orders. So the man who is quick to see the astonishing values I am offering, and who orders to-day gets the benefit. But the man who waits will lose, because fence prices will soon be normal when this fence-war is over.

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I PAY the freight to North Bay, or anywhere south in Ontario. For \$5 deposit, I will **LOAN** you a perfect stretcher, freight it to you **FREE**, and give back your \$5 when you return the stretcher. You pay the **return** freight **ONLY**. This is a **BIG OFFER**. Remember, fence like the above costs you 45c. a rod and **UP**. My price only 22c. **DURING THIS TRADE FIGHT**. Order **RIGHT NOW**.

Telegraph Remit by draft, express or P.O. order, or registered letter. If you prefer, send one-fourth cash with order, balance to be paid on delivery—you to pay collection charges.

DYER, THE FENCE MAN, - TORONTO, ONT.

CONSIDER NOW
 what it will cost and how much money you will save on your next season's fertilizer bill if you should buy your

Nitrate of Soda

and other Farm Chemicals and mix them yourself

Your own brand **MIXED AT HOME** will be better than any patent brand and is sure to have in it just what you want.

Book of formulas and full instructions for Home Mixing will be sent

FREE OF COST

If you will send your name and address on Post Card **Dr. WILLIAM S. MYERS, Director of Chilean Propaganda** 17 Madison Avenue, New York **NO BRANCH OFFICES**

A HARROW BARGAIN

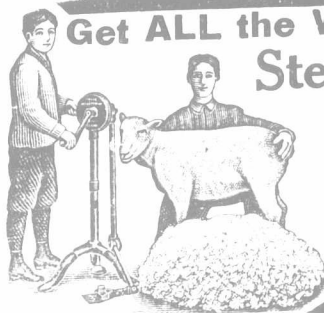
That Will Pay You to Know More About

TOLTON'S

High-grade Steel Harrows

Section and Flexible All-Steel Harrows with an unequalled record. Pre-eminently the most efficient, strongest and longest-wearing Harrows ever manufactured is our unprecedented guarantee. Send to-day for descriptive circular furnishing the facts. Address: Dept. F.

TOLTON BROS., LIMITED, GUELPH, ONTARIO



Get ALL the Wool that should be taken off your sheep, and take it off evenly, easily and quickly with this

Stewart No. 9 Ball Bearing SHEARING MACHINE

It is fitted with ball bearings throughout; the shearing head, too, is ball bearing. Gears are all cut from solid steel and made file hard, run in oil, turn easy and are enclosed safe from dust and dirt. Has 4 sets of knives. Price, complete, at your dealer's, only **\$15.75**. See your dealer; if he hasn't it, send \$2.00 and we will ship c.o.d. for balance.

CHICAGO FLEXIBLE SHAFT CO.

110 La Salle Ave. CHICAGO

Send for FREE treatise on "How to Shear Sheep," and large catalog showing the world's most complete and modern line of clipping and shearing machines. Send **TODAY**.



SYNOPSIS OF CANADIAN NORTHWEST 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 upon the homestead or pre-emption 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 enter for 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.

MERCHANTS PRODUCE CO.
 Butter Eggs Poultry Honey
 Beans Apples Potatoes, etc.
 Our constantly growing trade demands large supplies of choice farm produce. We need yours. Write for weekly market letter.
 57 Front St. E., Toronto
 Established 1899

LEARN TO RUN and EARN \$25.00 PER WEEK
REPAIR AUTOMOBILES
 Course endorsed by Benj. Ericsson, Pres. United States Motor Co. We teach in 12 simple lessons the WHOLE subject. Course on Salesmanship FREE. Best and most practical system. Small payment starts you. **FREE MODEL TO EACH STUDENT**. Big demand for chauffeurs and salesmen. We assist you to get a position. **WRITE FOR FREE BOOK**. It explains how to enter this new industry. **Practical Auto School, 607 Beaver St., New York** (We supply owners with competent men.)

MENTION "FARMER'S ADVOCATE."

6 Pairs Holeproof Sox . . . \$1.50 Stockings . . . 2.00 By Mail, Guaranteed Six Months

No Darning! No Discomfort! Cuts Hosiery Expense Half! Write for List of Sizes, Colors, Grades and Prices. Absolutely Finest Hosiery Made. A Million Wearers.

ORDINARY HOSE



Don't buy any more hosiery until you get the \$1.50 Trial Box of Holeproof Hosiery containing six pairs of the finest, softest, best fitting hosiery made, and the Holeproof Guarantee Ticket which insures the wear of these six pairs for six months.

There's a coupon for each pair. If any or all pairs wear out in six months, return them with a coupon for each and get new hose free.

30,000 Pairs a Day

are made in our great factory to supply the demand. 95% of the 26,000,000 pairs that have been sold have outlasted the guarantee. We always replace without question the few pairs that do wear out. You are taking no chance whatever, so order right from this advertisement.

FAMOUS Holeproof Hosiery FOR MEN WOMEN AND CHILDREN

"Holeproof" is made for men, women and children, so that no woman need do any darning, no matter how large her family. We pay the top market price for our yarns. No cotton hose can be made any better. We make the lightest weights if you want them, guaranteed just the same. Send your order.

Use a trial box of these excellent sox at \$1.50 (women's or children's trial box \$2.00). Don't spend the same money for hosiery that wears out as common hosiery does. Get the six months' guarantee on "Holeproof." Learn how stylish they are—how they fit and how they feel. You'll never wear anything else once you try them.

HOLEPROOF HOSIERY CO. OF CANADA, LIMITED
158 Bond Street, London, Canada

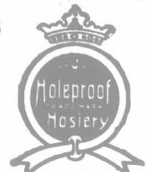
Trial Box Order Coupon

Holeproof Hosiery Co. of Canada, Ltd. 158 Bond Street, London, Canada
Gentlemen: I enclose \$1.50 (\$2.00 for women's or children's), for which send me one box of Holeproof Hose. Weight (medium or light?) Size Color (check the colors on list to your right). Any six in a box, but only one weight and one size.

Name _____
Street _____
City _____ Province _____

List of Colors For Men and Women

- Black
 - Light Tan
 - Dark Tan
 - Pearl
 - Lavender
 - Navy Blue
 - Light Blue
- For Children
Black, and tan, only; and medium weight only.



Reg. U. S. Pat. Office, 1906
Carl Fuschl
Look for the Above Marks Others are Imitations

Are Your Hose Insured? (277)



THIS LOCK and Every Thing Else About the Selkirk Fence is JUST RIGHT

The wire is No. 9 gauge, with the right proportion of carbon to make the finest quality fencing. The stays, made of No. 7 hard wire, are perfectly straightened. The Selkirk Lock holds. It is No. 9 Open Hearth Basic Steel Wire, soft, tough and yet very strong. These three—the best lateral and the best upright joined by the best lock—give the best fence—the "SELKIRK".

SELKIRK FENCE CO.

Box 335 Station B.
HAMILTON, CAN.

I want to examine for myself the merits of Selkirk Stiff Stay Fencing and Gates. Send a free sample piece of the fence with descriptive catalogue A and Agent's Terms.

Name _____
P. O. _____ Prov. _____

POLES OF STERLING QUALITY

Michigan White Cedar Telephone Poles

W. C. STERLING & SON COMPANY

Oldest Cedar Pole Firm in America

Producers for 32 Years

1880

MONROE, MICHIGAN

1912

QUESTIONS AND ANSWERS.

Miscellaneous.

ASSESSMENT.

A owns a store and is engaged in business; B, a neighbor, is appointed assessor, and values A's property at \$1,900.00. A offers to sell it for \$1,500.00. Has B power or authority to assess property above price asked by A?

Ontario.
Ans.—Yes.

A WIFE'S DEBTS.

Is a man responsible for the debts of a wife, providing these debts were contracted before marriage?

Ontario. SUBSCRIBER.
Ans.—Generally speaking, he is only liable in respect of such debts to the extent of the property, if any, that he has received from her, or has acquired or become entitled to through her.

ROOT CELLAR WALL.

Our land is flat, winters very cold. Can you suggest how to build frost-proof root house to hold 1,500 bushels? Have been told that pressed straw, laid with cement and plastered on both in and out sides with same material would be best and cheapest. What is your opinion of same, also as to durability?

NEW SUBSCRIBER.
Ans.—We have had no experience with building straw in a cement wall. Would advise building a wall with a hollow air space in the center. Build each part of good thickness and stud it up on the inside and seal with boards to prevent the roots lying next the cold cement. Put a smooth finish on the outside. At the base of the wall underground it would be well to have some gravel on the outside and a drain around the wall and leading away from it. The gravel would aid in keeping the foundation dry.

SILO CONSTRUCTION—SORE SHOULDERS, ETC.

1. We intend building a silo this summer of cement. We have had one of double-inch staves for several years past, but it lets the air in now, therefore must tear it down. I was thinking of a plan of my own, so thought would write you and see if you have ever heard of the like, as I have not. My plan is this: The silo is to be 35 ft. high by 8 ft. across the first 6 ft., then 13 ft. across the remainder of the height; that is, the first 6 ft. would be down in the ground. This six feet would be fine for summer use, but do you think the corn would spoil, as it would settle more in the center than on the outside?

2. I have a four-year-old mare which had a small lump on her shoulder all last summer. Have a hole cut in collar, therefore does not trouble, but cannot remove it. Could you give me any advice?

3. Could you tell me where a person could get an outfit to stamp one's name on eggs?

A. K.
Ans.—1. We would advise against the plan. You would have extra expense for foundation, and not nearly as good a silo as though you made it a uniform diameter all the way up. We suggest, as you do, that uneven settling would interfere with the preservation of the silage. The fact of the matter is that there is as much to be gained by having the upper six feet narrow as in having the lower part narrow. Better build 12 feet in diameter by 35 feet in height. The lower part being chiefly underground will preserve the silage all right for summer use. At that we would not depress the silo floor more than four feet below the feeding floor level. For our own part we would build no silo less than forty feet high. Better more than less.

2. If bathing the shoulder well with hot water three times daily and applying a lotion of one ounce each of acetate of lead and sulphate of zinc and one dram of carbolic acid to a quart of water will not remove it, give the animal rest and blister with 12 drams each of biniodide of mercury and castor-oil, mixed with 2 ounces of vasoline, applied according to directions on the bottle given in this paper.

3. Empress Patent Stamp Machine.

Taxidermy Book FREE

Mount Birds

We teach you by mail to stuff and mount all kinds of Birds, Animals, Game Heads. Also to tan skins and make rugs. Decorate your home with your beautiful trophies, or command big income selling specimens and mounting for others. Easily, quickly learned in spare time by men and women. Success guaranteed. Write today for our free book "How to Mount Birds and Animals," absolutely free. R. W. SCHOLZ, 98 TAXIDERMIST, 5033 Elwood Bldg., Omaha, Neb.

GOVERNMENT STANDARD SEEDS

Every bushel of seed offered below was produced right here in the County of Haldimand. Our quotations here are for our BEST grades. If you want cheaper grades ask us for same.

OATS

Grown here on stiff clay farms, free of weeds, very heavy in weight, re-cleaned through our power mill. We recommend the Silver Mine as the best and earliest Oat we have.

- SILVER MINE Oats 65c.
 - SCOTTISH CHIEF Oats 65c.
 - 20TH CENTURY Oats 65c.
 - WHITE SIBERIAN Oats 65c.
 - O.A.C. No. 21 BARLEY, free of weeds and heavy in weight. The First Prize Barley at Guelph this year was grown here. Price, \$1.10 per bushel.
 - GOLDEN VINE PEAS, a limited quantity, at \$1.40 per bushel.
 - WHITE CAP YELLOW DENT CORN, \$1.10 per bushel.
 - ALFALFA SEED, grown here for 30 years, \$11.50 per bushel.
 - RED CLOVER, \$14.00 per bushel.
 - ALSIKE, extra clean, \$12.50 per bushel.
- We ship these seeds to you under the guarantee that if they do not entirely suit you on arrival you may ship them back at our expense. Cash must accompany order. Bags are extra, Cotton 25c., Jute 8c. each.
Ask for samples. Reference, any Bank.

The Caledonia Milling Co., Ltd.
Caledonia, Ontario

CHOICE SEED GRAIN Seed Oats

- Banner \$ 80 bushel
- Ligowa 80 "
- White Jewel 80 "
- Siberian 80 "
- Sensation 80 "
- Poland White 80 "
- Irish White 80 "
- Reg. Abundance 90 "
- Gold Drop 85 "
- Swedish (Giant) (new) 1 25 "
- Daubeny (very early) 90 "

Good choice seed. Stocks not as large as other years. Order now. Cotton bags 25c. extra. Prices all f. o. b. Guelph. Send cash with order.

- Barley O. A. C. No. 21 (nice sample) \$1 25 bushel
- Goose Wheat 1 40 "
- Black Barley 1 60 "

Clover and Timothy at special prices. Write us. Have been making seed grain our specialty for years.

HEWER SEED CO.
90 MacDonnell St., East,
GUELPH, ONT.

SILVER KING CORN (WISCONSIN No. 7)—From prize winning field 1911. 1 won first and special prize at Essex County fall fair; first on two bushel lot at Guelph Winter Fair, the wind up of the field crop competition, first in general class; first in North Essex; first in Maidstone Township; first, second and third in junior department at the Tilbury corn show. First-class seed \$3.00 per bushel on ear; also first-class seed of truly Yellow Dent corn \$2.00 per bushel; sweet corn, Golden Bantam, Black Mexican and Stowell's Evergreen 25 cts. per lb., postage paid. THOS. TOTYEN, Woodlee, Ontario, Essex County.

O. A. C. No. 21 Seed Barley
We have another grand supply of this most excellent barley ready for distribution, mostly grown after corn and roots; yield excellent; sample good. We increased one pound to nine hundred bushels in three crops. Price \$1.25 bushel. Best cotton bags, twenty-five cents. Jno. Elder & Sons, Hensall, Ontario, Huron Co.

For Sale: Seed Barley and Oats—O. A. C. No. 21 Barley, selected seed, and Lincoln Oats. All clean and good sample. Prices and samples on application. J. M. McCallum, Shakespear, Ont.

Choice O. A. C. No. 21 Barley
Plump sample; \$1.25 per bushel. Bags extra.
Wm. Barnett & Sons, 1 Irving Springs P. O., Ont.
Fergus station, G. T. R. and C. P. R.

CHOICE SEED CORN Improved Leaming corn, selected for several years; prize-winner; per single bushel, \$1.25. For samples, write: W. A. BARNET, MGR. EXP. FARM, HARROW, ESSEX CO.

Who Pays the Duty?

Why pay fancy prices for calf meals of foreign manufacture when you can buy CALFINE 15 to 20 dollars a ton cheaper and secure at least equal, and in most cases superior, results.

CALFINE
"The Stockman's Friend"
has been most carefully experimented with at Macdonald Agricultural College, where it has given excellent results. It is now in use on some of the largest and best equipped dairy farms in the Dominion.

Ask your dealer for a 100-lb. bag of CALFINE as a trial—you will soon be back for more. If your dealer does not handle it, write us. We will do the rest.

Feeding Directions Sent on Application.

Canadian Cereal & Milling Co.
Limited
TORONTO, CANADA



SETTLERS' TRAINS

—TO—

MANITOBA, ALBERTA SASKATCHEWAN

The only through line
LOW COLONIST RATES

For settlers travelling with livestock and effects Special Trains Will leave Toronto Each TUESDAY MARCH and APRIL 10.20 P.M.	Settlers and families without livestock should use Regular Trains Leaving Toronto 10.20 P.M. Daily Through Colonist and Tourist Sleepers
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Colonist Cars on all Trains
No charge for berths
Through Trains Toronto to Winnipeg and West

Ask any C.P.R. Agent for copy of "Settlers' Guide"

The coat that keeps out all the rain



TOWER'S FISH BRAND REFLEX SLICKER

The design shows how our REFLEX EDGES (pat'd) keep water from running in at front of coat. Every drop goes down and off, so

YOU CAN'T GET WET

MADE FOR SERVICE SATISFACTION GUARANTEED
SOLD EVERYWHERE

TOWER CANADIAN LIMITED
TORONTO.

TRADE TOPIC.

Seed corn, Canadian variety, of choice varieties, is advertised for sale by J. O. Duke, Ruthven, Essex Co., Ont., who has extensive experience in growing and supplying seed corn of the best varieties on a large scale. See advertisement, and write for price and particulars.

QUESTIONS AND ANSWERS. Miscellaneous.

REMODELLING BARN.

Having read many valuable hints through your paper regarding rebuilding, I intend to remodel barns and stabling in the near future. I have two fifty-foot barns; one has a stable built up against south side, whole length, which is altogether too narrow. Silo is built on concrete foundation at end of alley of this. I intend, if feasible, to turn my other barn around in front of this one and remove the stable at present there, leaving the two barns, say, 30 or 32 ft. apart, and building a stable between. Would need to make only roof and ends. Would like to roof it same way as the other barns, so as to give loft room and to put hay-fork track in. I would be much obliged if you could give me some good information or plan for roofing the stable. Could a roof such as you have drawn in the issue of "The Farmer's Advocate" of February 1st, on page 180, end bent, be put on successfully, so as not to leak in the gutters? Would 30 ft. be a sufficient width for two rows of cattle, heads to center? Is there any standard width for mangers, and any standard length of stalls, and what are they? Probably you could suggest a better plan of building.

D. M.

Editor "The Farmer's Advocate":
In answer to question asked by D. M., I have given the idea careful study, and have come to the conclusion that the best way to roof his stable is to take the span the widest way (50 ft.) and build a gambrel over it, and, as this span is considerably greater than that of either of the 50 ft. barns are likely to be, the roof will rise quite a distance above the others, and show a gable above the ridges of these. I could have gone into the question better if I had known the width of both of the other buildings.

The rafters for this span (50 ft.) will be 18 ft. long, allowing nothing for projections at eaves. This gives a rise of 12 in. in a run of 8 in. for the lower roof, and a rise of 8 in. in a run of 12 in. in the upper roof, and consequently the rafters of both roofs are the same length.

The gutters will not be so very long, and can be rendered perfectly water tight by careful work in shingling and laying the galvanized-iron lining, which will be at least 12 in. wide and shingled so as to leave a good wide opening, across, between the butts of the shingles.

The frame can be built of plank construction as well, and better than in any other way, by letting the side posts run from the sill to the plate, but having the purlin posts resting on the plank cross beams of the loft floor; or, better still, let them in between the planks of these beams and bolt securely. The idea is simply to build a frame, like that shown in "The Farmer's Advocate" at different times, only do not have the purlins come below the beams of the loft.

No doubt the barns that are to be set on each side of the stable have drive-ways across the centers, and if so, these will offer exceptional advantages for unloading hay, by means of track extending out from the loft of the new stable, the only disadvantage being that the fork load will travel above the team, as it goes to the loft.

The arrangement under consideration is rather unique, but has several important advantages, and might be copied by others to advantage, as feed can be easily taken from the barns on either side, the loft can be filled from either barn floor, which is of great benefit when threshing as a straw storage, and by just such questions as these we are often shown how some old buildings can be rearranged into a modern stable.

The usual space given for each cow is from 6 ft. 8 in. to 7 ft. in length, by 3 ft. to 3 ft. 6 in. in width, with mangers 20 in. to 22 in. wide.

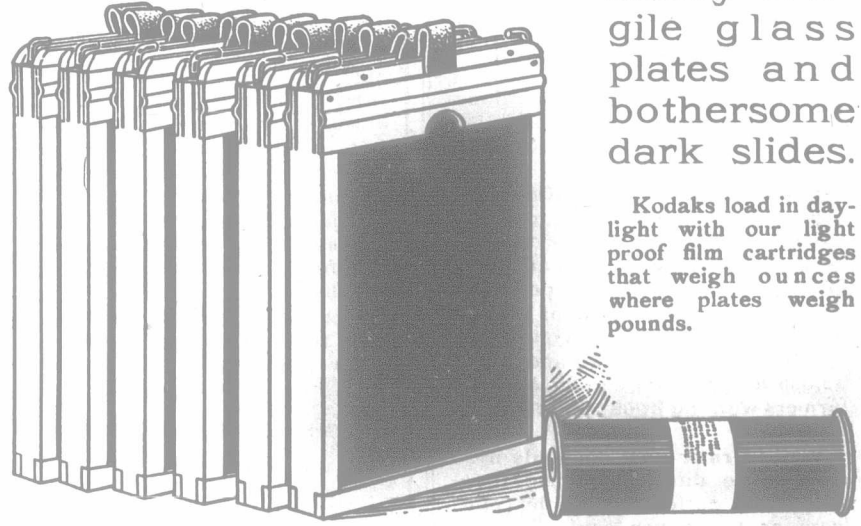
The lighting of the stable will be the most difficult part of all, and will require large windows in each end and quite close together. A. A. GILMORE, Huntingdon, Que.

The imported bull, Pradamere, which some time ago took first prize at Toronto Exhibition, is now head of the Grape Grange herd of Aberdeen-Angus cattle at Clarksburg, Ont.

Don't judge photography by your plate camera experiences.

KODAKS

do away with cumbersome plate holders, heavy fragile glass plates and bothersome dark slides.



1 doz. 4x5 glass plates and holders for same.
Weight, 2 lbs., 8 ozs.

Kodak Cartridge containing 1 doz. 4x5 films.
Weight, 2½ ozs.

THIS PICTURE TELLS THE STORY

By the Kodak System there's no dark-room in picture making. Loading, unloading, developing, printing all by daylight—and better pictures than you can make by the old methods.

CANADIAN KODAK CO., LIMITED

Catalogue free at the dealers or by mail.

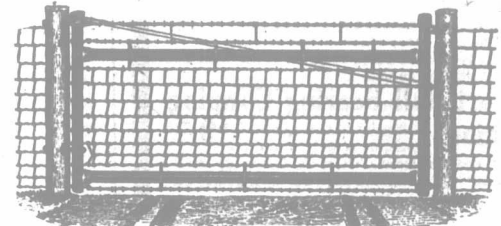
Toronto, Can.

Good Gates on a Farm

Good gates on a farm add to its value much more than they cost. Among good gates the best is the Clay Steel Gate. It will stand immense strain, cannot get out of shape, is an effectual barrier against horses, cattle, sheep, pigs and chickens.

CLAY STEEL FARM GATES

are light, simple, and will last a lifetime. They can be adjusted without tools to swing over snow in winter. They will not bend, sag or break. The real secret of the wonderful strength of



Clay Gates is the high carbon steel tubing—far stronger than gas pipe, angles, tee iron or steel. Send for illustrated price list, and learn of many other distinctive features.

H. RALPH ST. ELP,
Manager.

60 Days' Free Trial

Clay Gates will be sent on 60 days' free trial. Let the use be the proof of their merits. Last year over 20,000 of the gates have been sold on these terms. Send for illustrated price list.

Canadian Gate Co., Ltd., 34 Morris St. Guelph, Ont.

Absolute Unreserved Sale

Thursday, March 14th, 1912

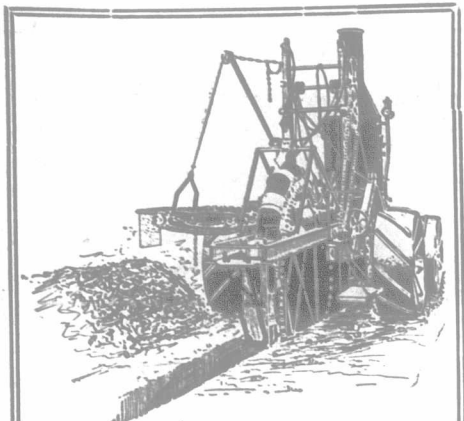
At Farm, GORMLEY, 26 miles north of Toronto, on C. N. R.,
46 richly-bred, high-producing

HOLSTEINS

No culls or boarders. Retiring from farming and selling entire herd. Conveyances will meet all morning trains. Catalogue mailed on application. Embrace this opportunity to buy a good young animal.

C. D. T. PERRY, Columbus, Ohio } Auctioneers
J. D. SAIGEO, Maple, Ont. }

GEO. FORESTE, Prop.
GORMLEY, ONT.



Buy a BUCKEYE Ditcher and Make Money for Yourself

EVERY farm hand is ambitious to engage in some business that will enable him to make money for himself.

You cannot continue working for some other man at so much a month, giving him the profits on your labor, and expect to accumulate any money and be independent.

If you are not afraid of honest work you can build up a substantial business of your own and make \$2,000 a year digging ditches for farmers with the **Buckeye Traction Ditcher**.

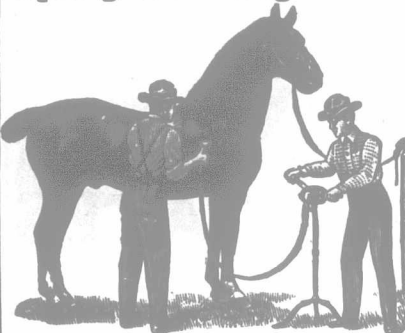
Every farmer now demands machine-made ditches because they are truer, perfect to grade, and from 25 to 50 per cent. cheaper than hand-made ditches.

Yourself and a boy and a **Buckeye Traction Ditcher** can dig from 100 to 150 rods of ditch a day, and make from \$15 to \$18 while doing it. "**Buckeye Ditchers**" are made with either steam or gasoline power.

Let us help you get into this paying business right away. You can pay for the **Ditcher** the first year. As soon as you buy one your bank account will begin to grow by leaps and bounds. Write to-day for catalogue T and further particulars.

The Buckeye Traction Ditcher Co.
FINDLAY, OHIO

Your Horses are Entitled to a Haircut Before the Spring Work Begins



Farmers and horse owners of England and France have done it for years and it is done now by progressive owners everywhere in this country.

No way to do it so easy, so quick or so well has ever been devised as with a

Stewart Ball Bearing Clipping Machine The price of this splendid \$9.75 machine is only

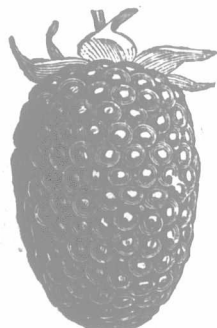
at your dealers direct. It is used in every civilized country, has all file hard cut steel gears, enclosed, protected and running in oil.

Get one from your dealer or send \$2 and we will ship C. O. D. for the balance. Send now.

Chicago Flexible Shaft Company
110 La Salle Ave. Chicago

Write for our new catalogue showing the worlds largest and most modern line of horse clipping and shearing machines.

MALLORY'S SEED CORN



N. E. MALLORY, Blenheim, Ont.

\$1.10 to \$1.25 per bushel. Returnable at our expense if not satisfactory. Samples mailed free on request. Strawberry plants \$3.00 per 1,000; Raspberries \$6.00 per 1,000; Blackberries \$2.00 per 100 and up; 150 Strawberry plants \$1.00; or 200 Strawberry and 50 Red Raspberry plants sent post paid for \$2.00. **Gibraltar Black Cap**, greatest yielder at Experimental Farm. Send for price list.

GOSSIP.

The repeated storms of our present winter remind us of the answer to a certain old darkie's prayer. Being short of rations, he was advised that if he put on the stove the little milk he had, and then prayed for more, the Lord would increase his scanty store. In due time the milk began boiling over. Jumping to his feet, he cried out gratefully: "Oh, Lord Massey! nuff Massey! nuff, nuff, nuff!!!"

Official records of 266 Holstein-Friesian cows were accepted for entry in the American Holstein Advanced Registry, from January 12th to January 19th, 1912. This herd of 266 animals, of which nearly one-half were heifers with first or second calves, produced in seven consecutive days, 107,962.8 lbs. of milk containing 3,722.705 lbs. of fat; thus showing an average of 3.45 per cent. fat. The average production for each animal was 405.9 lbs. of milk containing 13,995 lbs. butter-fat; equivalent to nearly 58 lbs. or 27.6 quarts of milk per day, and over 16.3 lbs. of the best commercial butter per week.

LAMBING SEASON IN ENGLAND.

To give our readers some idea of the size of the breeding flocks of sheep kept on English farms, we quote from The Live Stock Journal: "J. H. Dean & Sons, Lincoln, write: In our Lincoln Longwool flock we put, roughly speaking, 1,200 ewes to the ram. We are only half-way through the lambing season (February 10th), but so far the result is satisfactory. The percentage of pairs is about twenty." In the Beckhampton flock of Hampshire Downs, the property of S. Darling, lambing commenced the first week in January, and out of 540 ewes mated, 450 have lambed, with a greater number of twins than usual, especially the two-teeth ewes. George Adams & Sons, Berkshire, write February 8th, "The lambing season progresses slowly, but the lambs come healthy and strong. Regarding our flock of Oxford Downs, 600 were put to the ram, and up to now about 250 have lambed. Twenty-five per cent. of the ewes have lambed twins." In J. R. Keeble's flock of 300 Suffolk ewes, lambing commenced the first week in January. The lambs have come healthy and strong, with over 50 per cent. of twins, and very few lambs have died.

A SUCCESSFUL CLYDESDALE MAN.

The remarkable success attained by John Semple, of Milverton, Ont., in the matter of sales of Clydesdale stallions and fillies of his own importation, is a pretty good indication that his knowledge of the quality of Clydesdale wanted in Canada is acted on when selecting his importations in Scotland. Anyone wanting something particularly good in either stallions or fillies, can generally find it in Mr. Semple's stables, where a big selection is constantly on hand. At the head of his stud just now is the highly-finished, flashy-quality stallion, Popinjay (imp.), one of the best sons of the great sire, Royal Favorite, dam by Dunure Blend. So popular is this splendid horse in the Milverton district that his book for 1912 is already more than half full, among which is the noted show filly owned by Dickson Bros., of Atwood. This filly has to her credit as winnings, eighteen first prizes and seven championships, including two firsts and two championships at London, and is only now three years old. Mr. Semple has refused many tempting offers for this horse, but believing there is a great future ahead of him as a sire, has decided to keep him. Among Mr. Semple's many recent sales is a half-sister to this horse, Milverton Queen (imp.), a bay three-year-old, to David Harran, of Newton. This filly was bred by Mr. Semple's father, Robert Semple, Portmad, Perthshire, Scotland, who has been breeding her strain of blood for many years. She was sired by Royal Favorite, dam by Blackston, and carries the blood of the great four-year-old, the breed, Prince of Wales and the late . . . She should be a good investment for Mr. Harran.

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The wise housewife knows the importance of always keeping a good supply of Windsor Dairy Salt on hand.

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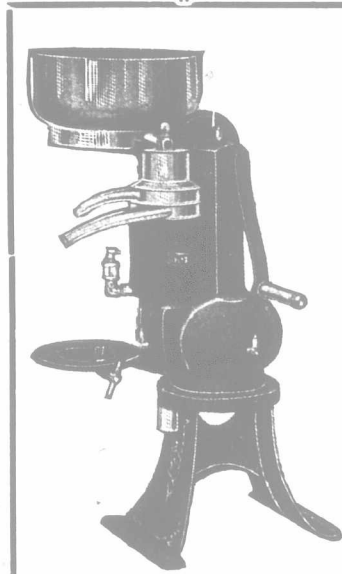
Windsor Dairy Salt is both a money-maker and a money-saver.

It makes money for farmers and dairymen because it makes butter that brings the best prices.

It saves money for them because, being absolutely pure, it requires less to properly salt the butter.

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"I tell you, every farmer in Canada should realize the big share a good roof has in making a good barn. That is my life-work—making roofs. I have been making my roof better and better for more than fifty years. What I have done for farm roofs is one of the biggest things ever done for people who farm."

"You ask me why a barn roof is so important. I will tell you. You build a barn and expect the roof to protect it many years. You put thousands of dollars' worth of produce under that roof while it lasts. Every pound of this produce costs you hard work. If a poor roof lets it get spoiled by wet, you lose money year after year. This lost money is many times the roof cost. Some roofs will last for several years. Some roofs will last if they are kept painted. But a roof is mighty hard to get at. It is not too safe to work on anyhow. Once a roof starts to leak, it is often left as it is. The result is the things you have in your barn spoil. This is lost money, and soon amounts to more than the cost of a good roof."

A Roof for Any Man See What a Good Roof Can Do!

"I have spent my life making a low-cost roof that any man or his tinsmith could lay right. This roof of mine saves the stuff stored under it. It saves the barn framing and beams. It saves the foundation. This roof of mine doesn't need special roof timbering at all."

Good for 100 Years

"The big point about my roof is that it cannot develop leaks after you have had it up a year or two. It is a real roof from the first year it is on your barn to the last year. And do you know when that 'last year' will be? You will use that barn, and your son will use that barn, and your grandson will use that barn before that 'last year' comes. I want to pound the fact home to you that when you get a roof from me, you get a roof that is good for one hundred years. Think of getting a roof that makes your barn good for a hundred years. And that at about the price of an ordinary roof."

"That is why I say, 'I have helped the farmer more than any man ever did.' My roof will protect a good \$100,000 of produce in your barn in 100 years. A roof that will do that

is worth going after a good long ways."

Stands the Arctics

"This roof is so good that the Canadian Government Bernier Arctic Expedition used it for the Arctic regions. Here is immense cold and sweeping winds and ice and poor foundations to stand up under. The North-West Mounted Police use it. The Canadian Government has found no better roof for them. My roof is a good roof for the Arctic Circle. It is a still better roof for milder climates elsewhere."

Stands the Tropics

"But that is not all. My roof is used in the West Indies. Here is a temperature of 135 degrees at Porus, Jamaica. My roof stands it. In Jamaica during rainy season at Montego Bay, rain falls 10 inches in a single day. My roof stands it. In Ontario rain falls 30 inches in a whole year. My roof in Jamaica stands in 24 hours the rainfall it has easily 4 months for in Ontario. Is that a good roof? Is a roof that stands the severe conditions in both Arctics and Tropics good enough for you? You get exactly the same article, made on the same machines."

Used All Over the World

"Not only that, go down to South Africa. Go to the farms there. Go around Port Elizabeth, or Durban, or up in the Transvaal. You'll see my roof there. People will go around the world for my roof, because it is the best roof in the world. It will last 100 years. People use my roof in Japan—an earthquake country. They get it from me. They have searched the world for a roof that would stand earthquake straining. My roof will."

"I am the best friend the farmer has, because I have given him one of the best roofs in the world at a very low cost. I want to send out more of my barn books, because I want to see good barns built. I send a book free to you, if you will ask for it. Write me to-day."



This Took 50 Years

"You are beginning to see something of the big work I have done. I have made a low-cost roof that stands terrific cold and heat, that stands tremendous rains, that stands ice, that stands earthquakes. In fifty years, I have made Pedlar roof better and better by little points added every year. It has world sales to-day, just because it is the best roof in the world at its very moderate price."

get it. I stuck to it just as carefully as I had stuck to bettering my roof. And I got it at last. That's the metal I use to-day."

You Get the Benefit

"My roof is the only roof in the world with this kind of non-rusting iron in it. I am the only man a farmer can come to and say, 'I want a hundred-year roof at about the price I would pay for cedar shingle.' I am the only man that can deliver that kind of goods."

"My roof will not rust to the leaking point within 100 years. It saves the barn and its product from the weather. It saves the barn from thaw-water and lodged ice, because the seams cannot be gouged apart. It saves the barn from fire, because sparks cannot burn it. A burning stick on the roof will not harm it, or harm the barn under it. Lightning cannot burn a barn with my roof on it. My roof is a perfect conductor of electricity. My roof has 'give' in it to defy heat and frost, and protects in winter and summer. It protects even though the rafters sag. Wind cannot blow my roof off a barn. This is because it is a ventilated roof. It keeps your barn ventilated and stands the heaviest winds safely."

Get My Barn Book

"I want to send you my book, 'ROOFING RIGHT.' This lets you dig into more facts about the Pedlar roof. You will see how clean it is. It gives the best cistern water you can gather, as it is self-cleaning. This book shows scores of good barn designs—the best barns in Canada. Every one has my roof on it. You will get big help from my book, and I will send it free for a post-card, because you can plan your barn from it, whether you use my 100-year roof or not."

326

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The "Bissell" is a 3-drum roller

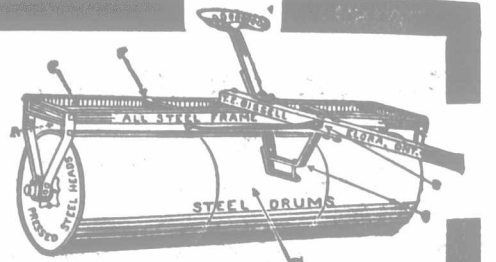
3 DRUMS make the best Land Roller. It is easy to understand how the "Bissell" Roller with 3 drums and supported by 6 heads is a STRONGER IMPLEMENT than any 2 drum Roller on the market. With 3 drums the centre bearing is not needed. When the "Bissell" Roller is at work, the axle turns with the drums.

It costs more to manufacture the 3 drum Roller than the 2 drum, but you pay no more for the "Bissell" 3 drum and get BETTER VALUE FOR YOUR MONEY. You get heavier weight in the "Bissell" drums too.

The good points cannot all be told here. Ask your dealer about the "Bissell" Roller and do not be put off

with a Roller unless the name "Bissell" is plainly stencilled thereon.

Grass Seeder Attachment furnished if required. Write Dept. W for free catalogue. 63



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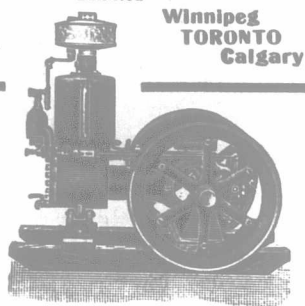
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TORONTO.

500,000 Canadian grown Strawberry plants for sale; 30 choice varieties for home or commercial growers. Write for free catalogue. Lakeview Fruit Farm, H. L. McConnell, Grovesend, Ont.

GOSSIP.

Percy F. Clemons, manager of the Holstein herd of G. W. Clemons, St. George, Ont., in sending a change of advertisement, says: "We have just finished drying up Evergreen March, after a lactation period of fourteen months. She is in splendid condition after her record year's work, and is the picture of health and vitality. My Standard-breds are in good condition. Maud Powell, by Klatawah is undoubtedly in foal to Barongale (4) 2.11, Dromore Farm's premier, and sire of the world's champion two-year-old stallion Justice Brooke, 2.09, I have recently purchased from A. G. Danforth & Son, Washington, Illinois, the three-year-old chestnut filly, Custerene, by Ed. Custer, 2.10, dam Waukeen 2.15, by Sphinx 2.20, 2nd dam May Wagner (dam of Baronmore 2.14, Waukeen 2.15), etc., by Strathmore. She is in foal to John A. McKerron 2.04, and should prove a valuable addition to our stock."

J. M. Gardhouse, Weston, Ont., proprietor of Rosedale Stock Farm, writes, that since the middle of December he has sold and shipped the following: One carload of draft geldings to the Inverholme Stock Farm, B. C., among the lot being two imported geldings weighing nineteen and twenty-one hundred pounds at four years old. One of these was first-prize winner at the Highland Show, Scotland, 1911. Another extra good gelding was one weighing 1,760 pounds, rising three years old, which was a winner at many Ontario shows. This carload was one of the best that ever crossed the Rockies. Wm. Hassard, Hamiota, Man., purchased the following: Gillibrand Swell, first-prize three-year-old imported Shire stallion at Toronto, 1911; Nottingham David, first-prize two-year-old imported Shire stallion at same show; also Annie, an imported Clydesdale three-year-old mare, a granddaughter of Baron of Buchlyvie. To Inverholme Stock Farm, Ladner, B. C., four choice Shorthorns, and the imported three-year-old Clydesdale filly, Rebecca Forster; to Alex. Davy, Ladner, B. C., imported Shire mare, Tuttlebrook Maud, second-prize winner at Toronto, also one Oxford ram and one Tamworth boar; to Dr. Knight, British Columbia, two Leicester rams; to Dr. H. H. Jenkins, Pincher Creek, Alta., imported two-year-old Shire colt, Coronation, also one yearling stud colt and one yearling Shire filly, eight Oxford Down sheep, one Jersey cow, and a Yorkshire hog; to W. T. Eddy, Lundbreck, Alta., one imported Clydesdale stallion, sired by the renowned horse, Woodend Garty; to R. S. Caswell, Saskatoon, the prizewinning Standard-bred stallion, General Melrose, winner of first prize at Toronto, 1911; to Hopkin Bros., Outlook, Sask., one imported Shire stallion, winner of first prize at Toronto, 1911, also three imported Shire mares and one Canadian-bred. These mares are exceptionally well-bred, and should do good service in Saskatchewan. To J. A. Watt, Salem, Ont., three Shorthorn heifers and two Shorthorn bulls. Included in this lot is the third-prize heifer calf at Toronto, 1911, and one of the first-prize herd of calves. It is gratifying to know that animals that have been sold from Rosedale Farm have been resold for double the price paid inside of twelve months, which speaks for the stock produced at Rosedale Farm.

Fertilizer Requirements of the Potato

Extract from "The Potato Crop in Canada," by B. Leslie Emslie, C.D.A., F.A.S.I., F.C.S.

"The elements of fertility, of which a soil becomes depleted in the ordinary process of cropping, are Nitrogen, Phosphoric Acid, and Potash, and every pound of produce sold off the farm removes a certain amount of the substances, so that if the fertility of the soil is to be maintained, these essential elements must be returned in some form. This can be accomplished by applications of artificial fertilizers, either as substitutes for or supplements to barnyard manure. It has been shown by repeated analyses that a crop of 300 bushels of potato tubers removes from the soil approximately, 60 lbs. of nitrogen, 30 lbs. of phosphoric acid, and 105 lbs. of potash. A preceding crop of clover, plowed under, would furnish the necessary nitrogen; clover being peculiarly endowed with the power of assimilating atmospheric nitrogen, enriches the soil in that expensive ingredient. Three hundred pounds of Acid Phosphate would provide all the phosphoric acid, and 210 lbs. of Sulphate of Potash, all the potash required. If we allow for a small supply of these substances, available from the soil's supply, smaller quantities might suffice, but then, remember, that for a crop larger than 300 bushels, the extra requirements would be in proportion to the increase in yield over that amount."

Copies of this and other important bulletins, treating of this important subject, may be had by applying to

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You cannot get better value anywhere in Canada. Stock carried at Winnipeg also. If you like dealing with a real man, and a good fence man at that—write

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is unlike other oils. It stands highest in the friction test, heat test, cold test, freezing test and safety test. Besides, you get more oil for your money when you buy HOME OIL. A money-back guarantee behind every drop. Write today for free trial bottle.

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QUESTIONS AND ANSWERS.
Miscellaneous.

CARRIER VERSUS BLOWER.

Could you give me any information about making carriers for a cutting-box for filling silos? Have never seen carriers for filling silos, but have an idea that it would need less power than a blower, and that it would be much easier to have the corn well mixed in the silo. How slanting will it be necessary to have the carriers placed so as to work well, and would they work all right on a silo 25 or 30 feet high? In using a gasoline engine, about what horse-power would be necessary for running a box—1st, with blower; 2nd, with carriers?

FARMER.

Ans.—Do not attempt to use the carriers. A blower, although requiring more power, is much more convenient, and wastes less corn in windy weather. By having a pipe to distribute the corn in silo, such as we used at Weldwood last fall, and will describe in due season, you can mix the corn in the most thorough manner, while placing every bushel just where desired. An eight-horse-power gasoline engine will run a blower when the box is not fed too fast. No doubt manufacturers of cutting-boxes could supply carriers if desired, but we would not think of installing one. Better buy a larger engine.

RAISING CALVES WITH LITTLE MILK.

Will you please tell me how you think the best way to feed young calves with as little milk as possible? J. D. J.

Ans.—Raising calves without much milk is, at the best, seldom very satisfactory. One of the best substitutes is clover-hay tea, made by simply steeping the clover in hot water. This decoction may be gradually substituted for the milk in increasing proportions. In a small box before the calves, keep whole oats placed there in very small quantities and renewed often. It is astonishing how soon a young calf will commence eating whole oats. A little bran and oil cake may be mixed with the oats. For calf meal, here is a mixture that has been often recommended on excellent authority: One part pure ground flaxseed, two parts finely-ground corn meal sifted, two parts finely-ground oatmeal sifted, and the whole well mixed; then boil and allow to stand for twelve hours covered. Begin with one-fourth pound per day for calves a month old; new milk for the month previous, and no solids. Increase the allowance as the calf grows older, but not to exceed a half pound a day. Keep fresh, sweet, second cutting of clover or alfalfa hay before them.

GOSSIP.

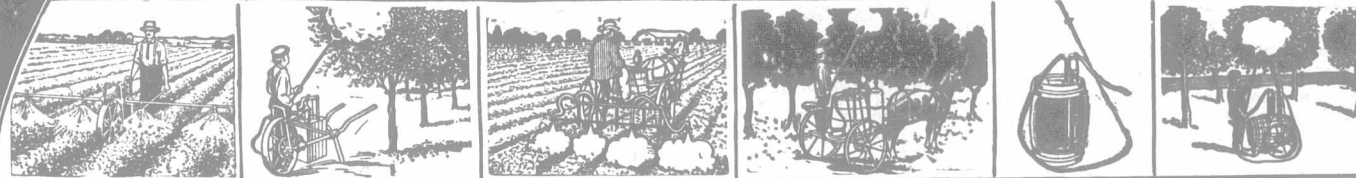
John T. Gibson, of Denfield, Ont., a station on the London-to-Wingham branch of the G. T. R., fifteen miles north of London, has ordered a change in his advertisement of Shorthorns in which he offers for sale three choice yearling bulls and a number of young cows and heifers in calf, of the most desirable breeding. There are few better judges of Shorthorns than Mr. J. T. Gibson, and few better herds than "The Manor" herd in Canada. Parties interested will do well to write or call and see Mr. Gibson and his herd.

Volume 19, of the Clydesdale Stud-book of Canada, compiled and edited in the office of the Canadian National Live-Stock Records, Ottawa, Ont., has been issued from the press, and a copy received at this office. It is one of the largest volumes of the series, containing over 1,000 pages, and the pedigree records of 1,235 stallions and 3,779 mares, a total of 5,014, the stallions numbering up to 11610, and the mares up to 24520, also a list of members of the Association, the Clydesdale prizewinners at prominent 1911 exhibitions, and a number of excellent photogravures of championship winners, the whole indicating a steady growth of popularity of the Clydesdale in Canada.

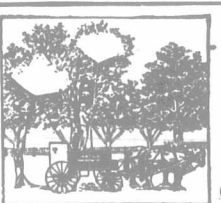
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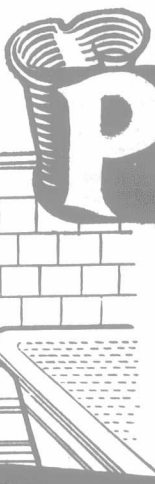
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Also ask for catalogue of our superior home grown and imported Seeds.
Order our famous Collections: Farm Garden Collection, 26 selected varieties, \$1.00, postpaid; Trial Collection, 18 selected varieties, 50c., postpaid; Children's Collection, 15 selected varieties, 25c., postpaid.
"Our Ideal" Mangel has proven the largest yielder in last year's co-operative experiments.



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is made to last a lifetime. Has a cast frame that can't get out of shape, cover and seat of hardwood, mahogany piano finish, oil rubbed and hand polished. Endorsed by physicians as sanitary, and GUARANTEED by us. Inferior closets are poorly finished, made of cheapest materials and last only a short time, besides being positively insanitary. Ask your dealer or order direct. Send for booklet "The Path to Health."

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For Sale Clydesdale Stallion

ONE EXTRA FINE
Four years old, by Benedict. He is a beauty and sure foal getter.
AND TWO TWO-YEAR-OLD STALLIONS. VERY CHEAP.

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A full stock of CLYDESDALES, imported and home-bred, always on hand, at prices and terms to suit breeders. Correspondence solicited.

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And A NEW RECORD made in the number of prizes taken by our

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16 Clydesdale Stallions and Fillies
5 years and under. Some winning in Scotland and Canada. Bred from such noted sires as Hiawatha, Everlasting, Prince of Carruchan and Baden Powell—horses that will make a ton, with quality. Prices right. W. B. ANNETT, ALVINSTON, ONTARIO. Watford station, G. T. R., 30 miles west of London.

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No Better Remedy at Any Price.
Fully Guaranteed.

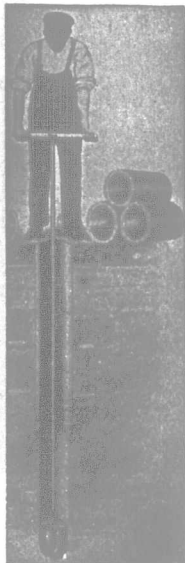
Make a plain syrup by mixing two cups of granulated sugar and one cup of warm water and stir for two minutes. Put 2½ ounces of pure Pinex (fifty cents' worth) in a 16-ounce bottle, and fill it up with the Sugar Syrup. This gives you a family supply of the best cough syrup at a saving of \$2. It never spoils. Take a teaspoonful every one, two or three hours.

The effectiveness of this simple remedy is surprising. It seems to take hold instantly, and will usually stop the most obstinate cough in 24 hours. It tones up the jaded appetite, and is just laxative enough to be helpful in a cough, and has a pleasing taste. Also excellent for bronchial trouble, throat tickle, sore lungs, and asthma, and an unequalled remedy for whooping cough and croup.

This recipe for making cough remedy with Pinex and Sugar Syrup (or strained honey) is a prime favorite in thousands of homes in the United States and Canada. The plan has been imitated, though never successfully. If you try it, use only genuine Pinex, which is the most valuable concentrated compound of Norway white pine extract, and is rich in guaiacol and all the natural healing pine elements. Other preparations will not work in this recipe.

A guaranty of absolute satisfaction or money promptly refunded, goes with this recipe. Your druggist has Pinex, or will get it for you. If not, send to The Pinex Co., Toronto, Ont.

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Dr. Page's English Spavin Cure

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.

This preparation (unlike others, acts by absorbing rather than blistering). This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Frederik A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents:

J. A. JOHNSTON & CO., Druggists,
171 King St., E. TORONTO, ONT

MENTION "FARMER'S ADVOCATE."

QUESTIONS AND ANSWERS. Miscellaneous.

SEEDING TO CLOVER.

I have an eight-acre field that I am very anxious to get a stand of red clover on. It is sandy and gravelly loam. It has been cropped for a long term of years, and is dirty with Canada thistles. Would you advise sowing oats and seeding to clover, sowing fertilizer with a drill for the purpose? How much fertilizer would be about right per acre? Having just bought the farm, it is impossible to get barnyard manure. Am I likely to get a stand of clover on such land by the use of fertilizers? Would it be advisable to summer-fallow and sow to fall wheat, and seed with the wheat?
G. P. H.

Ans.—It is doubtful whether a good catch of clover would be obtained by sowing oats on this land even if fertilizers were used. Much also depends upon the season. Oats are not, as a rule, the best cereal to seed down with. Would suggest that you work the land throughout the summer to kill the weeds. A green crop might be plowed down on it to increase humus. Seeding with wheat would likely prove the better plan. Would also suggest that you inoculate the clover seed if no clover has been grown on the soil for some time. The fertilizers would aid in the catch, in so far as it would increase the growth and strength of the clover plants. The fertilizer could be used in conjunction with the green crop and the wheat crop with much more likelihood of success than if oats were used this spring as a nurse crop. Sow a complete fertilizer, about 400 to 500 lbs. per acre, with a small proportion of nitrogen.

FITTING HORSE—BABY BEEF—TREFOIL.

1. What would you consider best feed to fit a blood horse for sale?
2. The best method of making baby beef?
3. Are roots a profitable crop to grow for winter feed for milk cows, work considered? Would not bran take their place?
4. What plan would you advise to rid a farm of trefoil?
5. Would manuring and working a piece of land well up to July, and then sowing buckwheat for crop, answer as well as a bare fallow?
A. P.

Ans.—1. Good, clean, well-cured hay and oats of good quality, a little bran added, and perhaps a little linseed meal might be added.

2. There are almost as many methods of making baby beef as there are feeders. Cattle fed and sold to the butchers at from one to two years, or thereabouts, are called baby beef. This beef is produced by good feeding, the calves being kept going right ahead from birth. The best, surest, and easiest way, is to start them for a couple of weeks on whole milk, gradually tapering to skimmed milk, fed in conjunction with some butter-fat substitute, as meal of some kind. Keep the calves going some, even allow them whole milk for a longer period, but with dairy products high in price, this is rather an expensive plan.

3. Ordinarily, yes. Roots add a needed succulency to the ration, not accomplished by any other ingredient.

4. Trefoil yields to cultivation. It is not a bad weed, only in clover, especially alsike. A rotation of crops, either three or four years' duration, coupled with clean and thorough cultivation, and the sowing of seed free from the seed of trefoil, should exterminate it.

5. Buckwheat following a well-worked summer-fallow, gives good results.

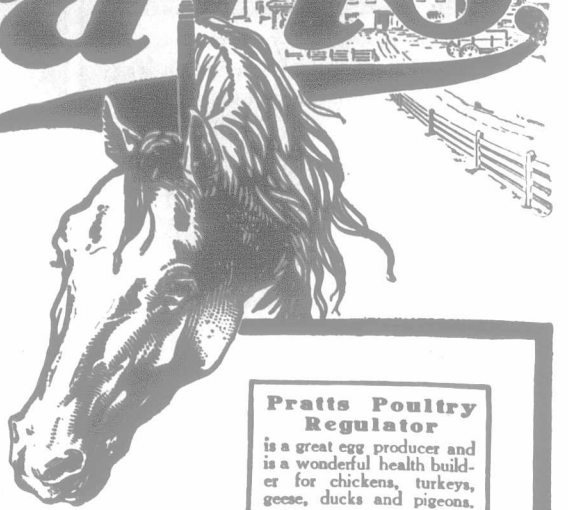
GOSSIP.

That Canada is not the only country experiencing heavy snowfalls this winter is evidenced by the report in an English farm paper that last month a Lancashire shepherd lost his sheep by trampling vigorously at a snowdrift on a snow-covered road. The sheep was killed and the shepherd was injured. The sheep was found in a snowdrift and the shepherd was unable to get it out. The sheep was found in a snowdrift and the shepherd was unable to get it out. The sheep was found in a snowdrift and the shepherd was unable to get it out.

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and BETTER milk—FATTER and STURDIER CATTLE—HIGHER PRICES for the higher quality—and less EXPENSE in obtaining that quality.

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Supplied in three grindings—Fine Ground, Pea Size and Nutted.

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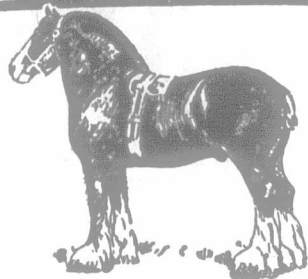
Mount Victoria Stock Farm, Hudson Heights, P. Q.

We have for service this season the Champion Imp. Clydesdale stallions Netherlea, by Pride of Blacon, dam by Sir Everard; also Lord Aberdeen, by Netherlea, and the Champion Hackney stallion Terrington Lucifer, by Copper King. For terms and rates apply to the manager.

T. B. MACAULAY, Prop. ED. WATSON, Manager.

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(Trade Mark Registered.)



Get **SAVE-THE-HORSE** Book. The accurate way to make test for bone spavin. Facts and illustrations on all lameness never before published. Discoveries we have made in 16 years fully described in new book. Mailed FREE.

NARRAGANSETT, Ont., Dec. 11, 1911.—Troy Chemical Co., Binghamton, N. Y.—Dear Sirs: Last June I purchased a bottle of Save-the-Horse for a bog spavin and thoroughpin, which I drew on while stoning with a stone machine; after a cure was effected I had one-third of the bottle left. I went West this fall, two days after she fell while playing in a rough pasture. The Veterinary blistered and poulticed her until I came home, two months ago, and she was still unable to put her foot under her. The Veterinary said it was a rupture in the coffin joint, as near the toe as it was possible to get. When I came home I discarded his treatment and used the remainder of Save-the-Horse and she is nearly sound. This mare is a dapple gray percheron, 3 years old, and weighs 1300 lbs. Please send me your opinion and another bottle of your cure, C. O. D., at once from your Canadian office. Yours truly, ALEX. CRAWFORD.

Write for letters from breeders, business men and bankers the world over on every kind of case.

\$5 a bottle, with a contract to absolutely cure Bone and Bog Spavin, Thoroughpin, Ringbone (except low), Curb, Spint, Capped Hock, Windpuff, Shoe Boli, Injured Tendons and Lameness or REFUND THE MONEY. No scar or loss of hair. Horse works as usual.

\$5 at all Druggists or Dealers or Express Paid U.S. and Canada.

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THICK, SWOLLEN GLANDS that make a horse wheeze, roar, have thick wind or choke-down, can be removed with

ABSORBINE

also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. 25¢ per bottle, delivered. Book \$2 free. **ABSORBINE, JR.**, liniment for manking Reduces Galls, Tumors, Wens, Painful, Knotted Varicose Veins, Ulcers. \$1.00 and \$2.00 a bottle at dealers or delivered. Book with testimonials free. **W. F. YOUNG, P.D.F., 258 Lyman Bldg., Montreal, Ca.**

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During the spring months we shall be shipping large numbers of Percherons, Shires, Belgians, Clydesdales, Suffolks, etc., and all those who wish to buy imported stock should write us for full particulars.

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Two to four years old. Imported and American-bred. Choice colors, lots of bone, weighing or maturing 1,800 to 2,300 lbs. Three importations last few months. Others to follow soon. Prices below competition. I sell them low and they go fast.

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will meet importers at any port in France or Belgium, and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years experience. Best references. Correspondence solicited.

For Sale Valley Dale Shires. Imported and Canadian bred Stallions, Mares and Fillies from 1 to 7 years old. For description and particulars apply to

W. Pearson & Son, West Flamboro,
Address 103 York Street,
HAMILTON, ONT.

QUESTIONS AND ANSWERS.
Miscellaneous.

UNEXAMPLED COURAGE.

He was the small son of a bishop, and his mother was teaching him the meaning of courage.

"Supposing," she said, "there were twelve boys in one bedroom, and eleven got into bed at once, while the other knelt down to say his prayers, that boy would show true courage."

"Oh!" said the young hopeful. "I know something that would be more courageous than that! Supposing there were twelve bishops in one bedroom, and one got into bed without saying his prayers!"

KINDLY ADVICE.

A colored man was brought before a police judge charged with stealing chickens. He pleaded guilty, and received sentence, when the judge asked how it was he managed to lift those chickens right under the window of the owner's house when there was a dog in the yard.

"Hit wouldn't be of no use, Judge," said the man, "to try to 'splain dis thing to you all. Ef you was to try it you like as not would get yer hide full o' shot an' get no chickens, nuther. Ef you want to engage in any rascality, Judge, yo' better stick to de bench, whar yo' am familiar."

CONTAGIOUS ABORTION.

Is there any danger of a cow which has been bred and got in calf to a bull which has served cows which have contagious abortion or diseases of that nature, carrying such diseases to another bull, by being bred to him a year later, and after she has had her calf from the first bull?

H. H.

Ans.—If the cow showed no symptoms of the disease, and carried her calf the full time, it being calved in a mature, healthy condition, and the cow also healthy, there should be little danger a year later. However, there might be a possibility of the germs lurking in her reproductive organs. Contagious abortion is a disease which should be carefully avoided.

BUILDING STABLE—BREEDING MARES.

I intend building a horse stable next summer for eight horses; want to unload hay with horse fork:

1. Would a balloon frame be as strong as a timber frame, and would posts 7x7 be large enough for timber frame?

2. I have a team of mares three years old in the spring, weighing 1,150 lbs. and 1,300 lbs. Would you advise breeding them next summer, or would it be safe to breed them to a horse weighing 1,850 lbs.?

S. C.

Ans.—1. The relative strength of the two structures would depend largely on the material used and the method of construction. Would rather prefer a timber frame. Posts 7 x 7 inches would be rather light, but might answer if well braced.

2. Yes; both advisable and safe.

LICE ON HORSES—COLORING HAIR.

1. Have pair of two-year-old colts which seem to be badly affected with lice, as they rub whenever they are turned out, and are rubbing the hair off in spots. Would you kindly tell me what is best to use for the lice?

2. I noticed about a year ago, in a farm paper (I am not sure whether it was your paper or not), a way to turn the hair on a horse's face or foot white, by rubbing the spot with some kind of stuff. Would like to know, if possible, if there is anything that will do it?

F. B.

Ans.—1. Try one part insect powder, or hellebore, in three or four parts cement. Dust along the back, and keep the colts dry until the mixture has settled down and suffocated the lice.

2. Why should such a practice be tried? There is, as far as we know, no method of inducing white hair to grow, but what in the practice of it you would be making yourself liable to a heavy fine under the Act for the prevention of Cruelty to Animals. A white strip will not add anything to the real value of the horse. Such fancy points count for nothing in the utility of an animal.

Gombault's Caustic Balsam

The Worlds Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Firing. Invaluable as a CURE for

FOUNDER, WIND PUFFS, THRUSH, DIPHTHERIA, SKIN DISEASES, RINGBONE, PINK EYE, SWEENY, BONY TUMORS, LAMENESS FROM SPAVIN, QUARTER CRACKS, SCRATCHES, POLL EVIL, PARASITES.

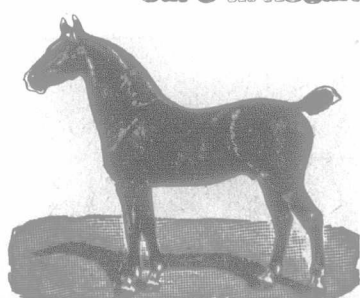
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We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

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THE BEST FOR BLISTERING.

I have used GOMBAULT'S CAUSTIC BALSAM quite a good deal, and for a blister it's the best I ever used. I wish your remedy every success.

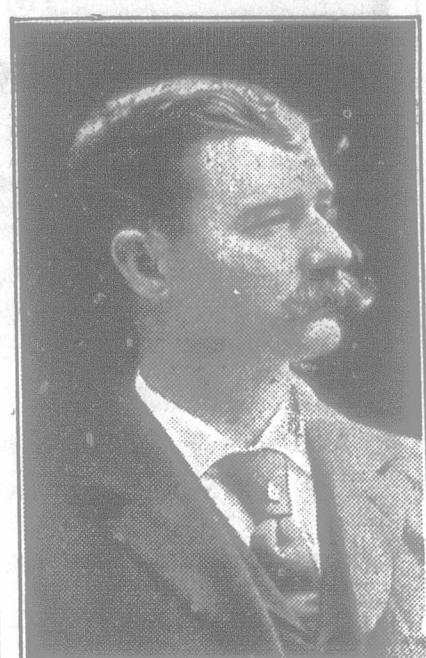
CHAR. MOTT, Manager, Mayfield Stud Farm, Leesburg, Va.

CURED CURB WITH TWO APPLICATIONS.

Have used your GOMBAULT'S CAUSTIC BALSAM to cure curb. I blistered it twice, and there is no sign of it any more. The horse is as good as ever.

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In order to get my Weston barn sold out, so that I may go to my Brandon barn, no reasonable offer will be refused. Write, and come early, and get a bargain in a first-class stallion or mare.

TERMS TO SUIT. For further particulars write:

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IMPORTED CLYDESDALES

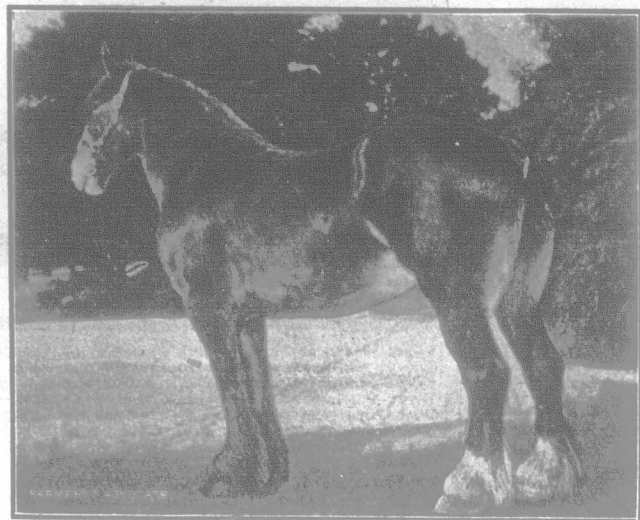
I have for sale mares and fillies, from foals up to 5 years of age; richly bred and big in size; a number of them in foal; matched pairs, the kind to make you money. They will be sold at prices that defy competition.



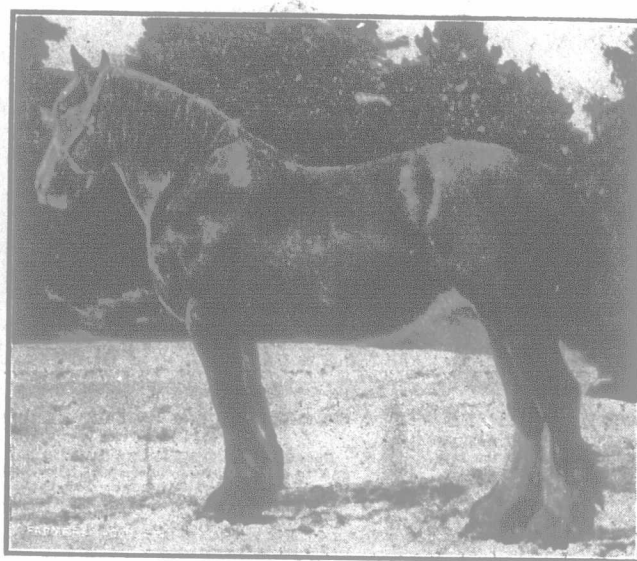
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12 Imp. and Registered Clydesdale Mares
5 Hackney Mares 4 Hackney Stallions

At the farm of O. SORBY, Guelph, Ont., two miles from end of street car line, on

Tuesday, March 19th, 1912

A number of these have been prizewinners. Four of the Clydesdale mares are by the celebrated breeding horse, "Lord Charming." A number of them are in foal to "Lord Charming" and the Hackney stallion, "Warwick Model." Catalogue with full pedigree and description will be mailed on application to:

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Guelph, Ont.

Terms of sale: 12 months' credit on approved joint notes; 5% off for cash.

Absolutely no reserve, as farm is sold.

Auctioneer, JAMES McDONALD
Assistant, CHARLES CRAWLEY
Clerk, J. M. DUFF

Massey-Sawyer traction engine and Waterloo separator, good as new, never has threshed off the farm, will be sold without reserve.



ROSIE II OF DOWHILL (Imp.) (19307) (22831). Will be included in sale.

QUESTIONS AND ANSWERS. Miscellaneous.

WASHY DRIVER.

I have a driving horse five years of age, and while driving he annoys me sometimes by loosening of the bowels. He is in good condition, but is not heavily fed on grain. What can be done for him?

FARMER'S SON.

Ans.—It may be his teeth are responsible for the trouble. Have his teeth dressed by a competent veterinarian. Purge him with a ball consisting of six drams aloes and two of ginger; then give daily in powder, nux vomica, gentian and ginger, one dram each, to tone up the digestive system. Exercise care in feeding and watering. When in the stable, feed clean hay and easily-digested grain, such as ground oats. Do not water just before taking on the road or after feeding.

TRAP NEST—POTATO FERTILIZER—ONIONS.

1. How can I make trap hens' nests, and are they successful?
2. What is the best fertilizer for potatoes, and how much to each hill?
3. Can you describe how to plant, and all about growing onions, and what kind of onions are best for table use? Should I plant the seed or the sets? Intend going in on a large scale.

L. H. L.

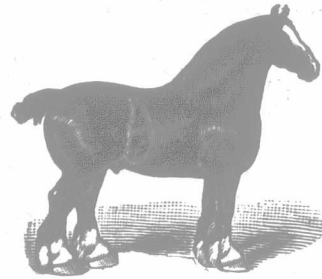
Ans.—1. See answer to N. M. in another column of this issue.

2. Fertilizing depends upon the soil constituents. Different soils require different fertilizing materials. It is well to experiment first, and ascertain what constituents are lacking in the soil. Barnyard manure should form the basis of the fertilizer, and commercial fertilizers be added as a supplement. A complete fertilizer, with a little extra potash in the form of sulphate of potash, would likely prove of most value. Sow 500 or 600 lbs. per acre.

3. See article entitled "Try Onions," on page 94 of "The Farmer's Advocate," issue January 18th, 1912, by J. W. Rush.

IMPORTED

Clydesdales of Quality



I have now on hand a stock of

Clydesdale Stallions and Fillies,
Percheron Stallions, Shire
Stallions, Standard-
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Totalling over 90 head. I have more size, more quality, more style and better breeding than was ever seen in any one barn in Canada before. If you want a big, ton- stallion, or a high-class show stallion, or a big, well-bred quality filly, let me hear from you.

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T. H. HASSARD, Markham P.O. and G. T. R. Station
Locust Hill, C. P. R. Station. Long-distance 'phone.

CLYDESDALES (Imported) CLYDESDALES

SPRING HILL Top Notchers. Stallions, mares and fillies. 65 per cent. guarantee with stallions. Every mare guaranteed in foal. Ages, 3 years old and upwards.

J. & J. SEMPLE Milverton, Ontario. and La Verne, Minnesota

PERCHERONS AND CLYDESDALES

Full line of prizewinning stallions and mares always on hand.
HODGKINSON & TISDALE, Simcoe Lodge, BEAVERTON, ONTARIO
Long-distance 'phone.

Bay View Imp. Clydesdales We have got them home, 11 fillies and 7 stallions, show horses bred in the purple, big in size, and quality all over. If you want something above the average come and see us. Prices and terms the best in Canada.
In the Toronto-Sutton
John A. Boag & Son, Queensville, Ont

IMP. CLYDESDALE STALLIONS AND FILLIES
In my late importation of Clydesdale stallions and fillies I have exceptionally choice breeding idea draft characters; as much quality as can be got with size, and I can undersell any man in the business. Let me know your wants.
GEO. G. STEWART, Howick, Que. L.-D. 'Phone.

Clydesdales, Imp., Just Arrived Our new importation has arrived safely, and we are now in a position to supply the trade with stallions from 1 year old up to 4, with more draft character, big, strong, flat bone, and better quality than any other firm in the trade. Prices and terms as great as any other in the world.
BARBER BROS., STATIONERS PT., QUEBEC, NEAR HULL

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.

COUCH GRASS—FERTILIZING.

1. Sod land intended for turnips next spring is badly infested with couch. It was plowed shallow about last of April, and harrowed thoroughly, and rolled several times, or until it got too wet in the fall to get on it with the teams, two weeks after we quit working, but before frost set in, the field, in places, was quite green, which shows that the couch was not killed. The field is ridged, and can be worked early. Will it be possible to get it ready for turnips? Should it be plowed again, and, if so, what depth?

2. Have on hand sulphate of potash, nitrate of soda and acid phosphate. Give proportion for mixing for turnips; also for potatoes.

A. M.

Ans.—1. Couch, or twitch grass, is a bad weed to fight in a hoed crop, yet with thorough cultivation previous to sowing and throughout the season, there are few better methods of checking and stamping it out. If, however, you see that it is so thick as not to permit of getting the land in condition for sowing, it might be advisable to summer-fallow this summer, giving thorough and frequent cultivation, either throughout the season or until time to sow back-wheat, when it could be sown thickly to this crop, say, one or one and a half bushels per acre. A good stand of this crop is quite useful in smothering any grass which may have escaped being killed by previous cultivations. If you decide to sow with turnips, cultivate the ridges down level, and if the land is anyway soddy, plow to a depth of three or four inches, following this with regular and frequent strokes of the cultivator and harrow. Get as many of the roots pulled out on top by this method as you can. Defer sowing the turnips until June 15th or 20th, to permit of more thorough cultivation. Drill lightly, and cultivate the roots frequently.

2. For turnips, a good proportion would be 100 lbs. of nitrate of soda, 300 to 400 lbs. of acid phosphate, and 100 lbs. of sulphate of potash. For potatoes, 150 lbs. of nitrate of soda, 300 lbs. of acid phosphate, and 100 to 150 lbs. of sulphate of potash.

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HOME OF THE GRAND CHAMPIONS

Our importation of Clydesdales last September has produced THREE GRAND CHAMPIONS:

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A Record Never Equalled in America

Toronto Exhibition

CLYDESDALES

Stallion 4 years old and over, 1st and Championship.

Stallion 3 years old and under 4, 1st, 2nd, 3rd and Reserve Champion.

Stallion 2 years and under 3, 1st, 3rd and 4th.

Mare 3 years old and under 4, 2nd.

Mare 1 year old, 2nd.

Special for the best ten draft horses, all breeds competing, 1st.

HACKNEYS

Stallion 3 years old and under 4, 1st.

Stallion Hackney Pony, 1st and Championship.

Guelph Winter Fair

CLYDESDALES

Stallion 4 years old and over, 1st, 4th, Championship and Grand Championship.

Stallion 3 years old, 1st and 5th.

Stallion 2 years old, 1st and 7th.

HACKNEYS

Stallion over 15.2 hands, 3rd.

Stallion under 15.2 hands, 2nd.

We have thirty young Clydesdale Stallions and Mares that will be sold at reduced prices



BARON KELVIN. 1st Toronto National Exhibition, Champion and Grand Champion; 1st Ogdensburg, Champion and Grand Champion, Sept., 1911; Ottawa, 1st, Champion and Grand Champion, Jan., 1912.

Ogdensburg Horse Show

CLYDESDALES

Stallion 4 years old and over, 1st and Championship.

Stallion 3 years old and under 4, 1st, 2nd and Reserve Champion.

Stallion 2 years old and under 3, 1st, 2nd and 3rd.

Mare 3 years old and under 4, 1st and Championship.

Mare 2 years old and under 3, 1st and 2nd.

Special for 4 best draft horses any age or breed, 1st.

Best heavy draft stallion, all breeds competing.

Ottawa Stock Show

CLYDESDALES

Stallion over 4 years old, 1st, Championship and Grand Championship—Baron Kelvin.

Stallion over 4 years old, 4th—Edward Darnley.

Stallion 4 years old, 1st and Reserve Champion—Bydand.

Stallion 3 years old, 2nd—Predominant.

Stallion 3 years old, 3rd—Fyvie Gallant.

HACKNEYS

Stallion under 15.2, 1st and Championship—Terrington Semaphore.

Stallion over 15.2, 1st and Reserve Championship—Terrington Narcissus.

Best string of 10 horses owned by one exhibitor, 1st.

We are compelled to reduce our stock as we have sold our farm and stables First come first served

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QUESTIONS AND ANSWERS.

Miscellaneous.

ALFALFA IN ORCHARD.

1. Would alfalfa be harmful to sow in an orchard just beginning to bear nicely, supposing a strip were left, say, eight feet wide on each row of trees, and this kept manured and cultivated well?

A. L.

Ans.—1. Clean cultivation, followed by cover crops, is the treatment recommended for orchards. Would not recommend sowing alfalfa in an orchard, even if a space were left cultivated around the trees.

CEMENT FOUNDATION.

I am a farmer, and intend building a new house. I would like to learn how to build a cement cellar, also the required thickness to prevent it from freezing. Please explain in full.

L. M.

Ans.—Twelve inches should be plenty thick enough if the wall is properly constructed. Ten inches would suffice so far as strength is concerned, but the thicker the wall the better it will resist frost. There is no hard-and-fast rule as to the proportions of cement, gravel, and sand. It varies with the cement, character of sand and gravel, and many other factors. One of cement to ten of clean, sharp gravel, or one of cement to three parts sharp sand and eight parts of clean, coarse gravel, should prove satisfactory.

To Buyers Looking for a GOOD STALLION



I HAVE imported Percheron Stallions for years, always bought them from the best breeders in France, and beg to call the attention of prospect buyers to the fact that I have at the present time a better lot of Percheron Stallions in my barn than any barn in Canada. I have the big kind, the right kind, the kind that good judges are looking for. I won, as usual, more prizes at the leading fairs than all the Percheron importers put together. My horses are beautiful dappled-greys and blacks. Two to eight years old, weighing 1,700 to 2,200 lbs., with feet and legs that cannot be beat. Beautiful heads and necks. The kind that good buyers are looking for. I do not intend, and will not allow, if I can help it, anyone to give more quality and breeding for fixed price than I will. Come to the home of the Champion Prizewinners and judge for yourself.

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We have them on hand imported this year, Stallions and Fillies, many of them winners, the best blood of the breed, with size, character and quality. There are none better and no firm can sell cheaper.

R. NESS & SON, Howick Que

Imp Clydesdale Stallions of Size and quality

Our latest importation of Clyde stallions include several that were 1st prizewinners in Scotland. We have them from one year old up of choicest breeding, big, flashy quality fellows, full of draft character. Our prices are the lowest, and our terms the best.

GRAWFORD & McIACHIAN Thedford P O and Sta.

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.

DRAG SAW.

Could you, through your columns, kindly give designs and instructions for building a drag-saw outfit, or state where the designs could be obtained, and oblige,

A. L. F.

Ans.—Can any of our readers describe this outfit?

PROBABLY RINGBONE.

I have a colt rising three years old. Last fall I noticed a swelling in the hind foot. Just above the hoof the skin was broken a little. I thought it was scratches. I thought nothing about it, but now it is a ring around the pastern, about three-quarters of an inch from the top of the hoof. I can't notice her lame, but she seems to favor it in the stable. She never was shod, and is from a Thoroughbred horse.

J. D.

Ans.—Symptoms indicate a case of ringbone. Firing and blistering, performed by a competent veterinarian, is the treatment recommended, though sometimes in colts repeated blistering will suffice. Take two drams each of biniodide of mercury and cantharides and mix with two ounces of vaseline. Clip the hair off the parts, and tie so that she cannot bite them. Rub daily with the blister for two days, on the third day, wash off and apply sweet oil. Let her head loose now. Oil daily until the scale comes off, then tie up and blister again. Blister monthly as long as necessary.

HAD VERY BAD COUGH

And Tickling Sensation
in Throat.

Dr. Wood's Norway Pine
Syrup Cured It.

Miss C. Danielson, Bowman River, Man., writes:—"Last fall I had a very bad cough and a tickling sensation in my throat. It was so bad I could not sleep at night, so I went to a druggist and told him I wanted something for my cold, and he advised me to try Dr. Wood's Norway Pine Syrup which I did, and after taking one bottle I was completely cured. Let me recommend Dr. Wood's Norway Pine Syrup to anyone who suffers from a cough or throat irritation."

Dr. Wood's Norway Pine Syrup is without a doubt one of the greatest cough and cold remedies on the market to-day, and so great has been its success there are numerous preparations put on the market to imitate it. Do not be imposed upon by taking one of these substitutes, but insist on being given "Dr. Wood's" when you ask for it. Price, 25 cents a bottle put up in a yellow wrapper; three pin-trees the trade mark; manufactured only by The T. Milburn Co., Limited, Toronto Ont.

INVENTIONS Thoroughly protected in all countries. EGERTON R. CASE, Registered Patent Attorney, DEPT. E TEMPLE BUILDING, TORONTO. Booklet or Patents and Drawing Sheet on request.

The tramp leaned against the door-jamb, while Miss Annabel Sheldon peered out at him through the screen, and he gazed past her at the kitchen table.

"You look strong," said Miss Annabel. "Are you equal to the task of sawing and splitting half a cord of wood?"

"Equal to it, madam?" said the tramp. "The word is inadequate. I am superior to it," and down the road drifted a cloud of dust raised by his patient, plodding feet.

RINGING THROUGH BONAVENTURE CO.

Splendid Work Dodd's Kidney
Pills Are Doing.

Mrs. Norman L. Dow Tells What They
Have Done for Her—People Talking of
Them on Every Side.

Port Daniel West, Bonaventure Co., Que., March 4.—(Special.)—Bonaventure County is ringing with the great work done by Dodd's Kidney Pills, and on every side people are telling their neighbors of aches relieved and ills cured by the great Canadian kidney remedy. To the great mass of evidence already published is now added that of Mrs. Norman L. Dow, of this place:

"I can recommend Dodd's Kidney Pills as an excellent remedy for rheumatism and palpitation of the heart," said Mrs. Dow. "After using one box I was greatly benefited."

Dodd's Kidney Pills cure rheumatism and palpitation of the heart, because they both come from the same cause—impure blood. Dodd's Kidney Pills make the kidneys right, and when the kidneys are right, they strain all the poison and impurities out of the blood. Cure the kidneys with Dodd's Kidney Pills and you can't have such diseases as rheumatism or palpitation of the heart.

QUESTIONS AND ANSWERS. Veterinary.

RED WATER.

I have a cow that has red water. She seems all right in every other way. She will calve next month. What causes this trouble, and what will cure it?

MRS. R. S.

Ans.—Red water is caused by the nature of the food. Large quantities of turnips are said to cause it sometimes, especially in pregnant animals, but it occurs in many cases without appreciable cause. See that the food is of good quality. Purge with 1 lb. Epsom salts and 1 ounce ginger, and follow up with 2 drams sulphate of iron and 3 drams chlorate of potassium three times daily until the urine becomes clear. V.

UNTHRIFTY COW.

Cow calved December 26th, 1910, and did well for two weeks, after which she commenced to fail in both flesh and milk supply. She is fed a little clover and timothy hay twice daily, and runs in barnyard during the day. She gets corn fodder for grain, and gets four quarts bran and oats mixed as a mash every second night, and about four ears of corn every night. She has a good appetite. G. J. G.

Ans.—The symptoms given do not indicate any disease. The food may not be properly assimilated. Mix equal parts of sulphate of iron, gentian, ginger and nux vomica, and give her a tablespoonful three times daily. Give a more liberal supply of hay, and in addition to the corn fodder, give a gallon of bran and four quarts chopped oats as a mash three times daily. Milking cows must be well fed and cared for in order to keep up flesh and milk supply. If you have turnips or mangels, give a few daily. V.

FATALITY IN SHEEP.

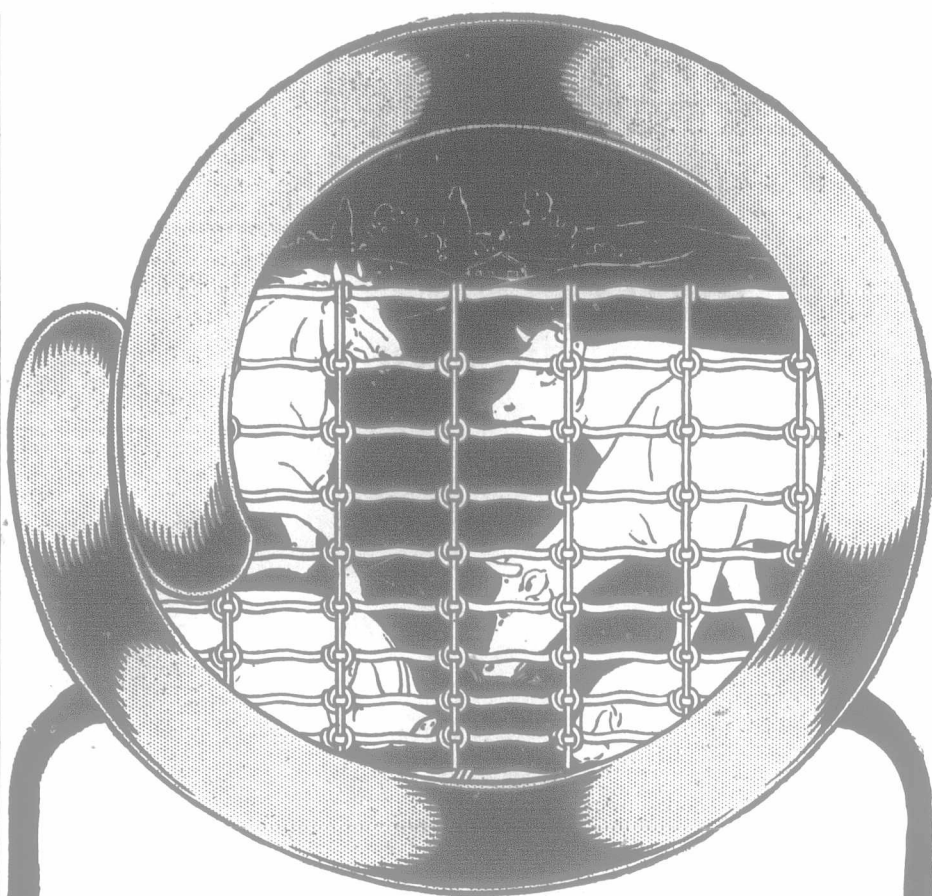
Ewe, in good condition, and expected to lamb in April, was noticed standing alone holding head high and jerking it slightly sideways. She ate fairly well, but at night refused food. Bowels and kidneys apparently working properly. She refused food entirely, and became weaker, the jerking motion ceased, but she ground her teeth continuously. Her breathing was very heavy, and she gradually sank, and died in five days. A post-mortem revealed veins of neck and chest filled with dark blood, lungs almost black, and hard, being of an even, close texture when cut. No air cells discernible. J. W. S.

Ans.—The ewe had inflammation of both lungs. Treatment would, in all probability, have been unsuccessful. It should have consisted in keeping comfortable in well-ventilated quarters, and giving 2 ounces whiskey, 10 grains acetanilide, and 10 grains nux vomica every four or five hours, and keeping strength up by giving new milk and eggs. Double pneumonia is fatal in mostly all cases, especially in sheep. V.

FIBROUS TUMOR.

Horse has a hard lump the size and shape of an inverted saucer on the point of his shoulder, just where the collar presses heaviest. It is very hard. I do not want to have it dissected out, because the scar and depression resulting will make the parts always subject to trouble. I have reduced it somewhat by applying iodine. Would you recommend a blister or a seton? A. MCP.

Ans.—Tumors of this nature cannot be wholly removed by the application of iodine or blisters. It is possible it may be reduced in time by the action of a seton, but the process will be very slow. Dissection is the proper treatment, and when the operation is skillfully performed, and after treatment, properly conducted, there will be no depression following, and the scar will not be sufficient to cause trouble. The tumor should be carefully dissected out, the skin stitched, except an opening at the lower part, which must be left for drainage. Then he must be tied so that he can neither bite nor rub it, the wool kept clean, and dressed three times daily until healed with a five-per-cent. solution of carbolic acid, or other good antiseptic. It is best to get a veterinarian to operate, but in order to save expense, you should be able to attend to the after-treatment. V.



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Champions of 1911 shows, winning both senior and junior herds at Winnipeg, Brandon, Regina, Edmonton, Toronto and London; also fifteen championships. Young stock, both sexes, for sale at reasonable prices. L. O. CLIFFORD Oshawa, Ont.

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Angus Bulls for sale—If you want a nice young Angus bull at a reasonable price enquire of **J. W. BURT & SONS, Aberdeen Farm, Coningsby P. O., Ont.**

Aberdeen - Angus Now is the time to buy a bull; eleven for sale; also females any age or price. **WALTER HALL, Drumbo station, Washington, Ont.**

Aberdeen Angus Bull Stock bull—a bargain. Young Dorset Horn Rams of good quality. Reduced prices. **FORSTER FARM, OAKVILLE, ONT.**

"The Manor" Scotch Shorthorns Present offering: Three choice yearling bulls. Young cows in calf. Yearling heifers: Clippers, Minas, Wimples, Julias, etc. Inspection solicited. Prices moderate. Phone connection. **J. T. GIBSON, DENFIELD, ONTARIO**

The animals advertised by L. K. Weber, Hawkesville, Ont., elsewhere in these columns, are worth looking after, being described as right every way, and will be sold at inside prices. Inspection is invited.

THE BEST WAY TO KEEP THE HANDS CLEAN.

Women have to do dirty work on the farm as well as the men. Cleaning lamps, blacking stoves, paring potatoes, scrubbing floors and milking, are all hard on the hands.

The thousands who are using SNAP find it exactly what women need, and would not be without a can.

It is a wonderful hand cleaner, instantly removes dirt, stains and odor without much rubbing, and keeps the hands smooth and free of chaps. It is a healing and antiseptic. 15c. a can. 114

QUESTIONS AND ANSWERS. Miscellaneous.

LUMP JAW—SCOURS.

1. I have a cow with lump jaw. Is there any danger of infection from her milk, either for her calf or for persons using the milk. The lump is not broken, and never has broken. Would there be any more danger if the lump should break?

2. Would you also tell me what proportions of formalin to use for scours in calves? A. T. M.

Ans.—1. Lump jaw, or actinomycosis, is not supposed to be a contagious disease, although animals ingesting any of the suppurative matter from the open tumors or having any abrasions exposed to this material, might contract the disease. Give iodide of potassium three times daily in a quart of water as a drench, commencing with dram doses, and increasing the dose daily by about 20 grains until desire for food and water fails, tears run from her eyes, and saliva from her mouth, and her skin becomes scruddy. Then cease giving the drug. If necessary, treatment can be repeated in two months. The milk is not supposed to be affected. It would be safe for the calf throughout treatment. Would not use it for human food during treatment. Rub an ointment composed of 2 drams each of iodine and potassium iodide, mixed with 2 ounces of vaseline, on the lump once daily. The only increased danger from the lump if broken would be as before stated, of ingestion, etc., by other animals.

2. For applying to the umbilical cord, a solution of 1 part of formalin to 10 parts water. For internal use, 1 part of formalin to about 15 or 16 of water, fed in tablespoonful quantities in a pint of milk three or four times daily.

SUMMER-FALLOW—FEEDING STEERS—ORCHARD CROPS.

1. Have thirty-five acres, sandy loam, mostly sandy subsoil, but some light clay. Land is low, nearly level, and damp until late in spring. Land is dirty with sow thistle, mustard, twitch, and other common weeds; in fact, a little of everything. Is said to have grown some good crops of hay, but is partially run out. Made an attempt to clean it last year by summer-fallow, but pressure of other work prevented successful treatment. I wish to sow it down to pasture for a few years at least, but as we will have about thirty acres this year in corn and root crop, do not know how to accomplish a thorough summer-fallow. What treatment would you advise, and mixture for seeding?

2. Am carrying steers over on cut straw and silage, to finish on pasture. They are thrifty, but, of course, not gaining much. Would you advise purchasing meal or other feeds, at present prices, to feed before turning out?

3. Planted out orchard two years ago, grew roots between rows first year, the same last year, but catch was so poor I plowed up and sowed millet. Would you advise cropping this year, or keeping cultivated? D. H. R.

Ans.—1. A summer-fallow not well worked to keep down weeds, often rather than cleaning the land for which it is intended, aids weeds to make headway. Thirty-five acres is rather a large summer-fallow, but very dirty land should not be seeded down. If possible, work the land thoroughly until time to sow buckwheat, then sow this rather thick to smother out the weeds remaining. Some have reported good catches of clover in buckwheat, but if sown thick this would not be likely. This treatment would defer seeding one year, and would likely rid the land of many of the weeds. A thorough summer-fallowing would be the best treatment.

2. It never pays to let the steers go back. If not thriving well, feed a little meal. They will go on grass in better condition to go on and make more rapid gains.

3. A part of the space between the rows of trees in a young orchard can be used for growing hoed crops which require frequent cultivation. As the orchard grows older, clean cultivation, followed by a cover crop, is the proper method. It is not likely a root crop, between the trees, and handled judiciously, would be any damage this year.

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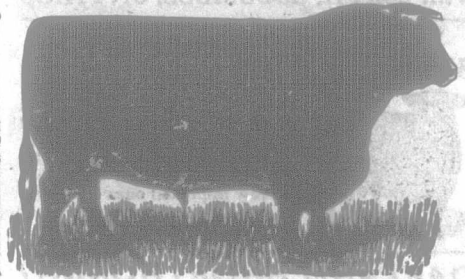
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Exeter Station, G. T. R., 1/2 mile.

Shorthorns and Clydesdales—We are offering 10 choice young bulls, serviceable age, sired by His Grace (imp.) = 69740=; who is also for sale or exchange. In Clydes our present offering are two stallions rising 3 and 4 years old; big quality horses, from imported sires and dams; also cows and heifers, mares and fillies. Write us, or come and see them. **A. S. & T. W. DOUGLAS, Strathroy, Ont.** Farm one mile north of town.

Scotch Shorthorn Females for Sale I am offering at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, Scottish Hero (imp.) = 55042 = (90065), and the older ones have calves at foot by him, or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. **A. EDWARD McFAR, Box 378, GUELPH, ONT.**

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DR. HESS STOCK TONIC

saves a part of the wasted feed, expels the worms and relieves minor stock ailments. Eighteen years' test has firmly established Dr. Hess Stock Tonic as a necessity to profitable feeding. Every ingredient is recommended by our ablest medical writers. Dr. Hess is himself a graduate of both human and veterinary medicine. An extra quart of milk each week covers the cost.

Our proposition. You get of your dealer a 25 lb. pail of Dr. Hess Stock Tonic at \$2.25 or 100 lbs. at \$7.00. (Duty paid.) Use it all winter and spring. If it doesn't pay you and pay you well, get your money back. Every pound sold on the guarantee. If your dealer cannot supply you, we will.

Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. 96 page Veterinary Book free for the asking. Mention this paper and enclose 2c stamp.

DR. HESS & CLARK
Ashland, Ohio.



DR. HESS POULTRY PAN-A-CE-A. A digestive tonic that helps the hen use more ration for egg production—strengthens and advances young chicks to early maturity—prevents fowl ailments. Costs but a trifle—a penny's worth is enough for thirty fowl per day.

1 1/2 lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75; 25 lb. pail \$3.50. (Duty Paid.)
Send 2c for Dr. Hess 48 page Poultry Booklet, free.

INSTANT LOUSE KILLER KILLS LICE

Six Shorthorn Bulls must be sold.

Different colors, and their breeding is good enough for any herd. Write me for prices before purchasing.

WM. SMITH, COLUMBUS, ONTARIO

WILLOW BANK STOCK FARM

Shorthorns and Leicesters



Herd established 1855, flock 1948, have a special good lot of Shorthorns of either sex of various ages; also a grand lot of Leicester sheep of either sex—a few imported ones to offer.

JAMES DOUGLAS
Caledonia, Ontario.

OAKLAND SHORTHORNS!

We have another lot of young bulls ready for winter and spring trade, out of good breeding dual-purpose cows, and sired by our herd header, Scotch Grey 72692; a fine roan; one of the best bulls in Ontario. Good stock and no big prices. Will also sell cows and heifers; about 50 to select from.

JOHN FLDER & SON HENSALL, ONTARIO

Shorthorns of Show Calibre

Only one bull for sale now, but 13 grand heifers by Mildred's Royal must be sold, as we have no bull to breed them to. Come and see them, or write.

GEO GIER & SON, Grand Valley, Ont.

IMPORTED BULL FOR SALE

Our Green Grove herd of Shorthorns is headed by the two imported bulls Imp Spectator = 5094 = and Imp. Roy = 5503 =. Present offer: Stock bull Imp Spectator and two choice young bulls, herd headers, fit for service; also good females Geo. Fletcher Binkha = Ont. = Frin Sta C.P.R.

MAPLE LODGE STOCK FARM

1854—1911

Am offering a splendid lot of young Shorthorn bulls for sale now; good colors and choice individuals; several of them from high-class milkers. A few select Leicesters for sale yet.

A. W. SMITH, Maple Lodge, Ontario
Lucan Crossing, G. T. Ry., one mile.

SPRING VALLEY SHORTHORNS

Herd headed by the two imported bulls, Newton Ringleader, = 73783 =, and Scottish Pride, = 36106 =. The females are of the best Scotch families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS. - - Ayr, Ontario

Shorthorns and Swine—Am now offering

a very choice lot of cows and heifers, safe in calf, and some choice young bulls for the fall trade; also Berkshire and Yorkshire pigs; showyard material.

ISRAFI GROFF, Fimira Ont.

IMPORTED SHORTHORN BULL

Lord Lieutenant, 50750 for sale or exchange, quite sure and active; young bulls and heifers by him and out of dams direct from imported stock; a racing stallion, racing three years old, so nd, stylish and speedy.

L. K. WEBER,
County Waterloo, Hawkesville, Ont.

10 SHORTHORN BULLS 10

If you are looking for a young bull to head a purebred herd, or one to cross on grade cows to raise first-class steers, I have them to suit all customers at very reasonable prices. They are reds and roans, and one extra good white show calf; ages from 9 to 14 months, nearly all sired by imported bull, and from the best Scotch families of cows. Will be pleased to furnish breeding and prices.

Claremont Stn., C.P.R., 3 miles. JOHN MILLER, Brougham P.O., Ont.
Pickering Stn., G.T.R., 7 miles.

Shorthorn Bulls—12 to 16 months, reds and roans, Strath-

allans. A very choice lot of five, considering breeding and extra quality. We offer them at a bargain. The best bunch ever bred at Fairview.

J. & D. J. CAMPBELL, Fairview Farm, WOODVILLE, ONT.

Short horns, Shropshires and Berkshires

and heifers, bred for milk production. High-class flock-headers, winners, and covered to the ground. Berkshires, both sexes of breeding age, show stock

W Wilson, Brickley P.O., Hastings Sta., G.T.R.

High Grove Jerseys & Yorkshires

No better blood in Canada. Present offerings: Choice young sows due to farrow in March. Jerseys, all ages, both sexes.

Arthur H. Tufts, P O Box III, Tweed Ont

Brampton Jerseys

Bulls fit for service are getting scarce. Just few left. Yearling heifers in calf are in great demand; 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good

cows and some calves for sale. Production and quality.

B H BULL & SON, BRAMPTON ONT,

Stockwood Ayrshires are coming to the front

wherever shown. This herd is now headed by White Hill Free Trader (Imp.) No. 33273, championship bull at Sherbrooke; also headed the 1st-prize aged herd. Stock of all ages for sale. Satisfaction guaranteed. D. M. WATT, St. Louis Station, Que. Telephone in house.

Dungannon Ayrshires and Yorkshires—

For immediate sale are: Three choice young bulls and a few heifers; also young sows of breeding age, quality and breeding combined

W. H. FURBER, Cobourg, Ont. L.-D. Phone.

Calves

Raise them without milk. Booklet free. CLOUGH & CO., Lennoxville, Que.

CHERRYBANK AYRSHIRES

Imported and Canadian bred, with R. O. P. official records, headed by the renowned champion, Imp. Nethanball Milkman. Richly-bred females and young bulls for sale.

P.D. McArthur, North Georgetown, Que.

AYRSHIRES FOR SALE

Seven bulls and a few heifers of different ages, sired by Woodrope Comrade, whose first heifer in milk gave 11,92 lbs. milk, 480 lbs. butterfat in one year. Prices right. H. C. HAMILTON, BOX GROVE, ON Markham, G. T. R.; Locust Hill, C. P. R. Bell phone connection from Markham.

GLENHURST AYRSHIRES

Established over 50 years ago, and ever since kept up to a high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants.

JAMES BENNING, Williamstown P.O. Summerstown Sta., Glengarry

HIGH-CLASS AYRSHIRES

If you are wanting a richly-bred young bull out of a 50-lb. a day and over cow, imported or Canadian-bred dam and sire, write me. Females all ages. Prices are easy. D. A. Macfarlane, Kelso, Que.

City View Ayrshires—

One very choice bull, 20 months old, four 1911 bulls, all grand individuals, and from R. O. P. ancestors; could spare two or three more cows. Write or phone. JAS. BEGS, R. R. No. 1, St. Thomas.

STONEHOUSE AYRSHIRES

Are coming to the front wherever shown. Look out for this at the leading exhibitions. Some choice young bulls for sale, as well as cows and heifers.

HECTOR GORDON, Howick, Quebec.

Ayrshires

Bull calves, from 4 months to 9 months, from imported sire and Record of Performance dams. Records 50 to 65 pounds per day

N. Dymant, R. R. No. 2, Hamilton Ont

HILLCREST AYRSHIRES—

Bred for production and large teats. Record of Performance work a specialty. Fifth head to select from. Prices right.

FRANK HARRIS Mount Fildin Ont

Ayrshires and Yorkshires—

We have still some good young bulls. Now is the time to buy for the coming season before the best go. We have females any age, and can fill orders for carlots of Ayrshires. Pigs of either sex on hand.

ALEX. HUME & CO., Menie, Ont.

QUESTIONS AND ANSWERS Miscellaneous.

HUNGARIAN BROME GRASS.
What number of pounds per acre should be sown of Hungarian Brome grass?
G. E. G.

Ans.—Hungarian Brome grass (*Bromus inermis*) is known by several names in America, viz.: Austrian Brome, Hungarian Brome, Awnless Brome, and generally speaking, Brome grass. The roots penetrate the soil much like those of twitch or quack grass. It is said to produce about the same amount of hay as timothy, but it is more bulky, and not so marketable. It is essentially a pasture grass. The amount of seed required depends somewhat upon the object in sowing the crop. For pasture, from 15 to 20 lbs. per acre would be a good seeding, and for hay, from 10 to 15 lbs. Sown in combination with other grasses, from 2 to 5 lbs. would be sufficient.

SWELLED LEG.

I have a valuable horse which swells on one of its hind legs. When driven the swelling goes partly out, but not all. I have been feeding him saltpetre three times a week, and tartar emetic once a week. He also has a small, hard lump on the front of the fetlock joint on the same leg. Would you kindly give treatment?
W. T. H.

Ans.—From the meagre description given, it is difficult to diagnose the trouble. It would appear that the animal was hereditarily inclined to rather thick legs, or "stocking," or the swelling may be due to the lump on the fetlock, which may have resulted from injury. Blistering might remove the lump. Purge with 8 drams aloes and 2 drams ginger. Follow up with 1 dram of iodide of potassium twice daily. If this causes a failure in the appetite, reduce the dose to 40 grains. Feed light, and give regular and sufficient exercise.

WARTS—TOP-GRAFTING TREES —SUGAR-CANE—MANGEL SEED.

1. I have a steer with several large warts on shoulder and neck. What is the cause, and how can I remove them?
2. Can apple trees thirty years old or more be successfully grafted to make a satisfactory top?
3. How much sugar-cane seed should be sown per acre for soiling crop?
4. Describe how to grow mangel seed. Would it pay farmers to grow their own seed?
E. B.

Ans.—1. If the warts have a slim base they may be cut with sharp shears, and the wound dressed with caustic, potash, or butter of antimony, applied with a feather carefully, once daily. Sometimes constant application of castor oil is effective in removing them. Some tie a strong thread around the base, which gradually cuts them off. If they are flat, remove with butter of antimony. Any animal is liable to warts, the cause of which is not well known.

2. Cases have been known where very good new tops have been grown on old trees by this method. If the trees are healthy and sound, it would likely turn out all right, provided good care is taken in performing the work, and in after attention. If the trees are in a bad state, scrubby and diseased, it might be more profitable to dig them out and plant young trees.

3. This depends upon whether it is to be sown in drills or broadcast. In drills, 15 to 30 lbs. has given good results, while broadcast, from one to two bushels has been used. There is a wide variation in amount of seed used.

4. Experiments carried on at the Ontario Agricultural College in storing roots for seed, have shown that good results follow keeping them in a cool cellar in loose piles. It is necessary to retard sprouting while in the stored state. Plant the roots in the spring in rows, giving plenty of space for them to grow, say, two feet apart. Give careful cultivation, and when the seed is ripe, collect it and store in a dry, cool place. Under some conditions, it might pay to grow the seed at home. If good, new, pure seed is obtainable from the seedsmen, it is doubtful whether it would pay for the trouble to grow it on the farm. However, home-grown mangel seed has given larger yields at the O. A. C. than imported seed.

THE BEST OF THE PATCH
RENNIE'S SEEDS
 ARE SUPPLIED TO YOUR DEALER DIRECT FROM US - AFTER EACH HARVEST - AND ARE ALWAYS FRESH AND RELIABLE - TESTED BY GOVERNMENT - BUY THEM IN SEALED PACKAGES - CATALOGS FREE

W.M. RENNIE CO. LIMITED
 TORONTO, MONTREAL, VANCOUVER

The "STAY THERE"
Aluminum Ear Markers
 are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tag, catalogue and prices mailed free. Ask for them. Address: **WILCOX & HARVEY MFG. CO., Dept. D, 448 S. Dearborn St., Chicago, Ill.**

Lump Rock Salt, \$10.00 for ton lots, f.o.b. Toronto
Toronto Salt Works, 128 Adelaide St. E., G. J. CLIFF, MANAGER, Toronto, Ont.

Holsteins of Quality
 Write us to-day for our proposition, telling you how any good dairyman may own a registered Holstein bull from a Record-of-Performance cow without investing a cent for him. **Monro & Lawless, "Elmdale Farm," Thorold, Ont.**

MAPLE SOIL STOCK FARM
 I have at present some young cows from three to five years old got by Sir Hergeveid John De Kol and bred to Idaline Paul Veeman; also a few heifers and ourg bulls from eight to ten months old, sired by Idaline Paul Veeman; also booking orders for spring stock. **Belmont Sta., C. P. R.**

H. C. Holtby, Belmont, P.O., Ont.
Purebred Registered HOLSTEIN CATTLE
 The most profitable dairy breed, greatest in size, milk, butterfat and in vitality. Send for FREE illustrated descriptive booklets. **Holstein-Friesian Assn., F. L. Houghton, Sec'y, Box 127, Brattleboro, Vt.**

The Maples Record of Holstein Herd Merit
 A few choice bulls ready for service, sired by King Foch De Kol; also a few young bull calves, sired by Prince Aggie Mechthilde, whose dam won first at Toronto, 1911, and sire's dam first in dairy test at Guelph, 1908 and 1909; his three nearest dams average over 25 lbs. butter in 7 days. **WALBURN RIVERS, FOI DEN'S, ONTARIO**

Yorkshires and Holsteins
RICHARD HONEY & SONS, Minister Farm, Brickley, Ont., offers bargains in choice young boars and sows fit to mate, sired by Monk and Roaster 4th and from prize-winning sows. Orders taken for this spring's bull calves from Lakeview, Burke Fayne and large producing sows.

Elmwood Holsteins C-ically bred registered Cows, Heifers, Calves, Spring Crop 1912. March, April and May delivery; Sired by Imported Y Rema Sir Poch and Elmwood Sarcasac, Grandson of Sarcasac Lad. Best breeding, right prices. Express pre-aid. Safe delivery guaranteed. **E. D. GEORGE & SONS, Putman, Ont.**

Evergreen Stock Farm offers a choice lot of bulls ready for service, from high-testing, de-p-milking Record of Merit ancestors. Also a few females for sale. Herd headed by Francy Sir Admiral; dam's record 26.71, sire Sir Admiral Ormsby. Write for prices. **F. E. PETTIT, Burgessville, Ont.**

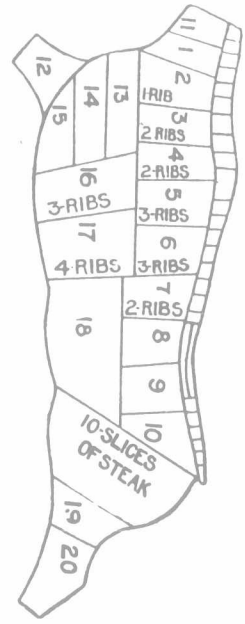
For Sale—Holsteins and Yorkshires Six choice grade Holstein heifers, 2 years old, due to calve in March; choice bull calves from tested dams, \$25 each. Reg. Yorkshire pigs, \$11 a pair. **W. A. BRYANT, Cairnform, Ont.**

HOLSTEIN BULL If you want one of the rich st bred bulls, and a grand individual, to head your herd with, write me. Will exchange for young females. **H. BOLLERT, Tavistock, R. R. No 5, Ont.**

MENTION "FARMER'S ADVOCATE."

QUESTIONS AND ANSWERS
Miscellaneous.

BEEF-RING CHART.
Would you please publish a chart of a twenty-share beef-ring, and oblige?
J. W. W.



Ans.—This chart shows the side divided for a 20-share beef-ring, each member getting a roast, a boil, and a slice of steak, the following numbers going together:
Roast—1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
Boil—14, 13, 19, 16, 17, 18, 15, 12, 20, 11.
Steak—1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

BUCKWHEAT AND OTHER QUERIES.

1. Is buckwheat any value for milking cows? If so, how much should be fed?
2. How much buckwheat should a horse have for a meal in boiled oats?
3. I have a piece of land on a hillside and somewhat springy in places. I have sowed red clover on it, but never got a good catch. What would you advise me to sow on it for a good catch?
4. Which is the better feed for young pigs, turnips or mangels?
5. What sort of corn is the best to plant for silage, and what is the proper time to plant it?
6. What is the best time to sow buckwheat to ripen for seed?
7. What time in the spring is it best to plant strawberries, raspberries, currants, and grapes?
8. Is Epsom salts good to feed a horse every night in his oats?
9. Are whole oats good feed for young pigs?

Ans.—1. Buckwheat used in a mixture has given good results in cattle and hog feeding. It should be fed ground, and mixed with oats, barley, or other grains. It has been said that dairy cows getting large quantities of it, made a butter of poor texture, and "tallowy." Would not advise using more than one-third of the grain ration of this material. Buckwheat middlings, owing to their high protein content, are highly valued by many dairymen.

2. For horses, buckwheat would give the best results if ground and mixed with oats, not more than one part of buckwheat to three of oats.

3. Difficulty is generally experienced in trying to grow clover on "springy" soil. If drainage is practicable, underdrain; if not, try some of the grasses, as timothy, red top, etc., with a little alsike added.

4. Experiments have shown that there is very little difference in feeding value, but the mangels are usually relished better than turnips, and for this reason are generally found preferable.

5. Some of the Dent varieties usually give largest yields. The time of planting depends upon the season. Plant just as soon as the ground is warm enough to ensure proper germination.

6. This also depends largely upon the season, usually about July 1st is a good time.

7. Very early, especially with currants, the buds of which start at an early date.

8. Aloes makes a better purgative for the horse than Epsom salts.

9. Whole oats are too coarse and fibrous for young pigs. Finely ground, and used as a portion of the ration, they give fair results.

For the Land's Sake
use
Bowker's Fertilizers

They enrich the earth and those who till it. By the use of a good fertilizer, any farmer can add greatly to his profit through raising bigger crops. He can make each of his acres produce more, or he can cultivate fewer acres, and still produce as much as he is getting now, but with less labor and expense. This is a big item, if hired help is scarce.

We have a fertilizer to fit every crop and every pocketbook. Each one is ready to use, and easy to apply. Our catalogue gives full information and directions. Many years of experience in both Canada and the United States, the best facilities, and prompt service are behind every bag we ship.

If we have no agent near your farm, we want one. It pays to sell as well as use our fertilizers.

Write today for our catalogue and calendar. Both will be sent promptly and without cost. If interested, ask for agency proposition, but write anyway for the catalogue.

BOWKER Fertilizer Company,
77 Lyman St., Buffalo, N. Y.
Original and largest manufacturers of special fertilizers.

CALVES WITHOUT MILK
 Write for Free Booklet
 "How to Raise Calves Cheaply and Successfully Without Milk"

Contains full information and complete feeding directions for using
Blatchford's Calf Meal—The Perfect Milk Substitute
 Three or four calves can be raised on it at the cost of one where milk is fed. No mill feed. The only calf meal manufactured in an exclusive Calf Meal Factory. Established at Leicester, England, in 1800.

STEELE, BRIGGS SEED CO., LTD.
WINNIPEG, MAN. HAMILTON, ONT. TORONTO, ONT.

Fairview Farms Herd Is where you can secure a son of Ontario Korydyke, admitted by all breeders to be the greatest Holstein sire that ever lived. Look what his daughters are doing. Two of them with records over 37 lbs. each. Then, look at the work his sons are doing. HE IS THE GREATEST PRODUCING SIRE OF THE BREED, THROUGH HIS SONS. Every son of Pontiac Korydyke that has daughters old enough to milk is a sire of good ones. We can offer you several young ones that will give you great daughters.
E. H. DOLLAR, HUEVELTON, N. Y.

NEAR PRESOOTT
AUCTION SALE
 The Lakeview Stock Farm will offer for sale at their barns near Bronte, Ont. on MONDAY, MARCH 25th, 1912

Pure Bred Holstein Friesian Cattle and Reg. Clydesdale Mares
 Col. D. S. Perry of Columbus, O. will conduct the Sale, which will be held under cover, rain or shine. Send in your name for catalogue and arrange to attend this sale.
E. F. OSLER, Bronte, Ontario

SUMMER HILL HOLSTEIN CATTLE and YORKSHIRE HOGS
 Our senior herd bull, Sir Admiral Ormsby, is the sire of the world's record 2-year-old for yearly butter production. Also sire of the three highest record four-year-olds in Canada. The dam of our junior herd bull made 34 6/8 lbs. butter in 7 days, and gave 111 lbs. milk per day. Come and make your selections from over 70 head.
 In Improved English Yorkshires we have won 95 per cent of all first prizes at Toronto Exhibition for ten years. We are still breeding them bigger and better than ever.
 Buy Summer Hill Yorkshires, the big, quick-maturing kind, and double your profits.
D. C. FLATT & SON, R. F. D. No 2, Hamilton, Ontario, Ont. Phone: 2471, Hamilton.

Centre and Hillview Holsteins—We are offering young bulls from Sir Ladie Cora-uopia Clothilde, the average of his dam sire dam and grand dams is 662 8 lbs. milk and 30.58 butter, 7 days, and 2,750.80 milk and 114.5 butter in 30 days; also Brookbank Butter Baron, who is a proven sire. He is sire of champion 3-year-old 30-day, 2-year-old 7-day and 2-year-old 30-day. Long-distance phone **P. D. EDF Oxford Centre P.O. Woodstock Stn.**

Evergreen Stock Farm—High-class Registered Holsteins. Herd headed by Prince Abbeker Mercena, whose ten nearest dams average over 25 lbs. butter in seven days. For sale: One extra good bull, ready for service, and one bull calf, whose dam won second prize in milk test at Guelph Winter Fair, testing 4.2% butterfat. Could also spare a few yearling heifers in calf.
A. E. HULET, Norwich, Ont.

Silver Creek Holsteins We are now offering about a dozen yearling heifers and 3 young bulls. They are all of superior type, and 7-day records that average 27 lbs., is at head of herd. **A. H. TEEPLE, CURRIES P. O., Ont., Woodstock Station.** Phone connection.

Had Palpitation of the Heart Weakness and Choking Spells

When the heart begins to beat irregularly, palpitate and throb, beats fast for a time, then so slow as to seem almost to stop, it causes great anxiety and alarm. When the heart does this many people are kept in a state of morbid fear of death, and become weak, worn and miserable.

To all such sufferers Milburn's Heart and Nerve Pills will give prompt and permanent relief.

Mrs. John J. Downey, New Glasgow, N.S., writes:—"Just a few lines to let you know what your Milburn's Heart and Nerve Pills have done for me. I was troubled with weakness and palpitation of the heart, would have severe choking spells, and could scarcely lie down at all. I tried many remedies, but got none to answer my case like your Pills. I can recommend them highly to all having heart or nerve troubles."

Price 50 cents per box, or 3 boxes for \$1.25. For sale at all dealers, or will be mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

**COLD IN HEAD
CATARRH**
INSTANTLY RELIEVED BY THE OLD
**DR. MARSHALL'S
CATARRH SNUFF**
25¢ AT ALL DRUG STORES OR SENT PRE-PAID BY L. H. KEITH, CLEVELAND OHIO

LINCOLN LONG-WOOL SHEEP And Shorthorn Cattle.

The Riby Grove Flock and Herd, owned by
MR. HENRY DUDDING,

Is the source to which practically all the leading export buyers have resorted from time to time to obtain stud sires and dams, and rams and ewes of unrivalled merit and quality. The record of its show-yard success is unequalled, and so are its sale averages. Selections of Sheep and Cattle always for sale.

Apply: **THE OWNER, RIBY GROVE,
STALLINGBOROUGH, GRIMSBY, ENGLAND**

Southdown Ewes A few good shearlings, and two-shear ewes in lamb to my Toronto champion ram.

Angus Cattle Buy an Angus bull to produce steers that feed easily and top the market. **Robt McEwen,
BYRON, Ont.**

Cattle and Sheep Labels

Metal ear labels with owner's name, address and any numbers required. They are inexpensive, simple and practical. The greatest thing for stock. Do not neglect to send for free circular and sample. Send your name and address to-day.

F. G. JAMES, Bowmanville, Ont.

It was ash day, Pat and Mike were obliged to halt their heavily-loaded cart to make way for a funeral. Gazing at the procession, Pat suddenly remarked:

"Mike, I wish I knew where I was going to die, I'd give \$1,000 to know the place where I'm going to die."

"Well, Pat, what good did it do if ye know?"

"Lots!" said Pat. "Shure I'd never go near that place."

**DODD'S
KIDNEY
PILLS**
CURES ALL KIDNEY DISEASES
RHEUMATISM
BRIGHT'S DISEASE
DIABETES BACKACHE
No. 23 THE PR...

QUESTIONS AND ANSWERS. Miscellaneous.

RAISING GEESE.

Would like advice on raising geese. This is my first year. How many would be best to keep? What kind of pen should they have? What feed should they get? **A. C. E.**

Ans.—Start on a small scale. Two geese and a gander would be a fair number to commence with. Most people allow the geese to run in the pen with the other poultry. Where you have a large enough pen, this is satisfactory. Allow them free access to an open yard. Give lots of water. Feed on corn, peas, barley, or any of the heavier grains, and a few pulped roots.

PEAR TREES—COCKERELS DIE.

1. Would it hurt pear trees to cut the tops off? Mine are from 15 to 18 feet high, and the branches do not spread out, making fruit hard to gather.

2. What has been wrong with my fowls? Several lost feathers on top of head and around neck, gradually got thinner till they died. Could see no lice; did not seem to have bowel trouble; they got dumpish, and looked pale around head. We lost quite a few; mostly young roosters. **J. F. W.**

Ans.—1. Some varieties of pear trees have a tendency to grow an upright, compact head. As a rule, care must be taken in pruning pear trees, as it, in proportion to its severity, is a tax on the vigor of the tree. It should be done on dormant wood, and at a period early enough to prevent the cut surface to harden and dry up before any movement of sap in spring. The proper time to shape the head is when the tree is young. It can then be accomplished by simply nipping off the buds in the center and inducing the tree to spread. However, the only thing to be done with trees growing too high is to cut back the branches and induce buds to grow into branches lower down. Do not cut back too severely.

2. This looks like a case of feather pulling. Give the fowls plenty of grit, sour milk to drink, green feed in the form of roots, cabbage, or clover, a mixed grain ration, plenty of exercise, induced by feeding whole grain in the litter, keep the pen clean, dry, and well ventilated, and separate the cockerels.

BREED QUERIES.

1. Have heard several times that a grade animal which can trace its ancestors back for four generations (to registered stock from sires' side), becomes pure-bred, and could be registered. (a) Is this true? (b) Or how many crosses does it require? (c) And how could such animals be registered?

2. What is the difference between the terms, Shorthorn and Durham?

3. If rule, as per question one, is correct as to cattle, is same also correct as to horses?

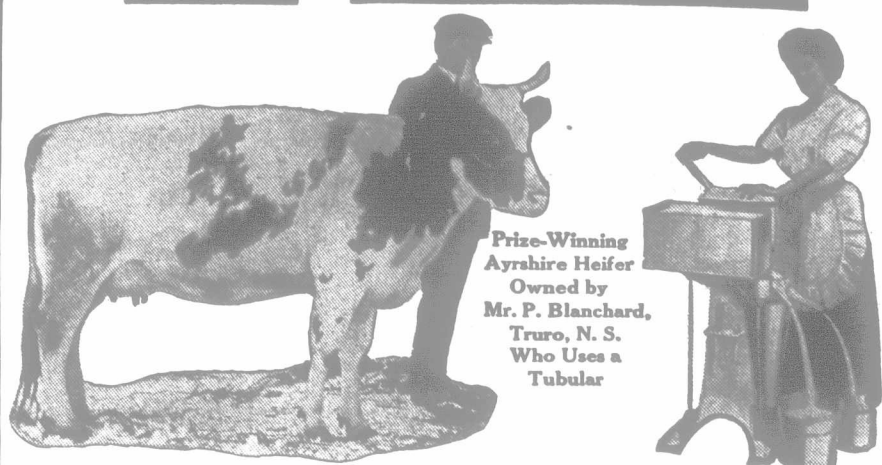
4. How can you distinguish between Barred Rock, Plymouth Rock, and Barred Plymouth Rock? **H. O.**

Ans.—1 and 3. In cattle-breeding, no amount of top crossing with pure-bred sires will make an animal eligible for registration. Both sire and dam must be recorded. In some breeds of horses, top-crossing will, when followed to the fourth or fifth generation, make the progeny eligible for registration. For instance, Clydesdale stallions having five top crosses of registered Clydesdale stallions, and mares having four such crosses, are eligible for registration in the Dominion Clydesdale Studbook. Hackney fillies with two top crosses of registered Hackney blood, and stallions with three such crosses, are eligible for registration in the Canadian Hackney Studbook. Different breed societies have different rules of entry.

2. Both these terms are used in speaking of what correctly is the Shorthorn breed of cattle. There is no Durham breed to be exact.

4. These three designations are practically synonymous in general use. However, there is this difference: Plymouth Rock is a whole term, embracing all the varieties of the breed, as the Barred, Blue, and White, while the word "Barred" designates one particular variety of the breed. Barred Rocks and Blue Plymouth Rocks are identical.

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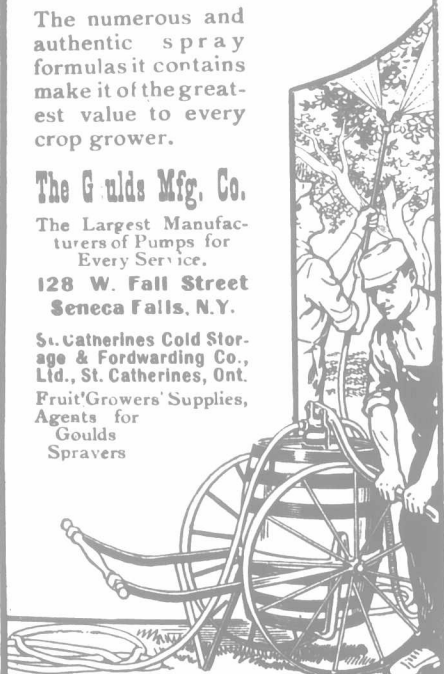
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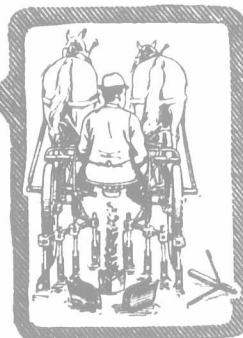
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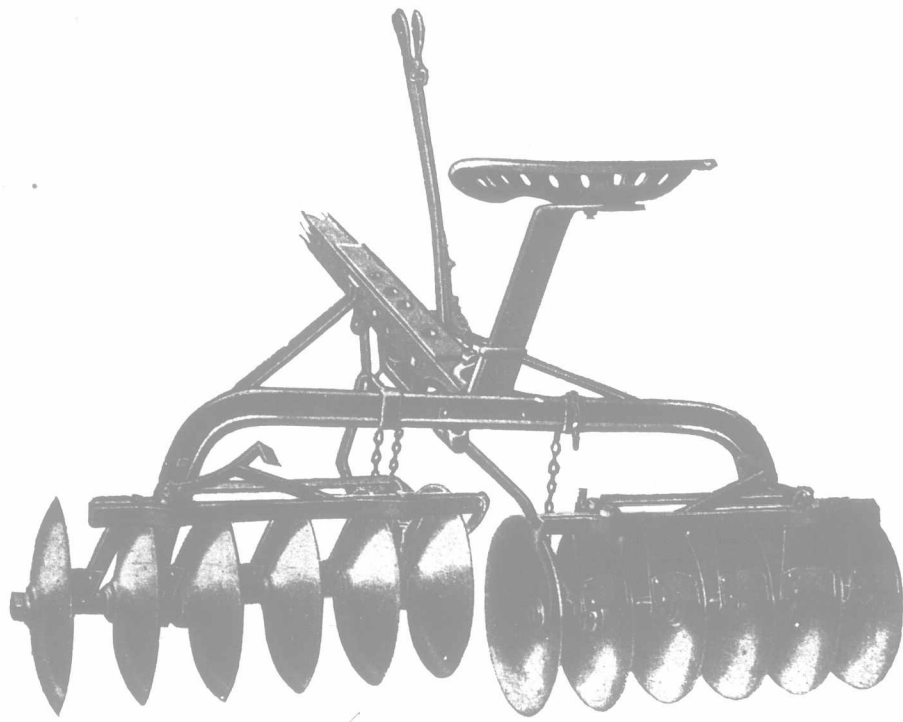
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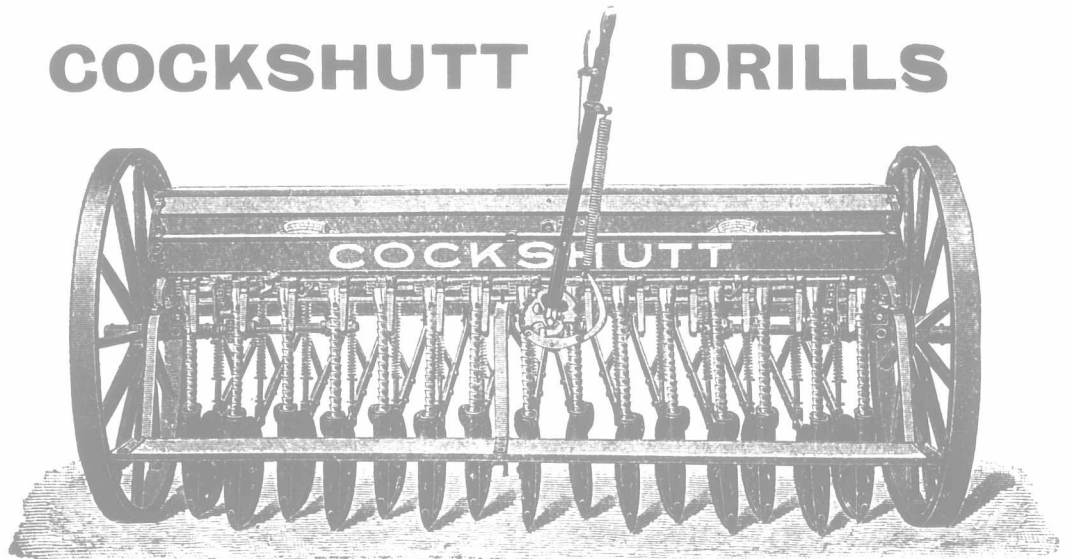
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